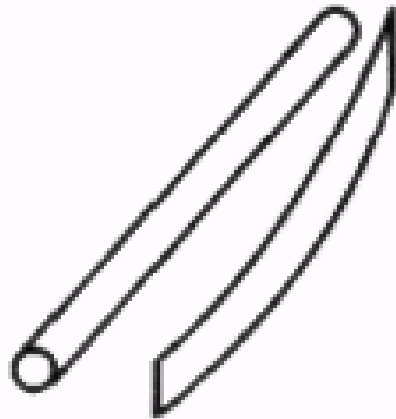
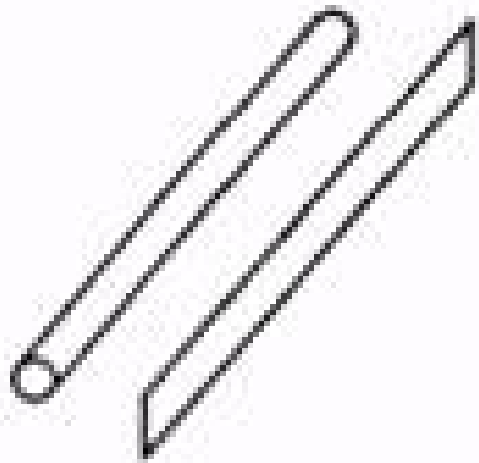


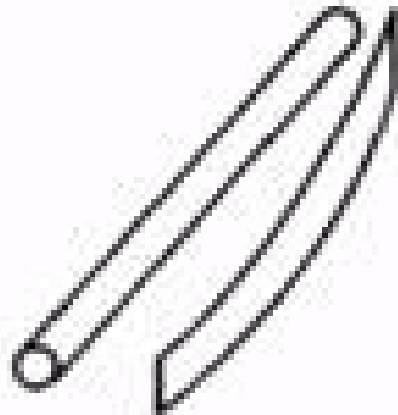
Мал. 2.98



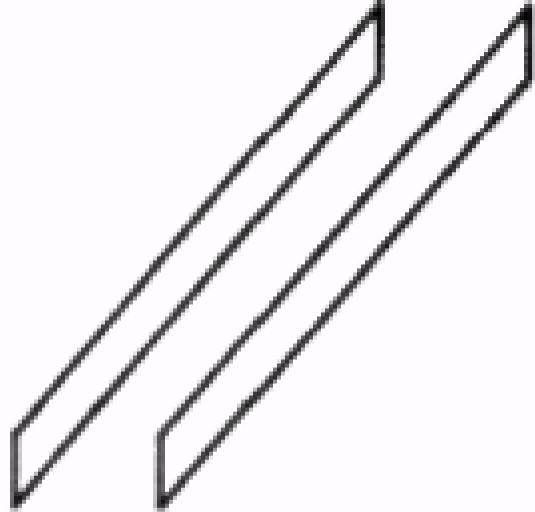
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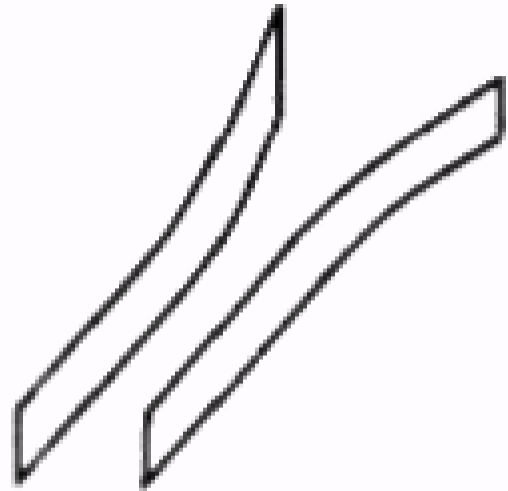
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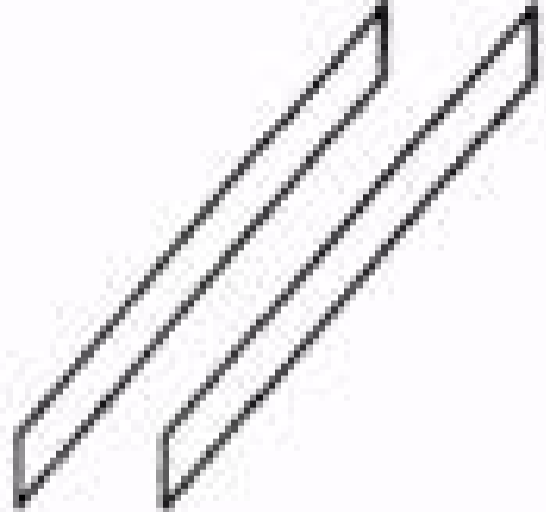
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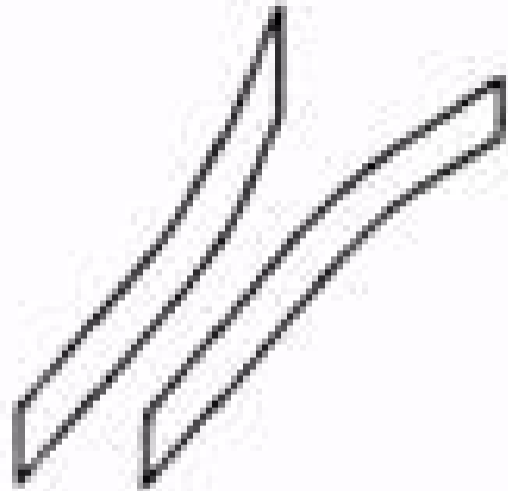
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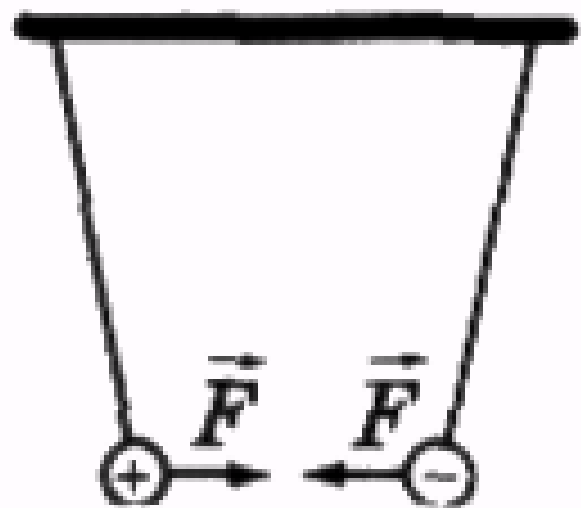
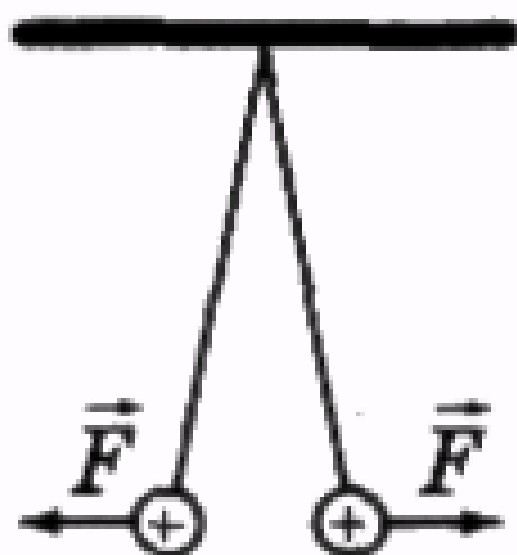
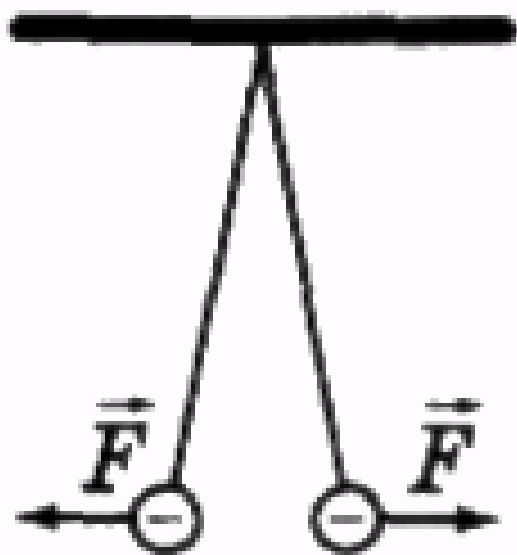
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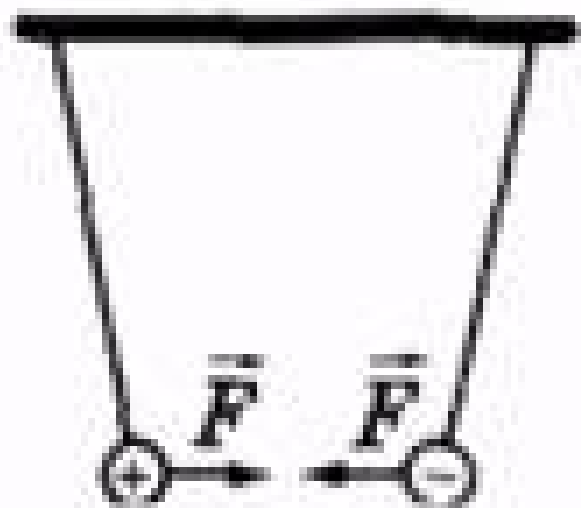
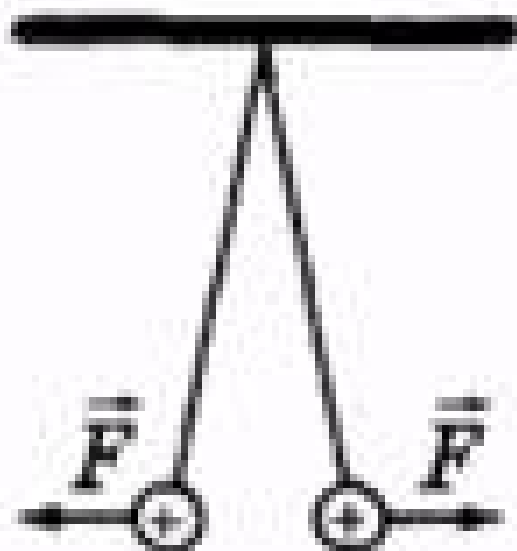
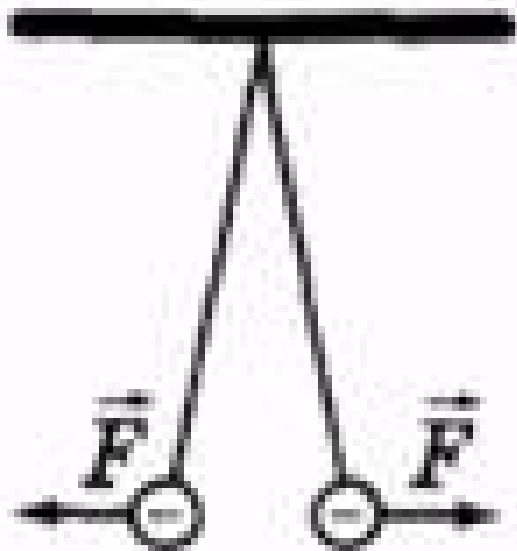
Мал. 2.100



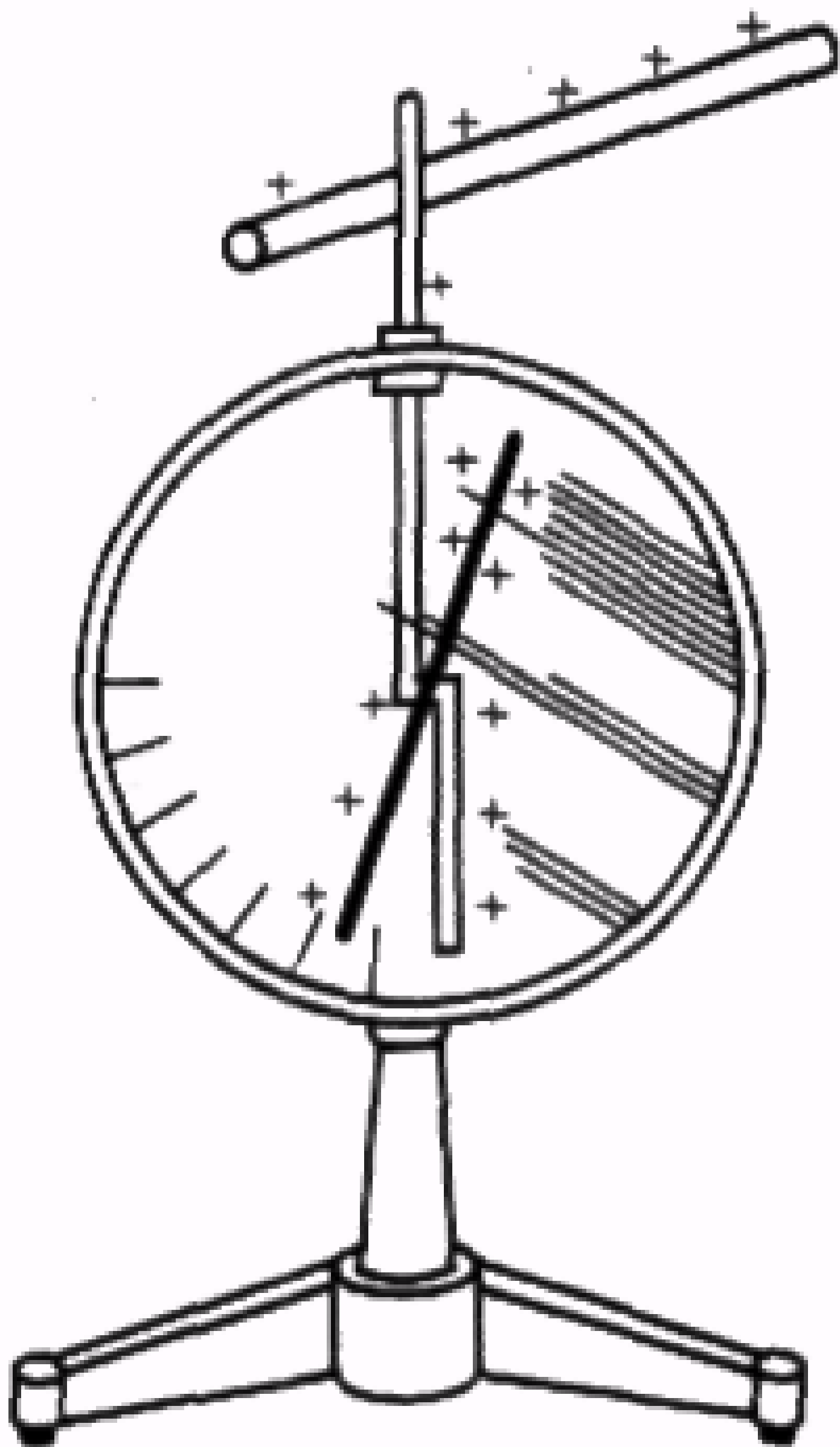
Мал. 2.101



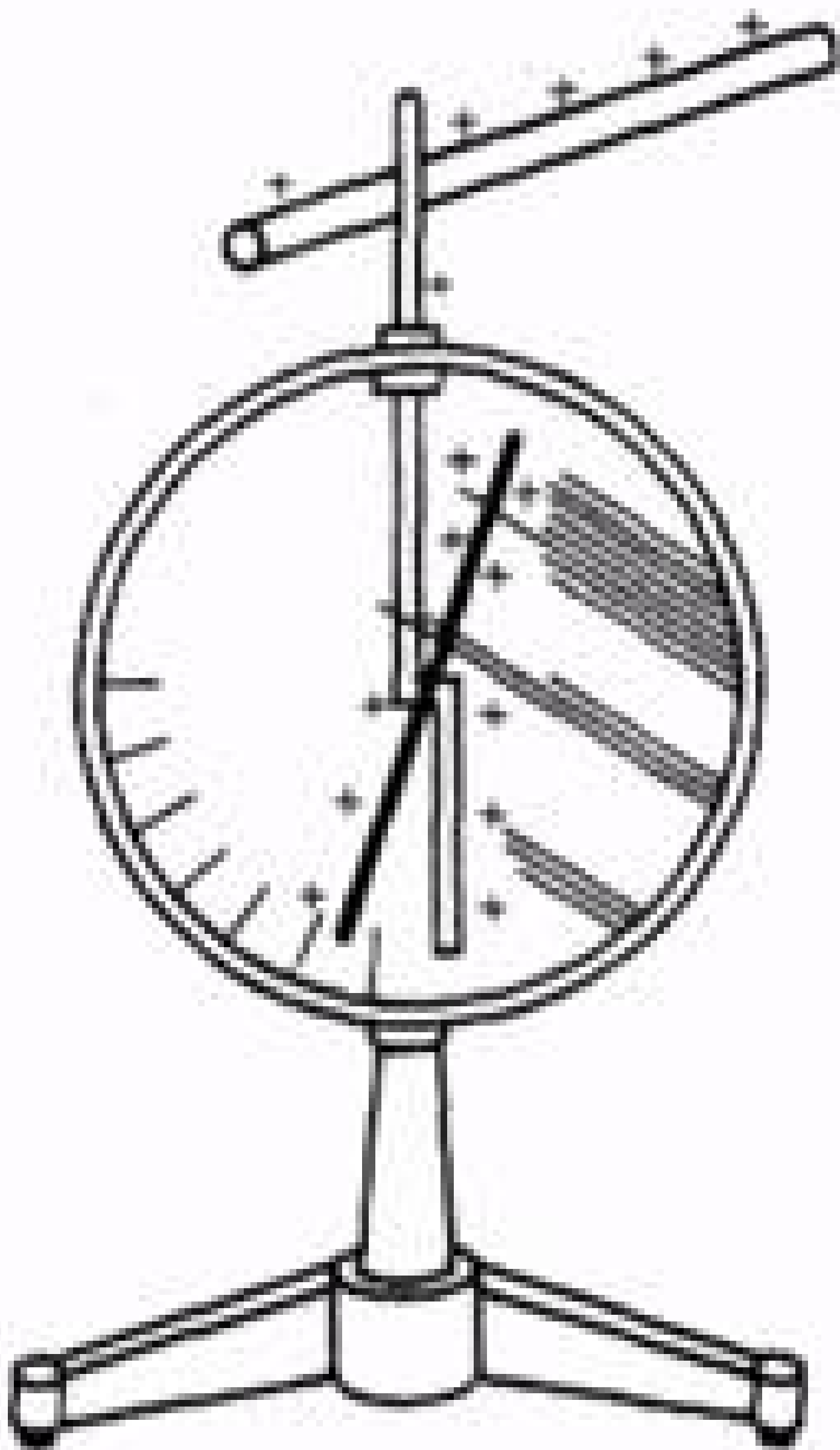
Мал. 2.102



Мал. 2.102



Мал. 2.103



Маш. 2.103

$$Q_1 + Q_2 + \dots + Q_n = \text{const} \quad (34.1)$$

001

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001

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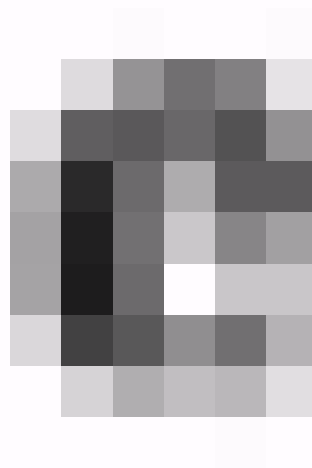
001

+

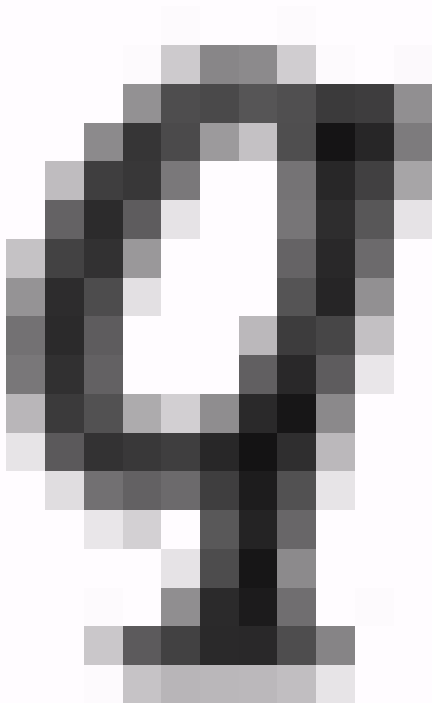
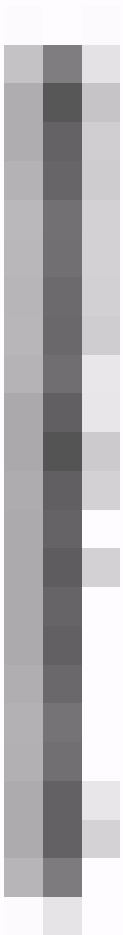
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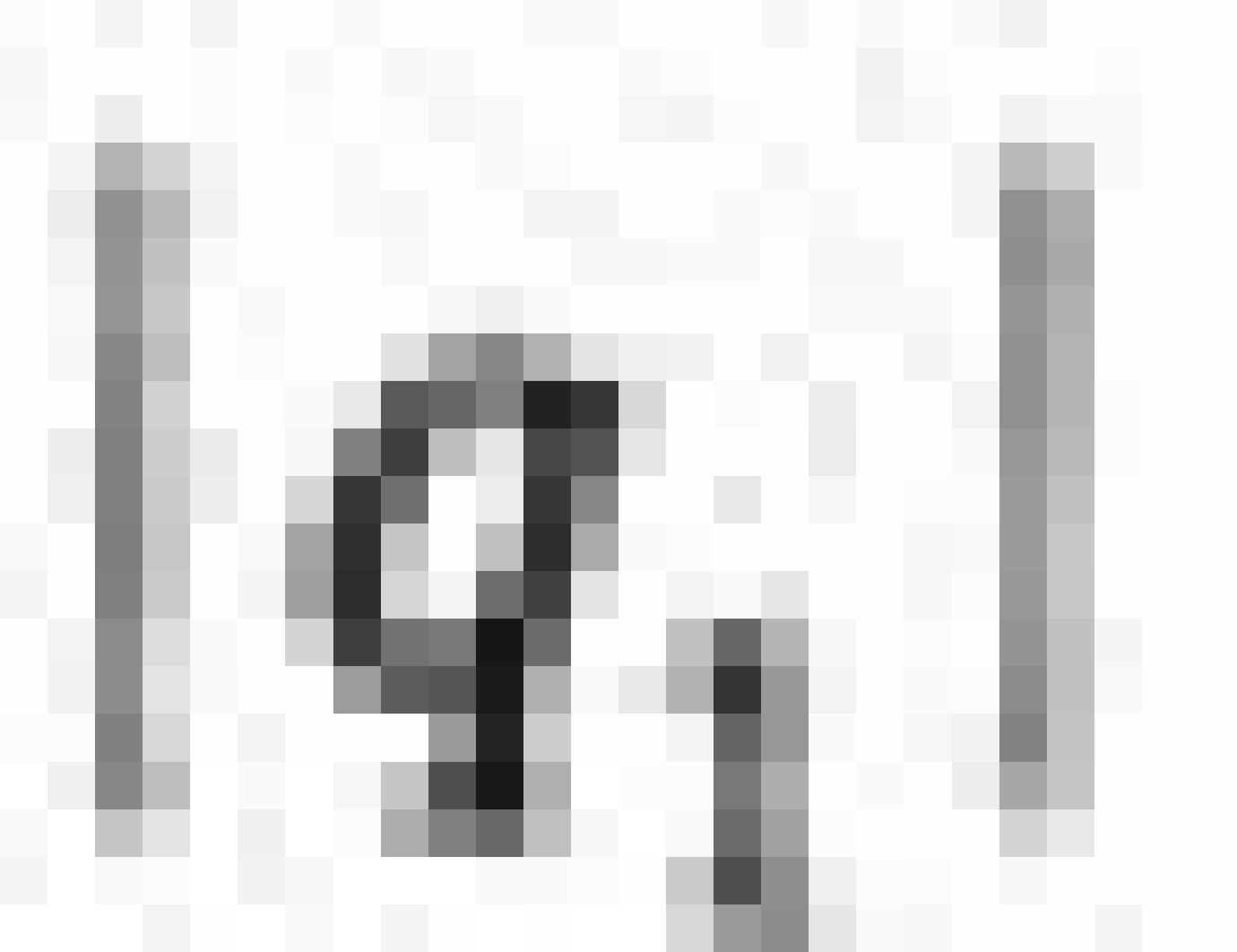
+

001









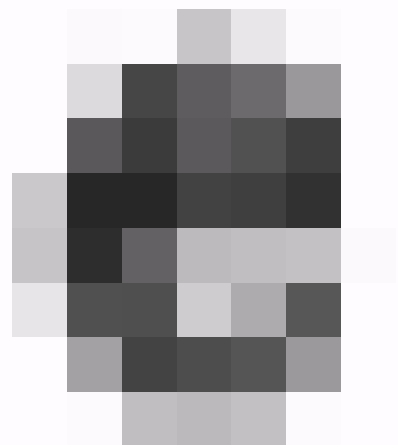


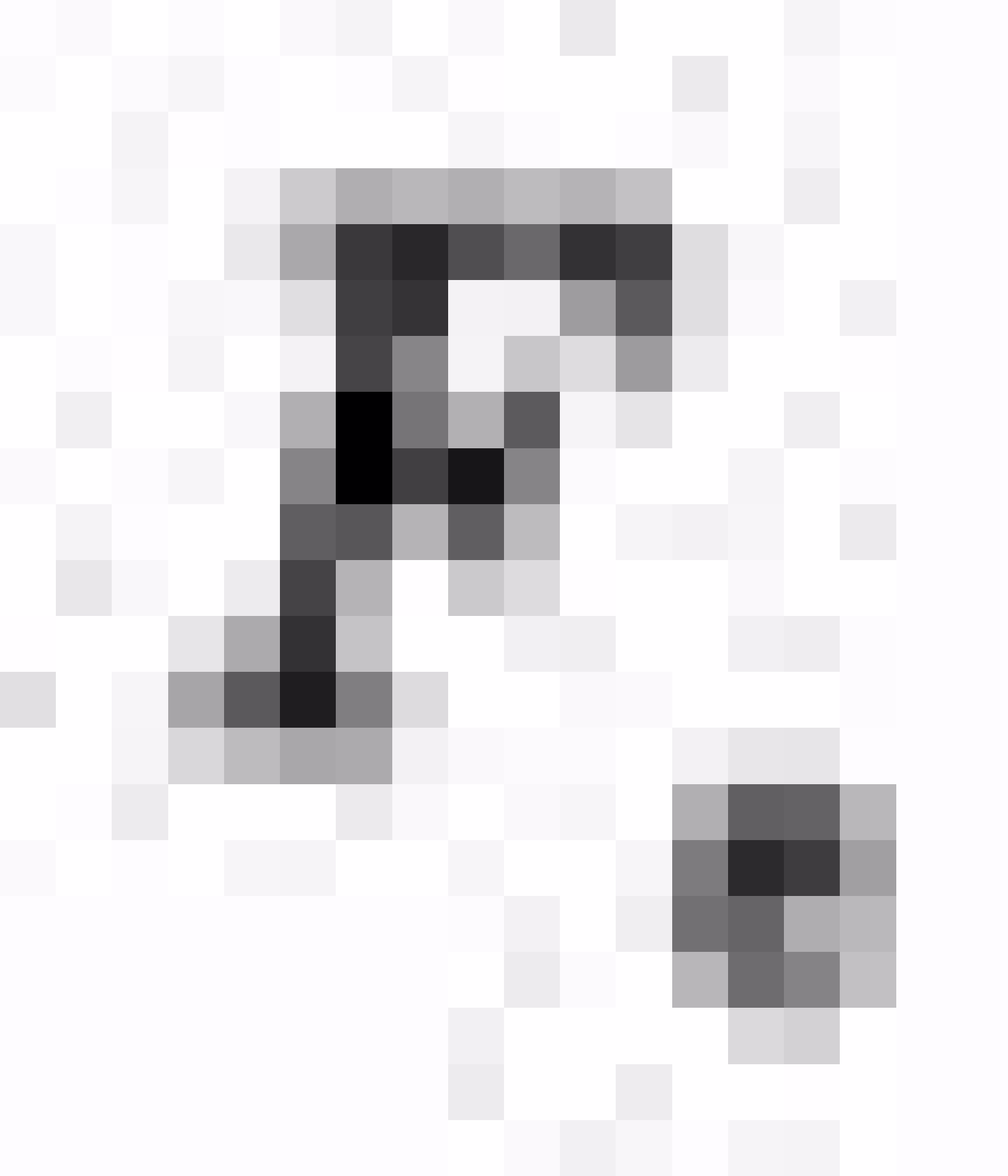


$$F_2 = R \frac{|q_1| \cdot |q_2|}{r^2} \quad (34.2)$$

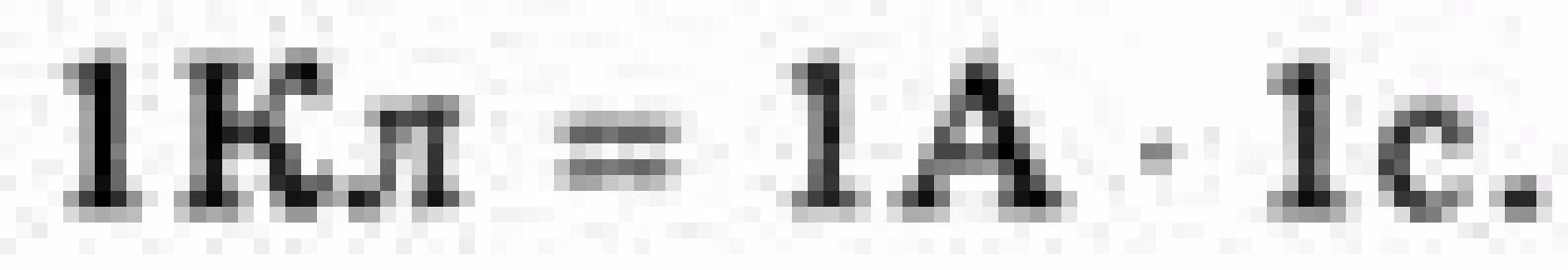
$$A = \begin{bmatrix} 1 & 2 & 3 \\ 2 & 3 & 4 \\ 3 & 4 & 5 \end{bmatrix}$$

$$[1, 2, 3]$$



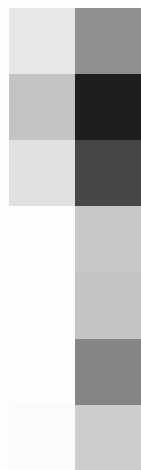
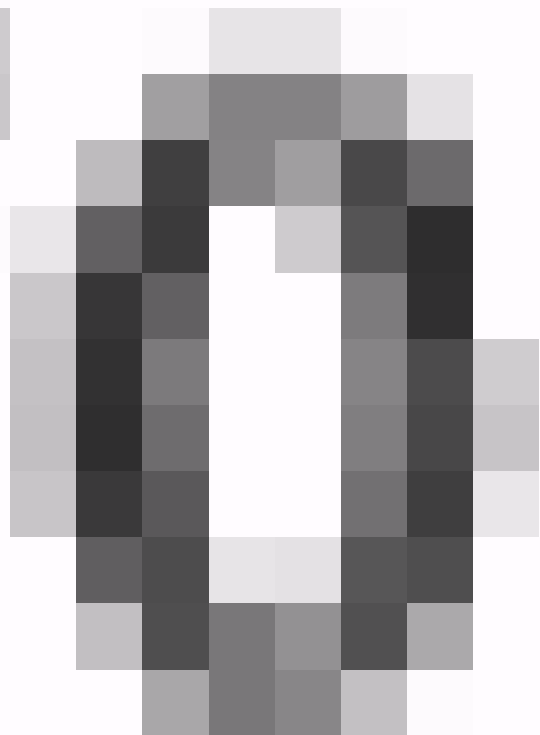
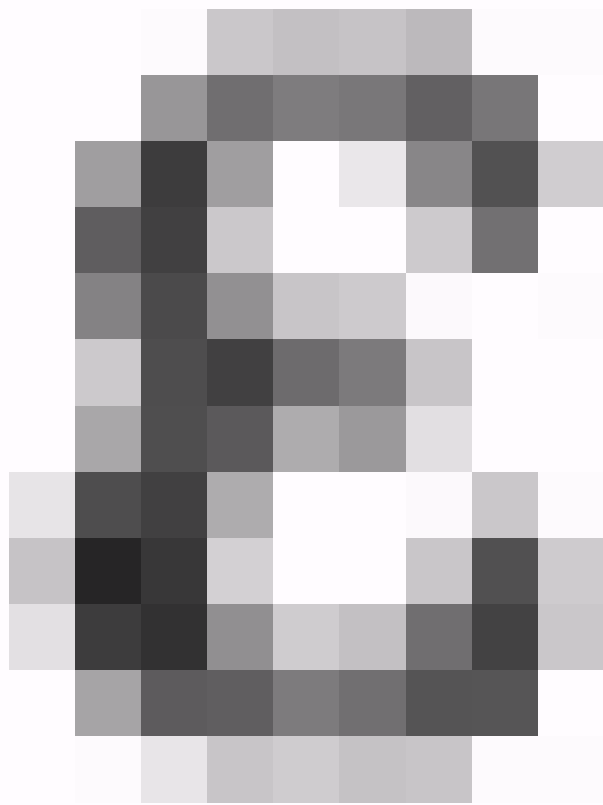


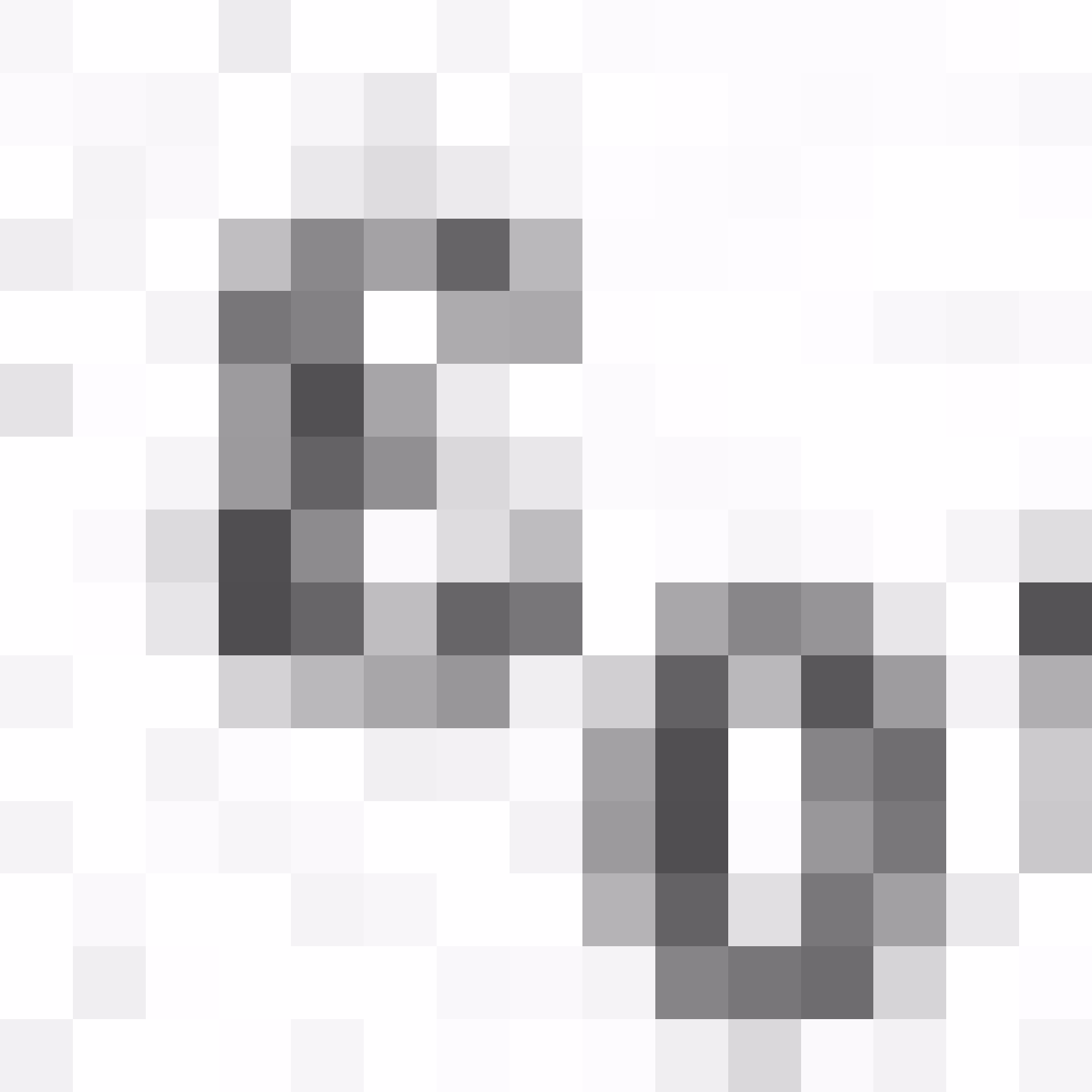
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As = 90
100
110
120

WORLDWIDE
WORLDWIDE





$$\epsilon_0 = \frac{1}{4\pi k_e} \quad (34.3)$$



1941

EO =

OB, OB, OB

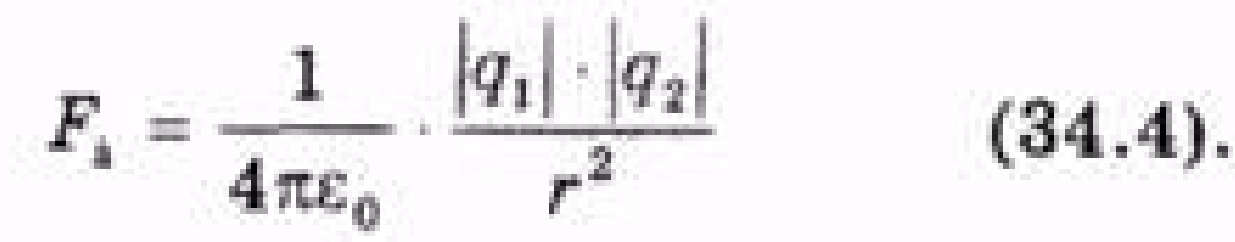
10-12

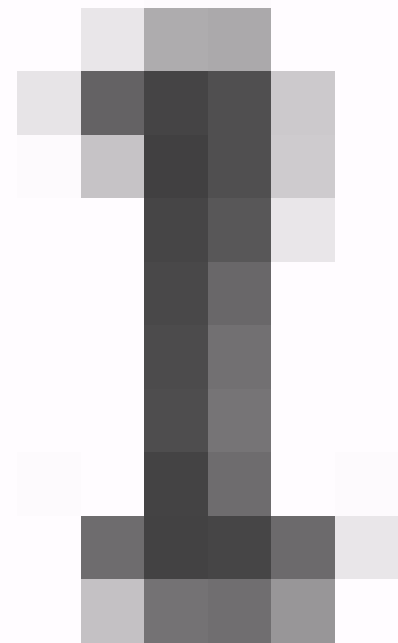
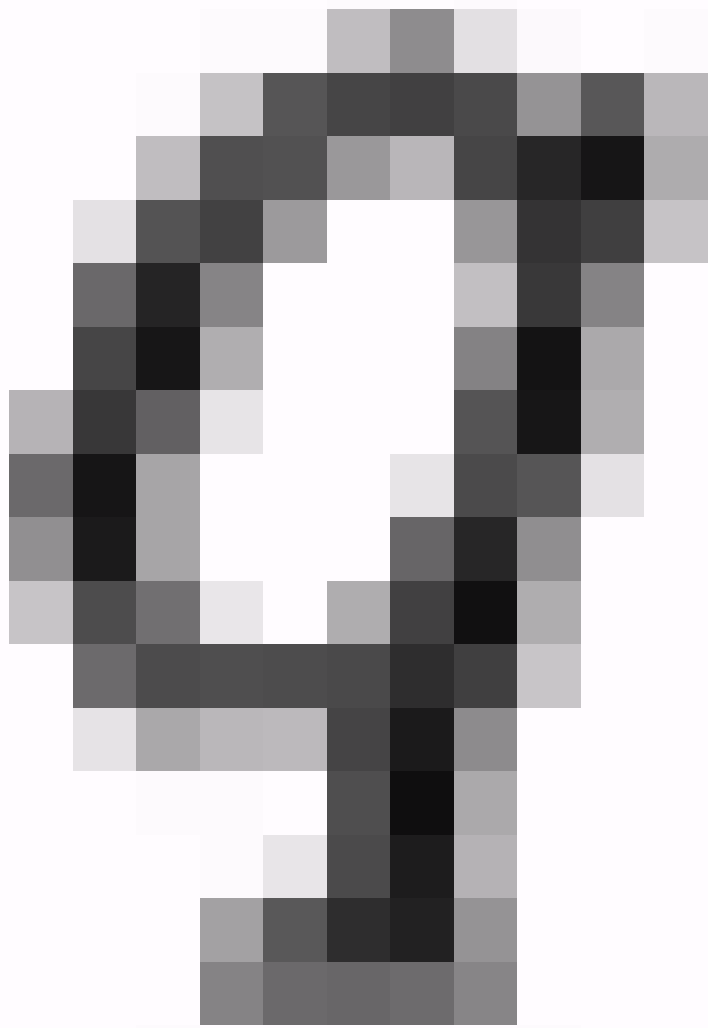
RM2/RI

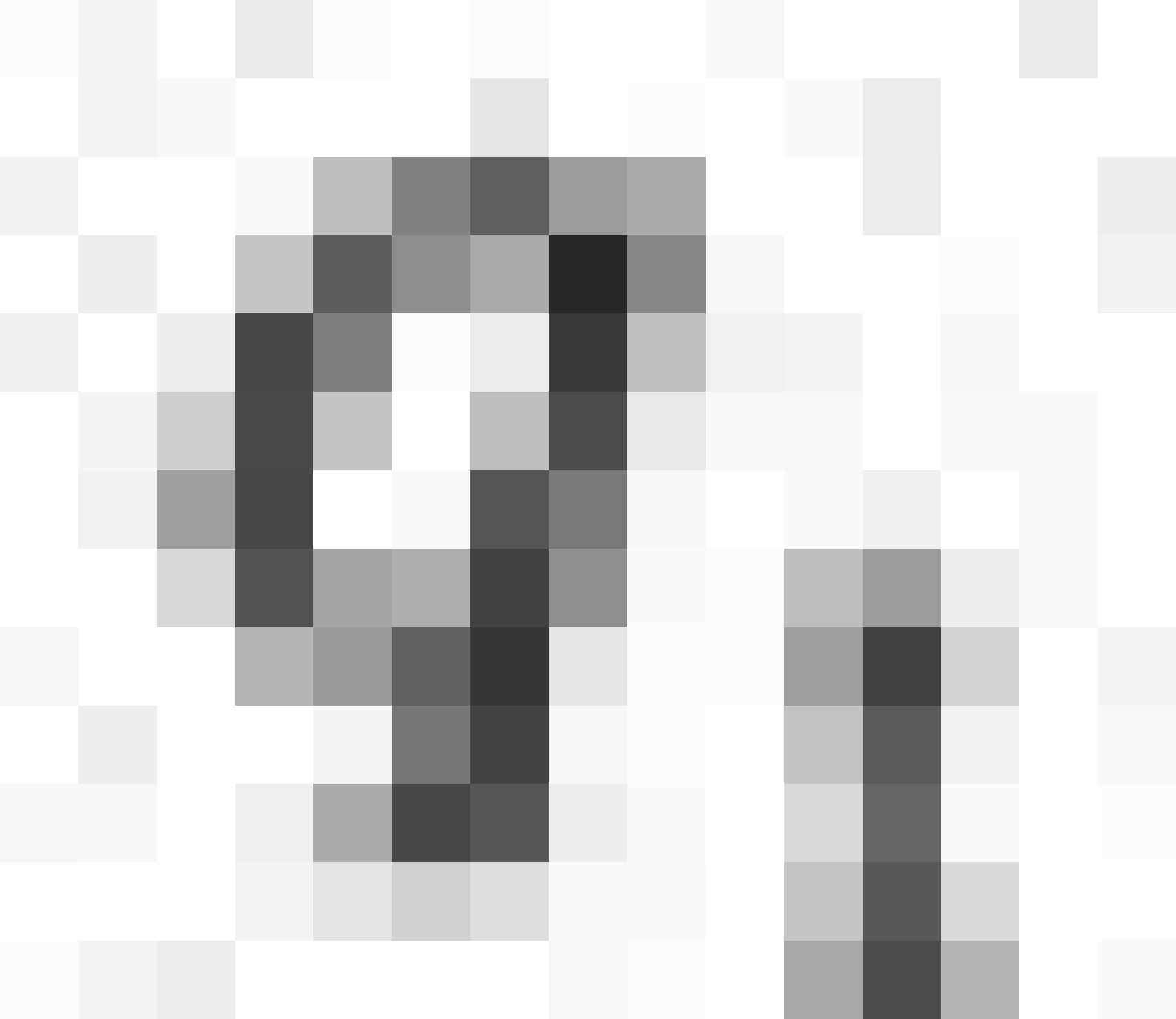
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$$F_1 = \frac{1}{4\pi\epsilon_0} \cdot \frac{|q_1| \cdot |q_2|}{r^2} \quad (34.4)$$



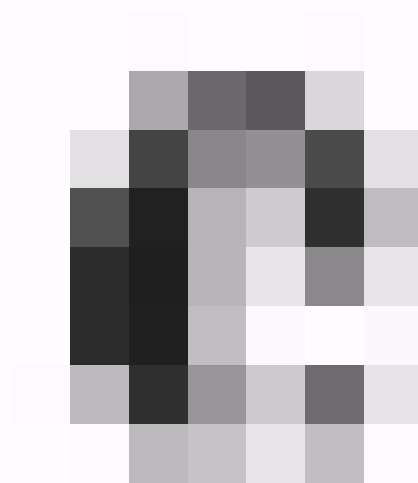




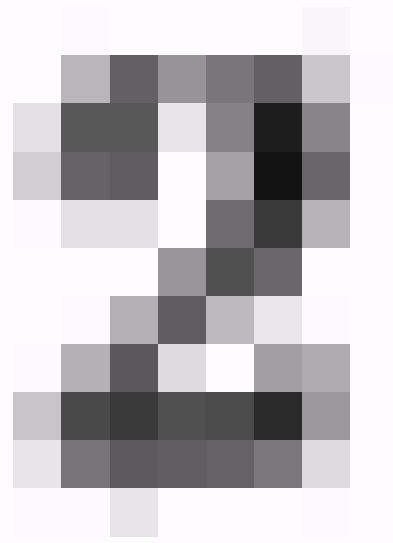
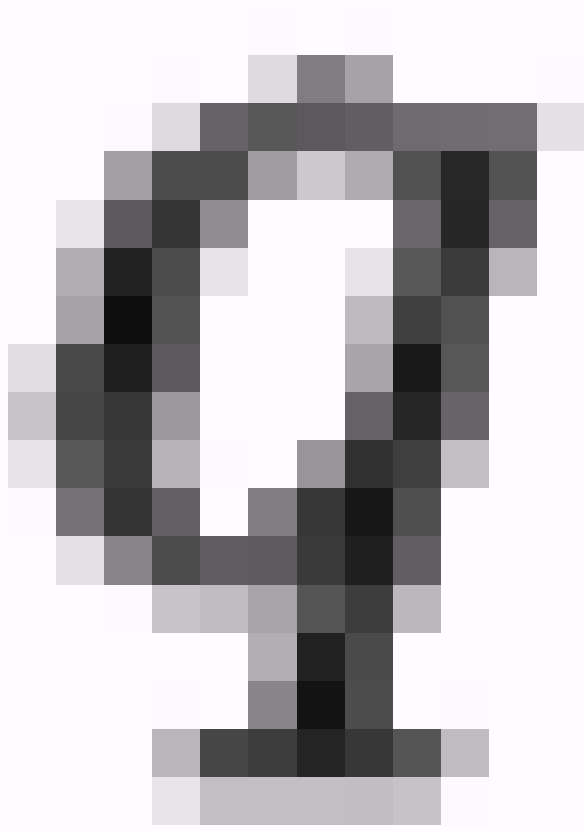
F_0 $=$ R

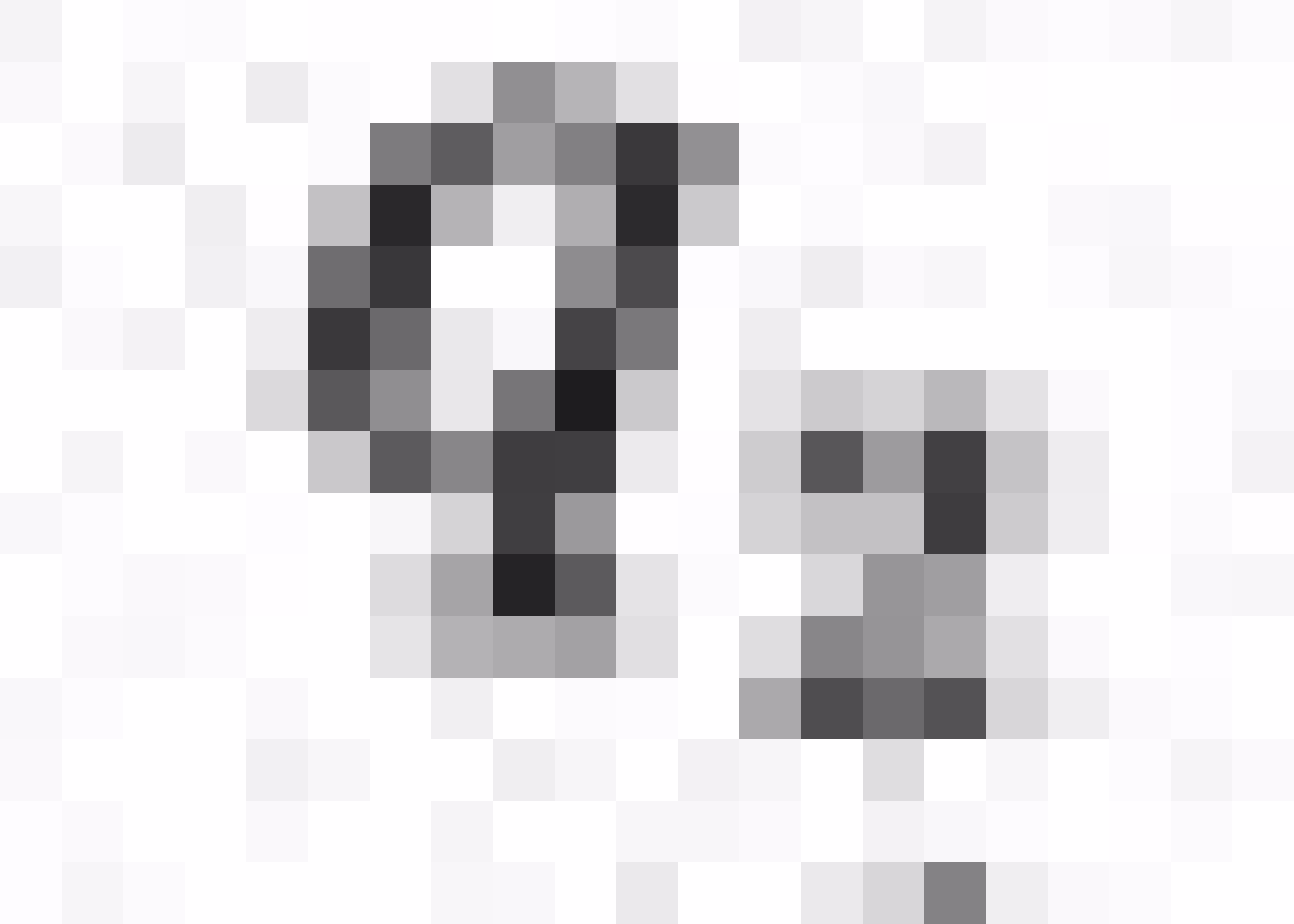
$$\frac{Q_1 + Q_2}{r_2}$$

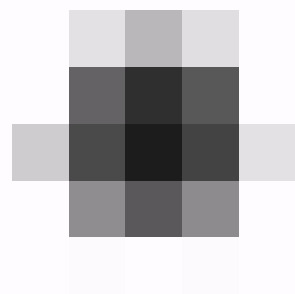
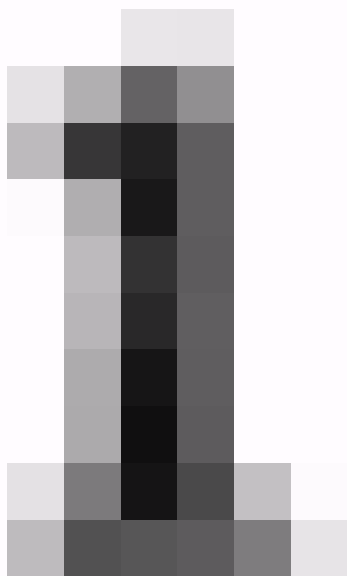
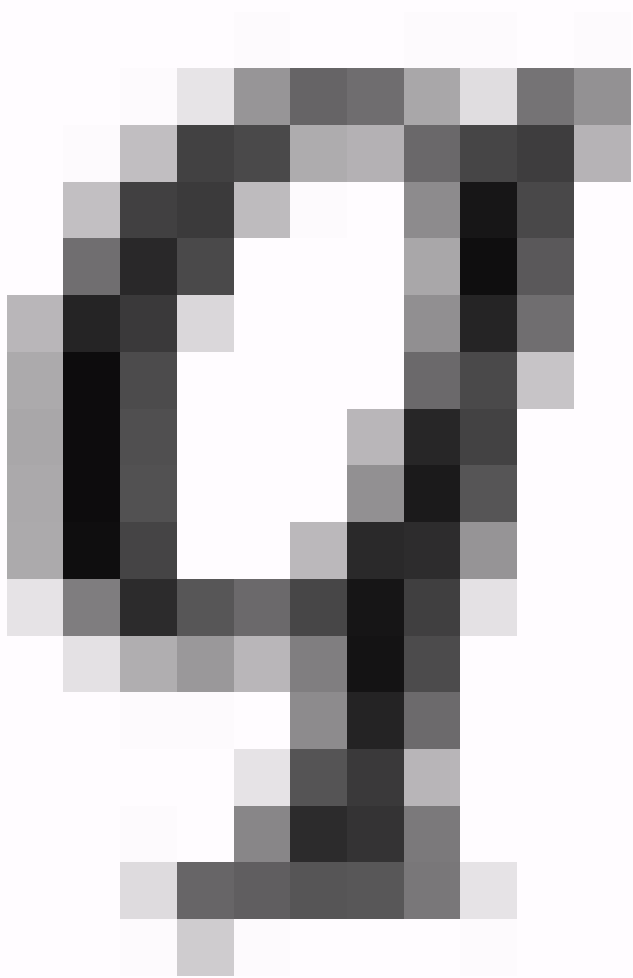


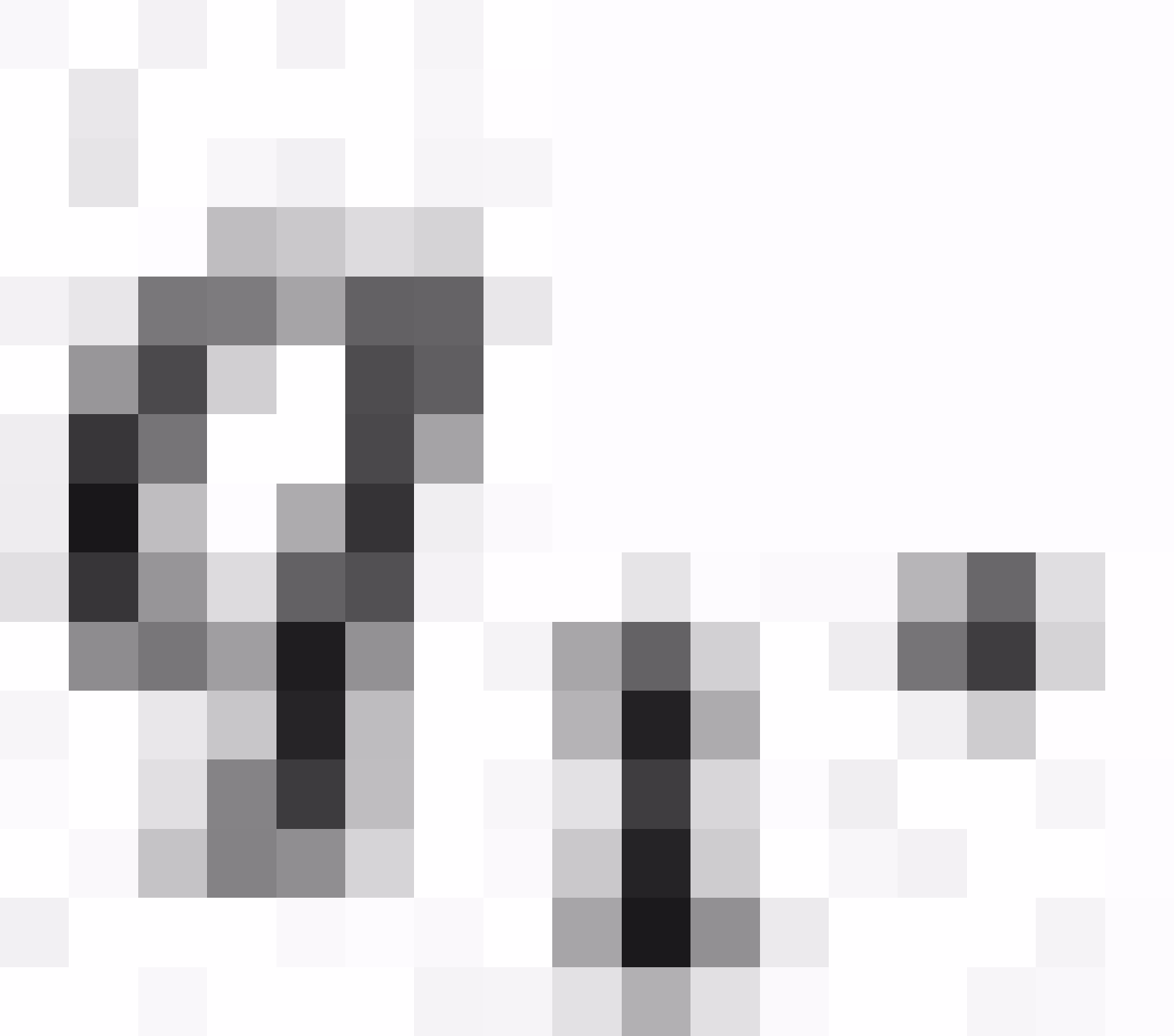


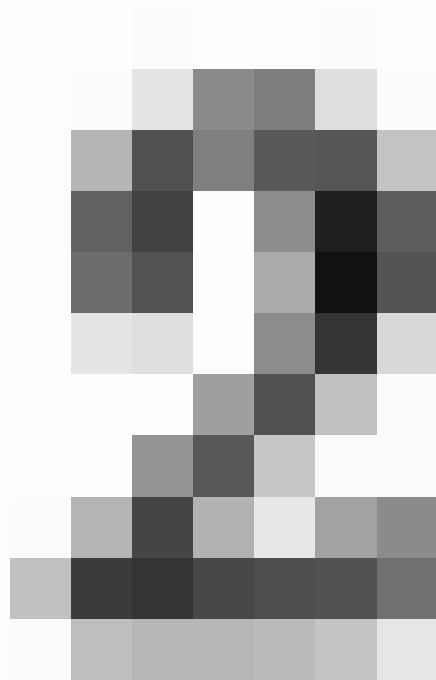
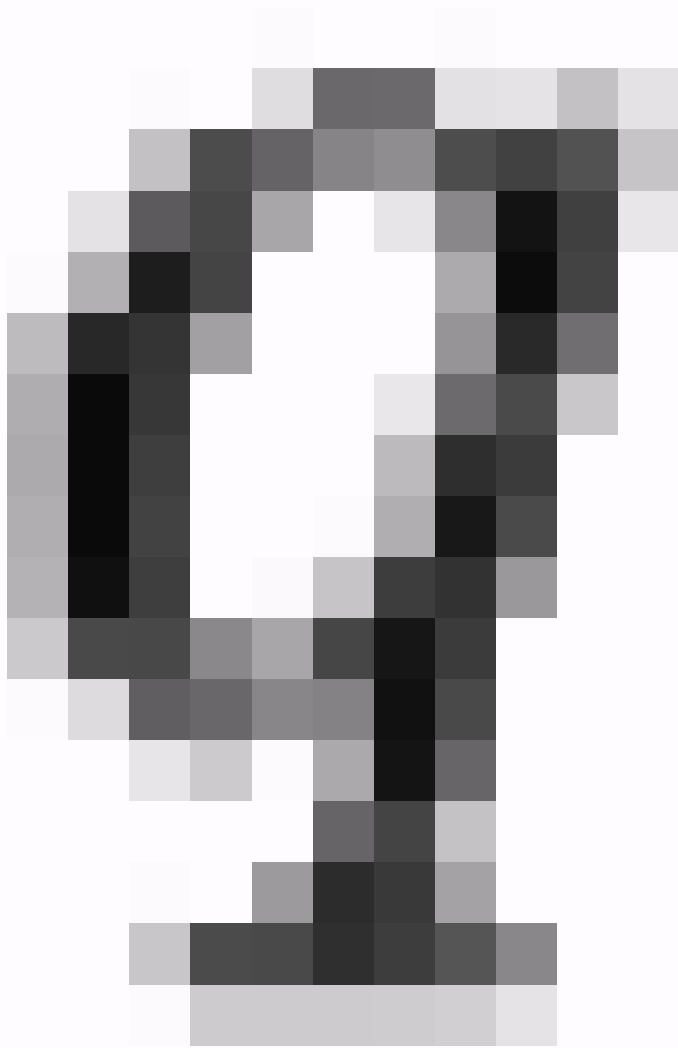


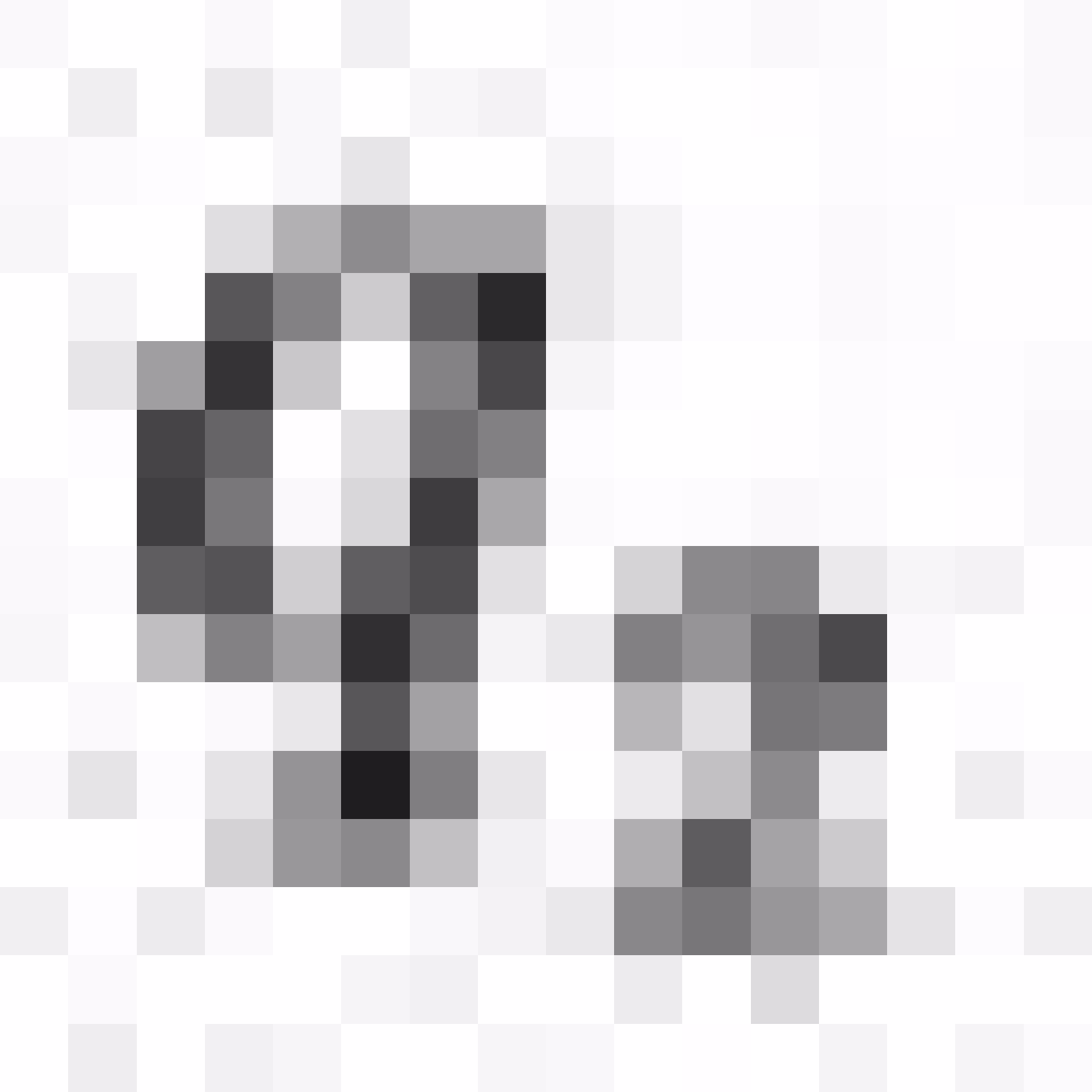


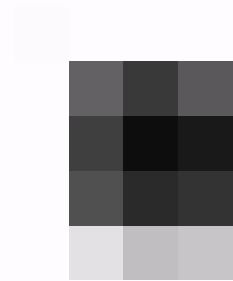
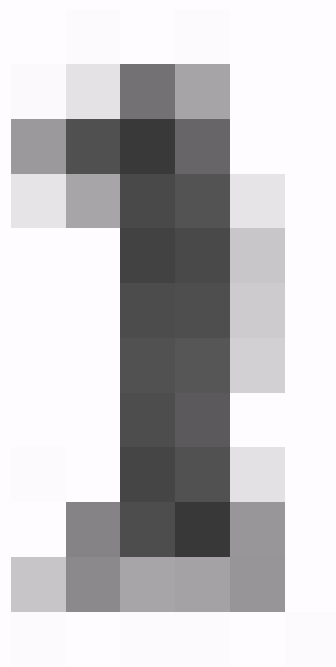
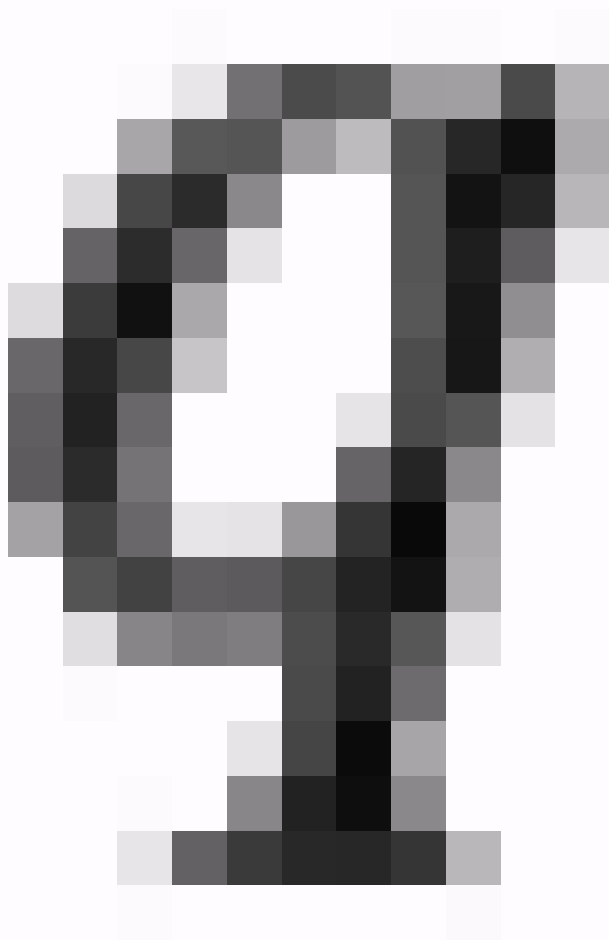


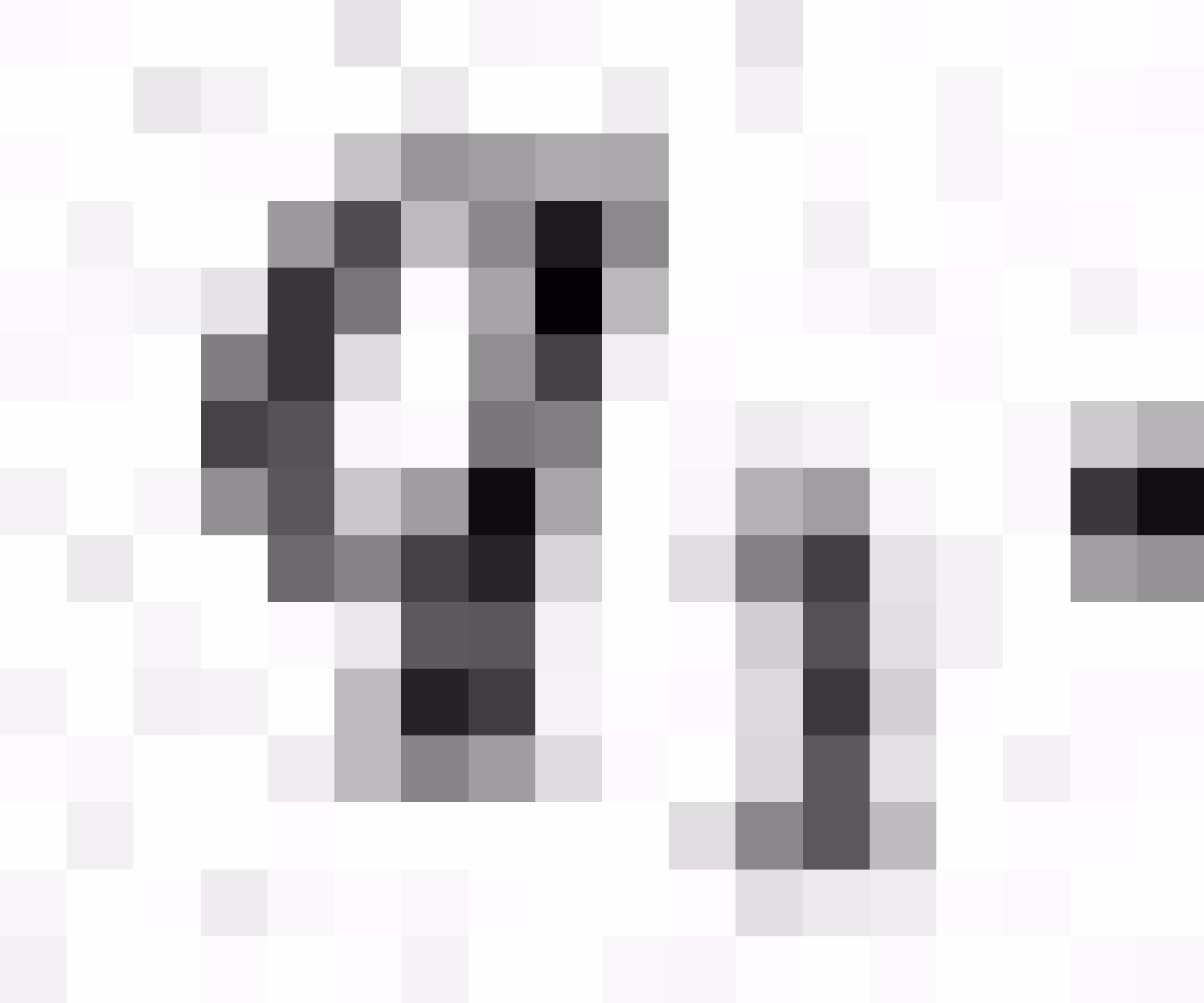


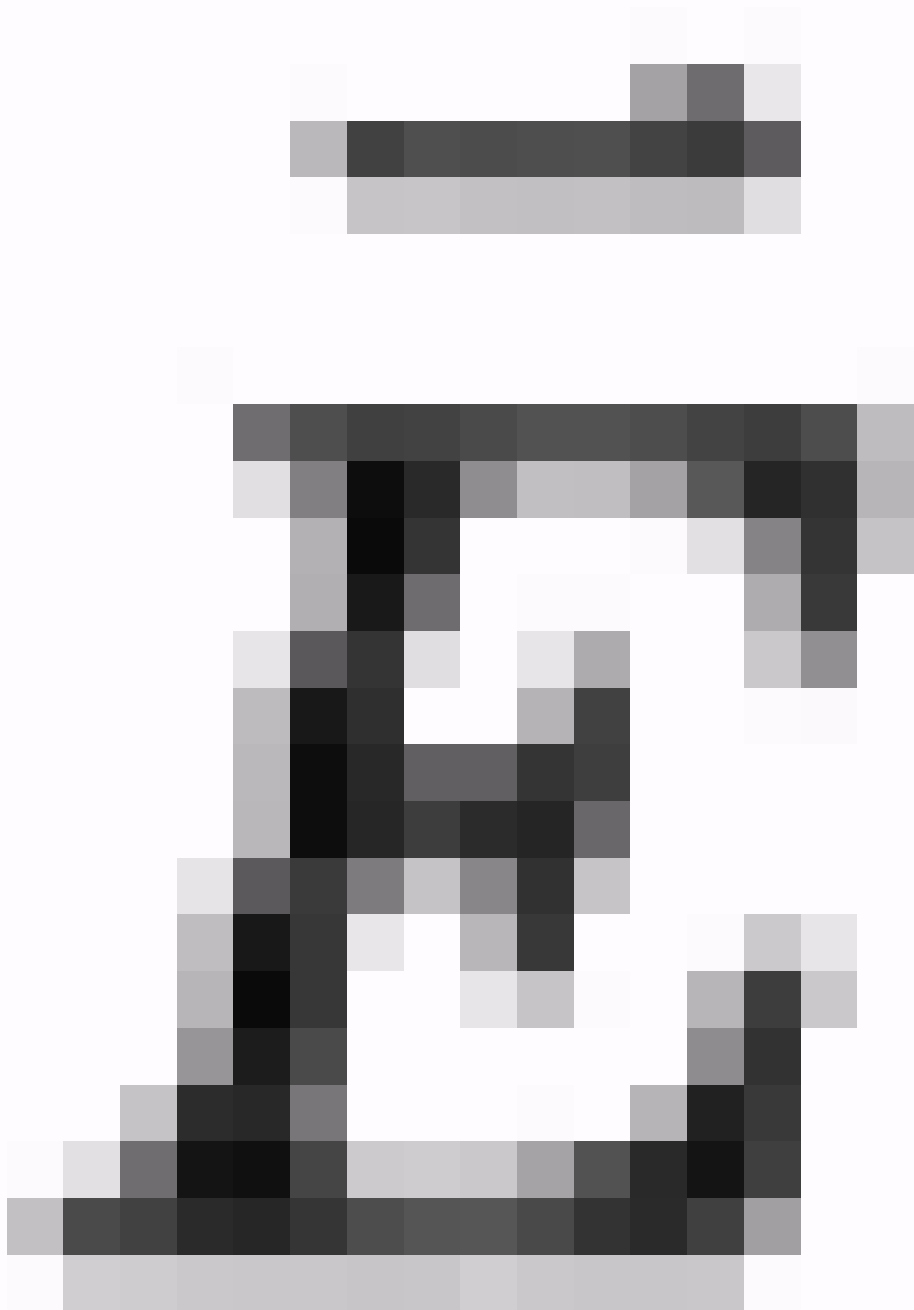






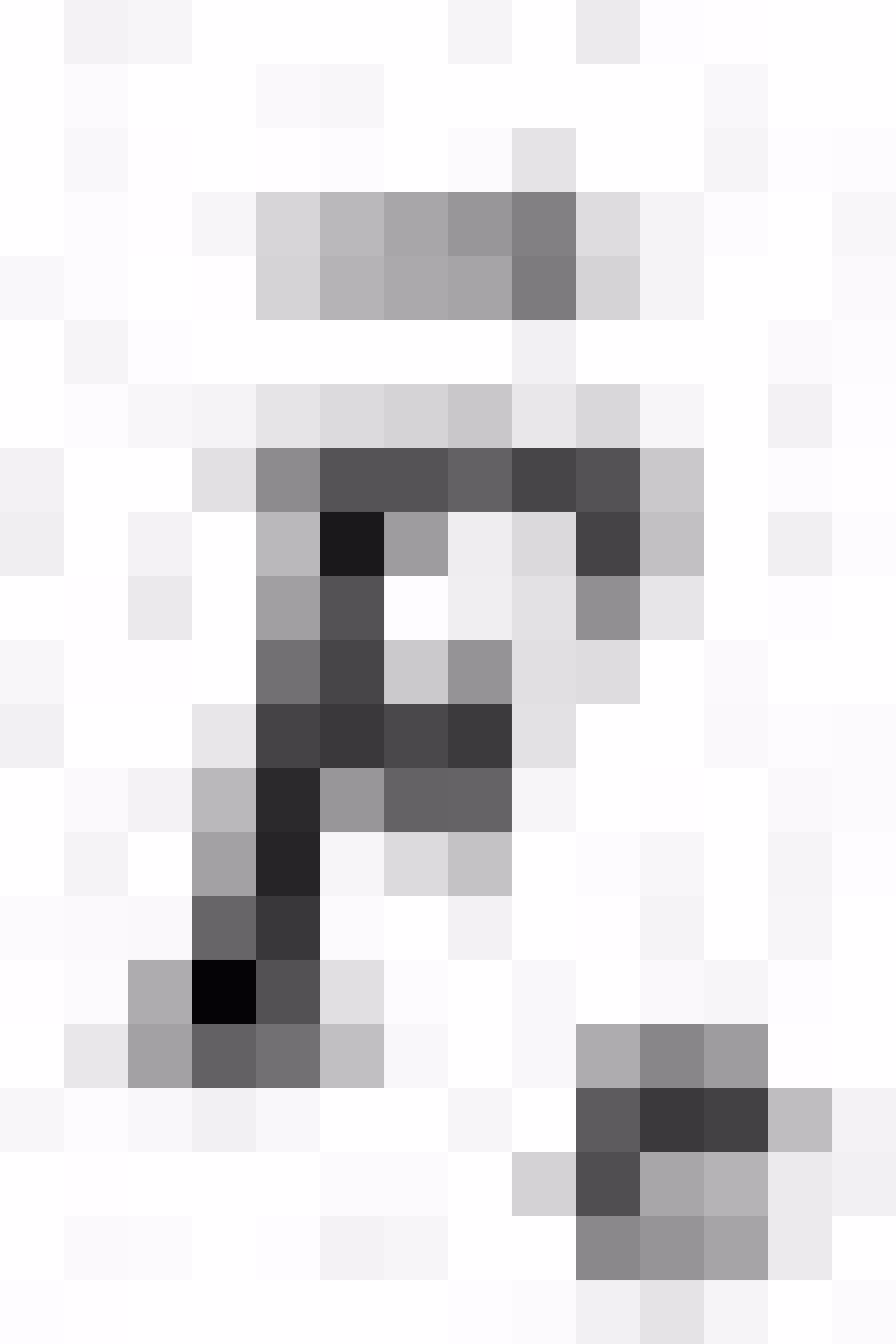


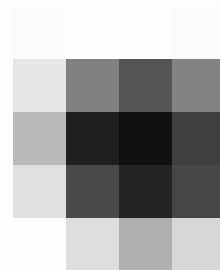
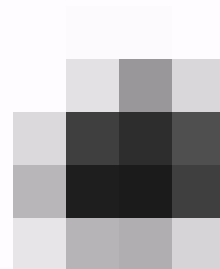
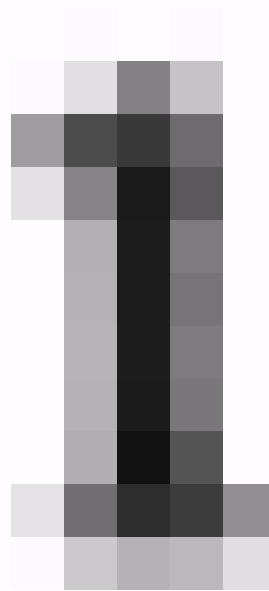
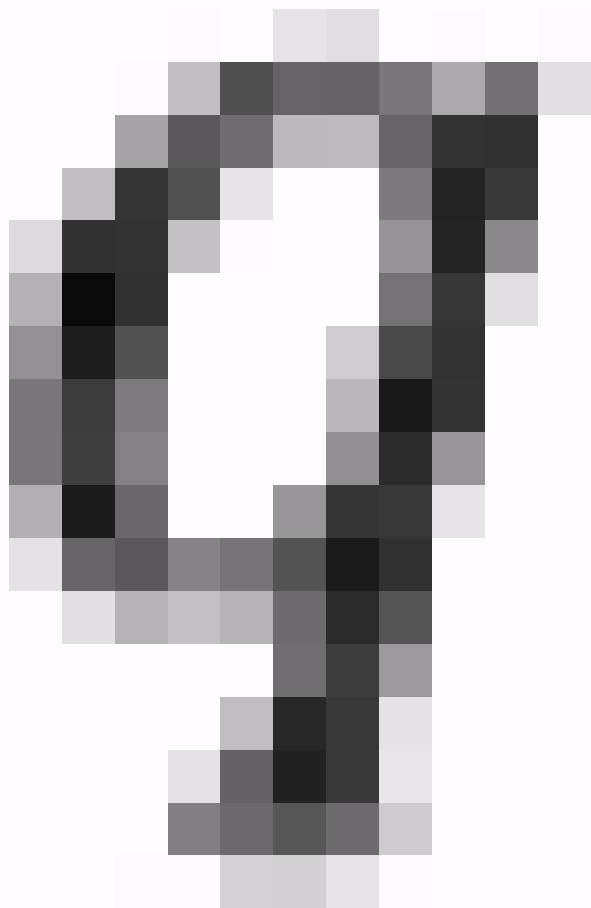


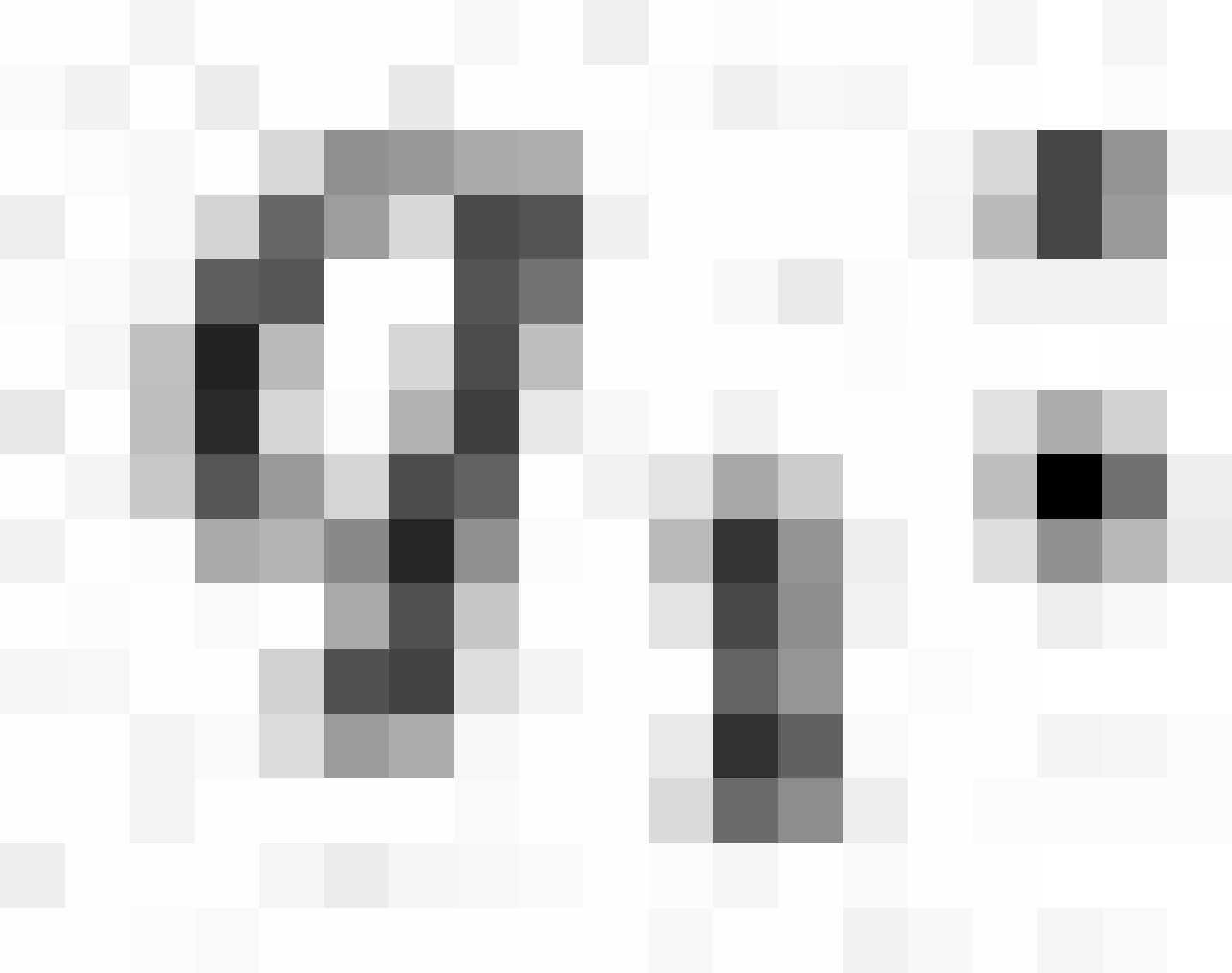






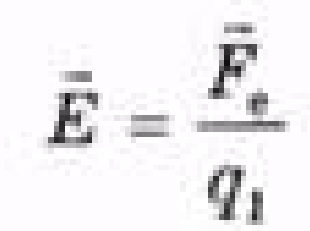


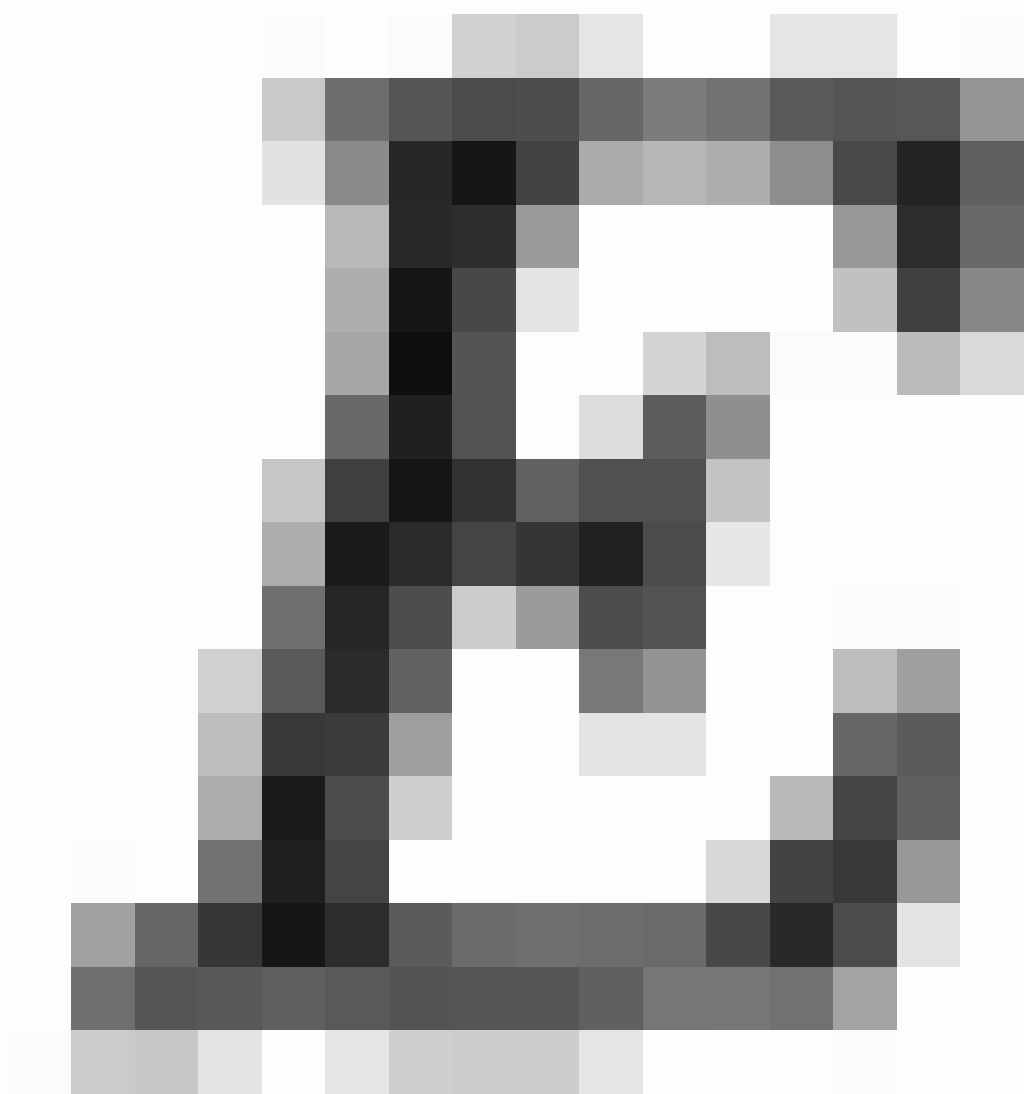
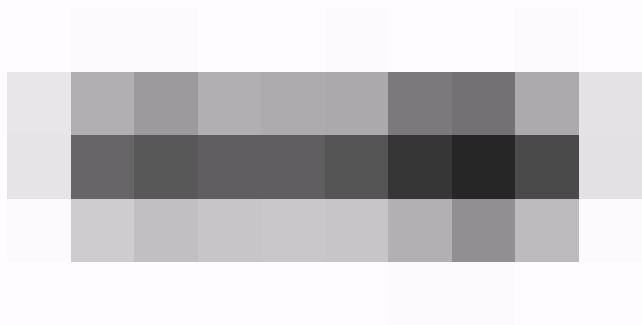


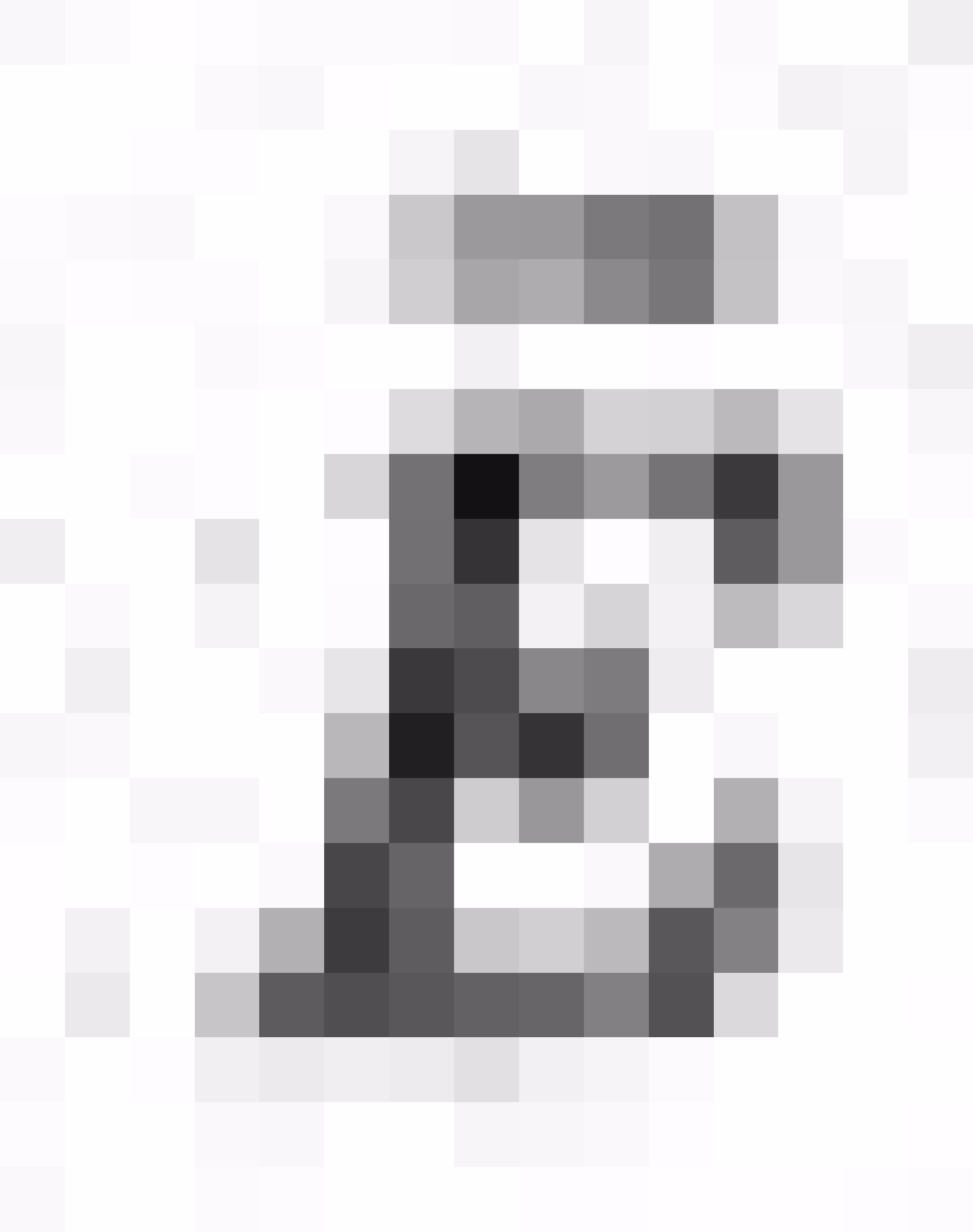


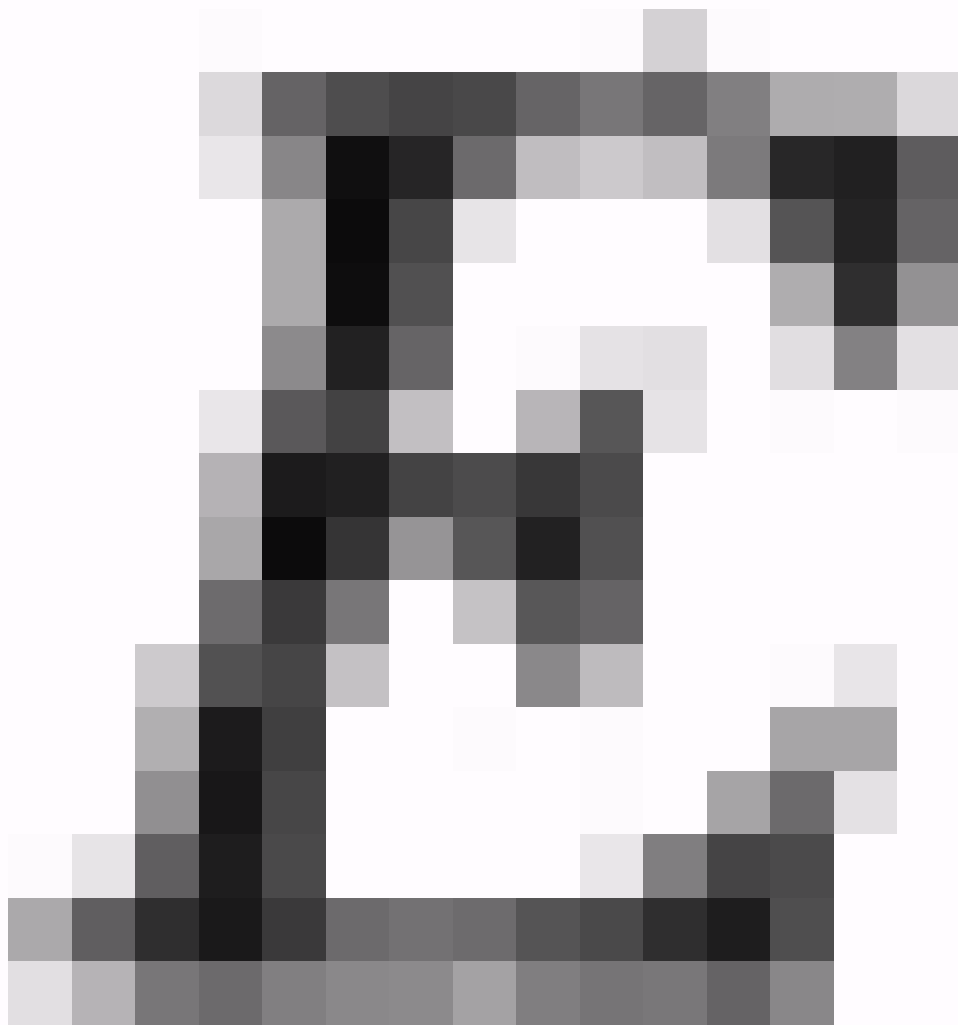
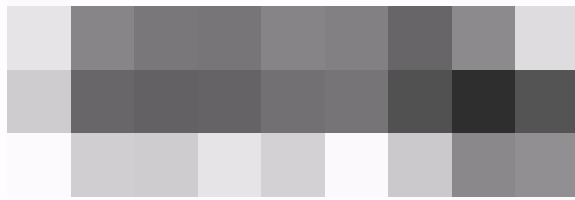
$$\vec{E} = \frac{\vec{F}}{q_1}$$

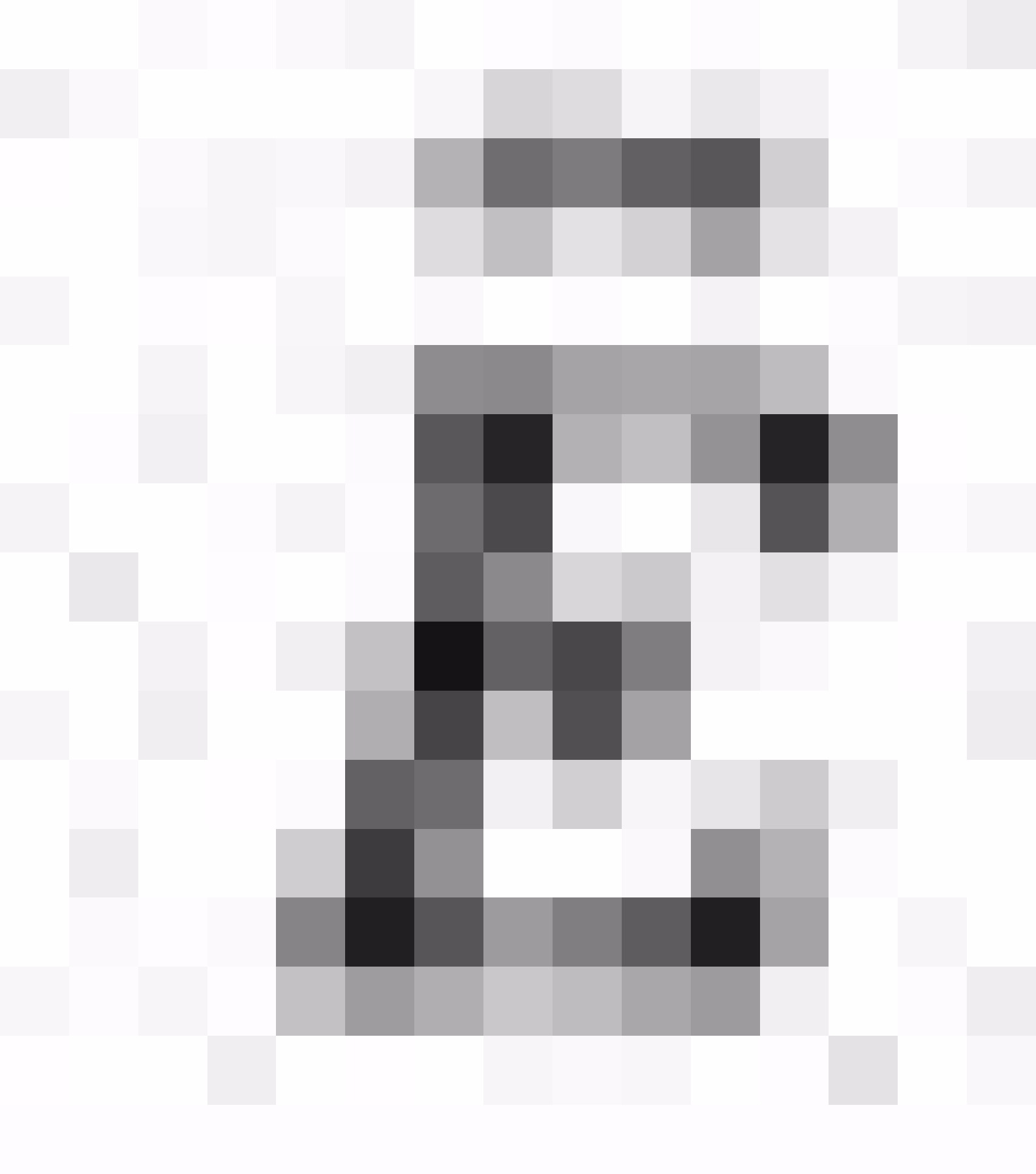
(35.1)

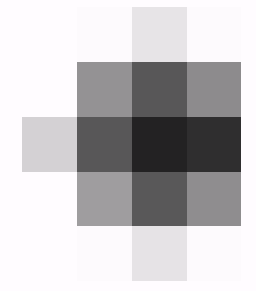
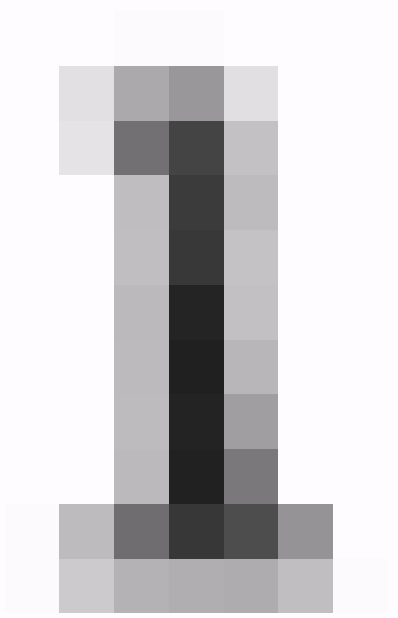
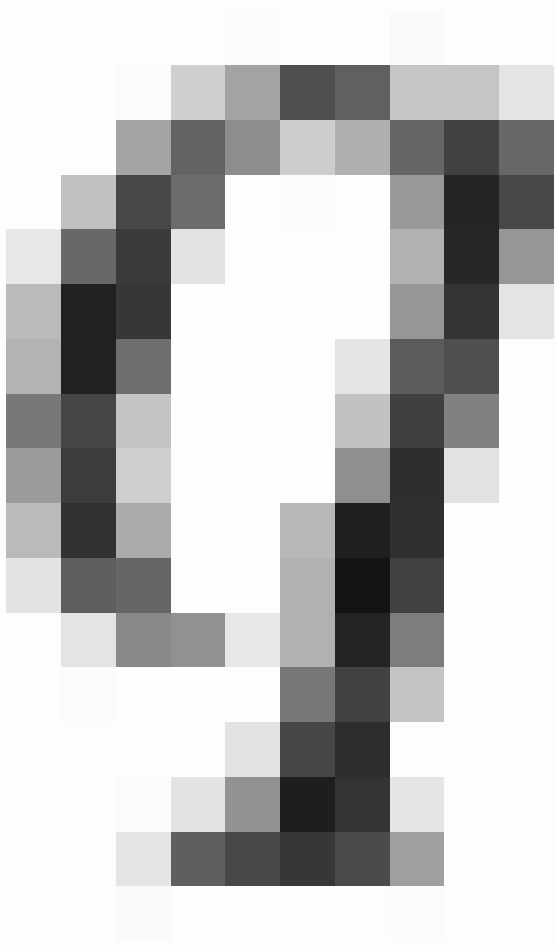


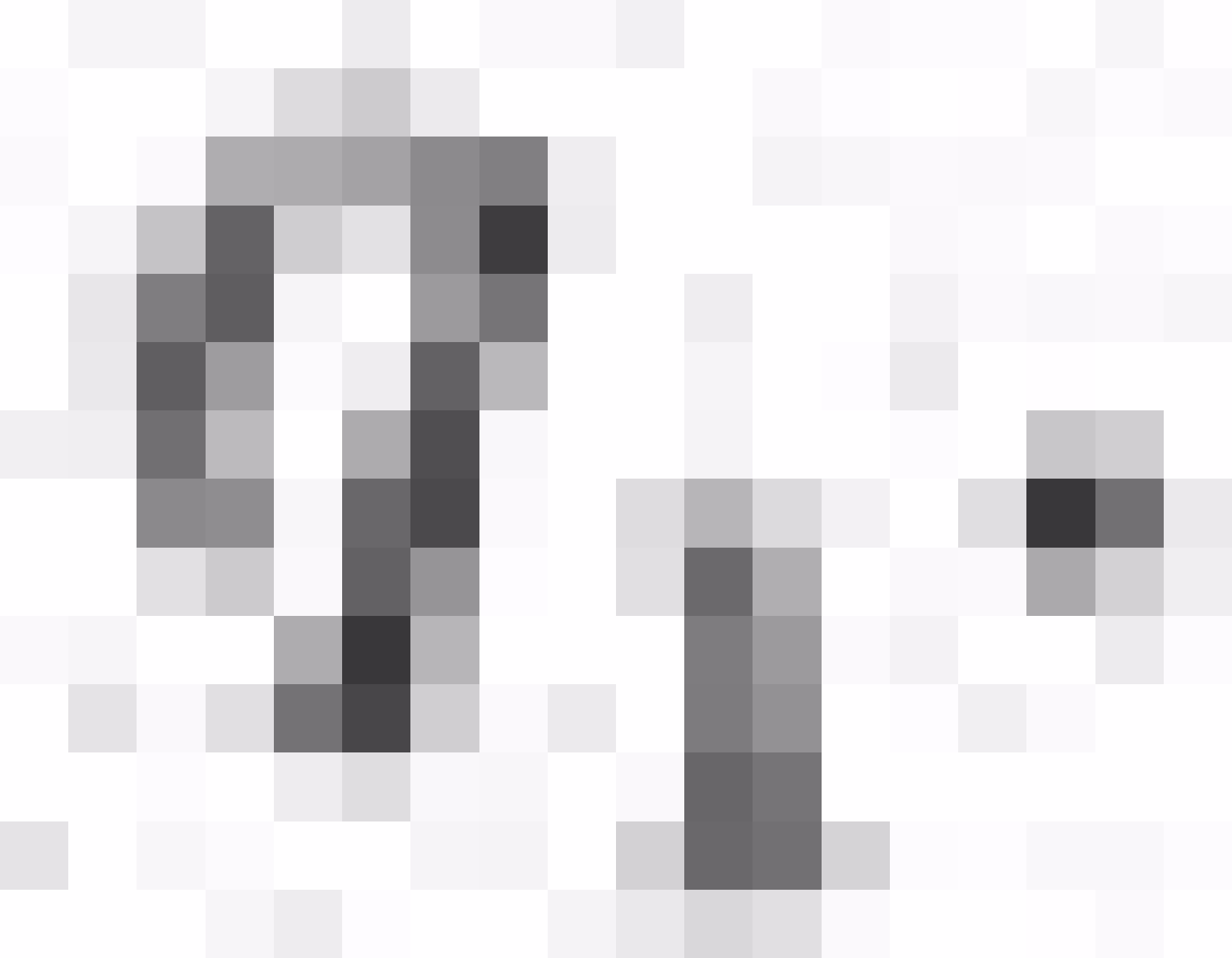


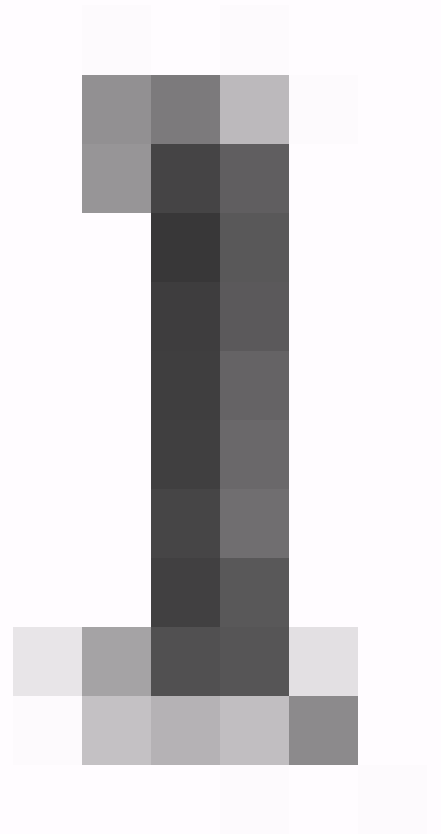
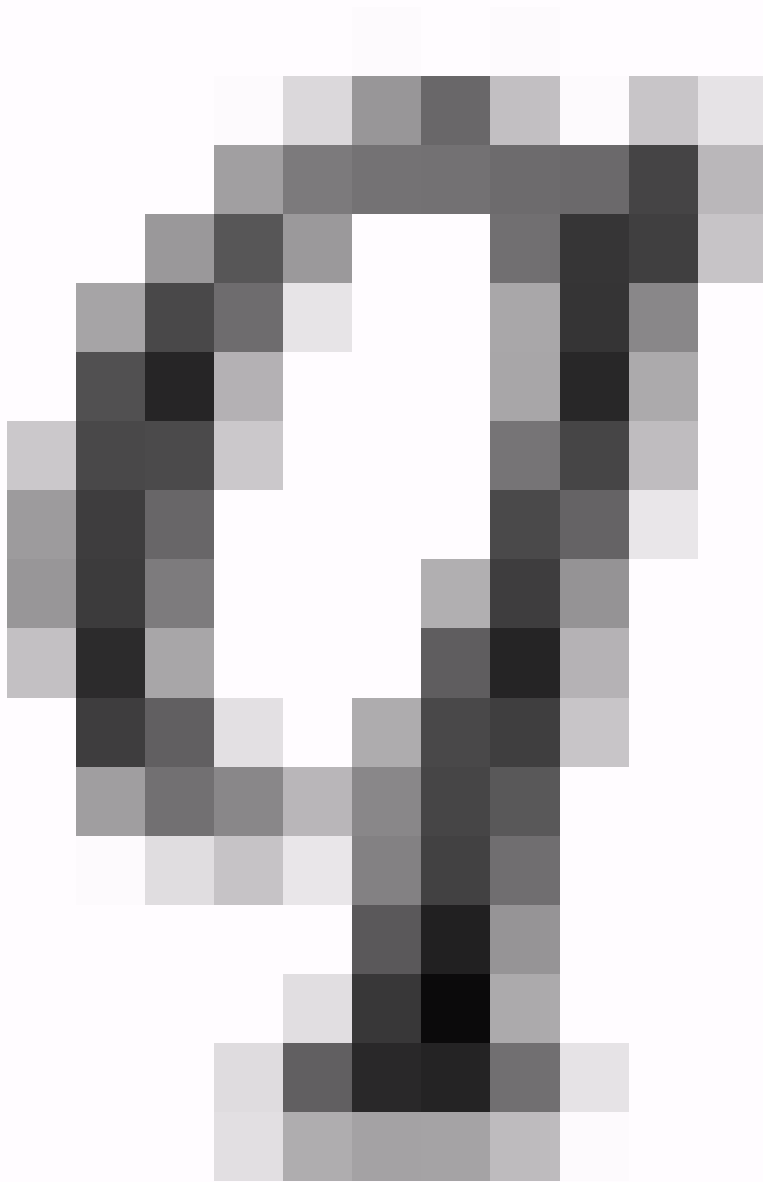


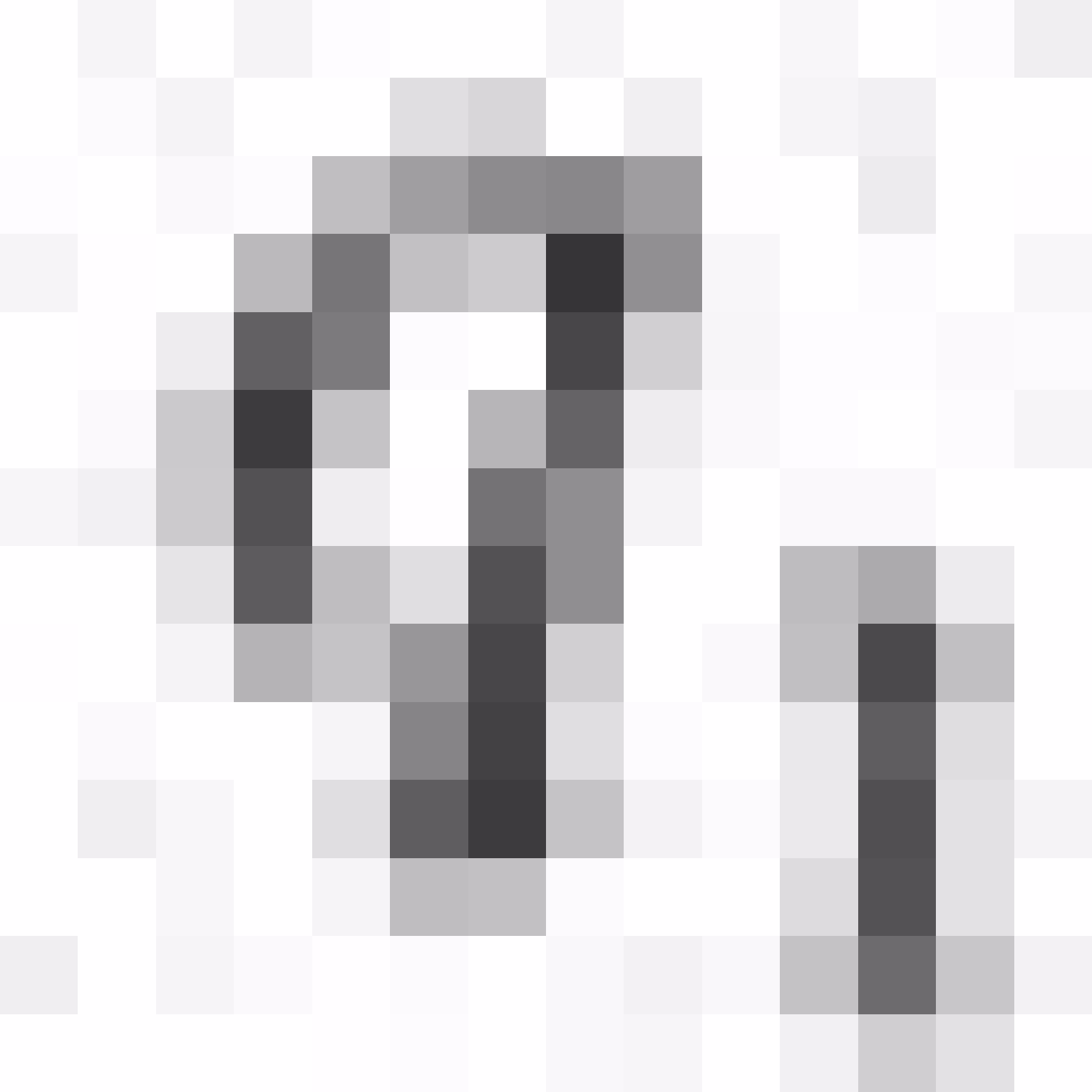


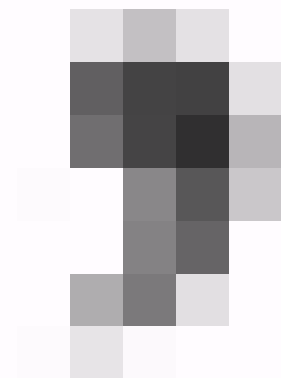
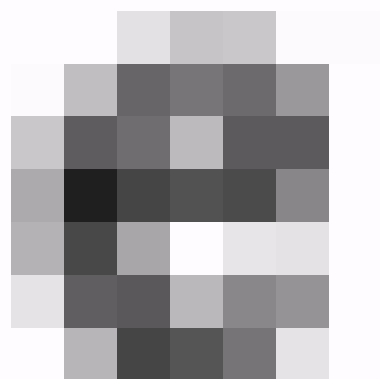


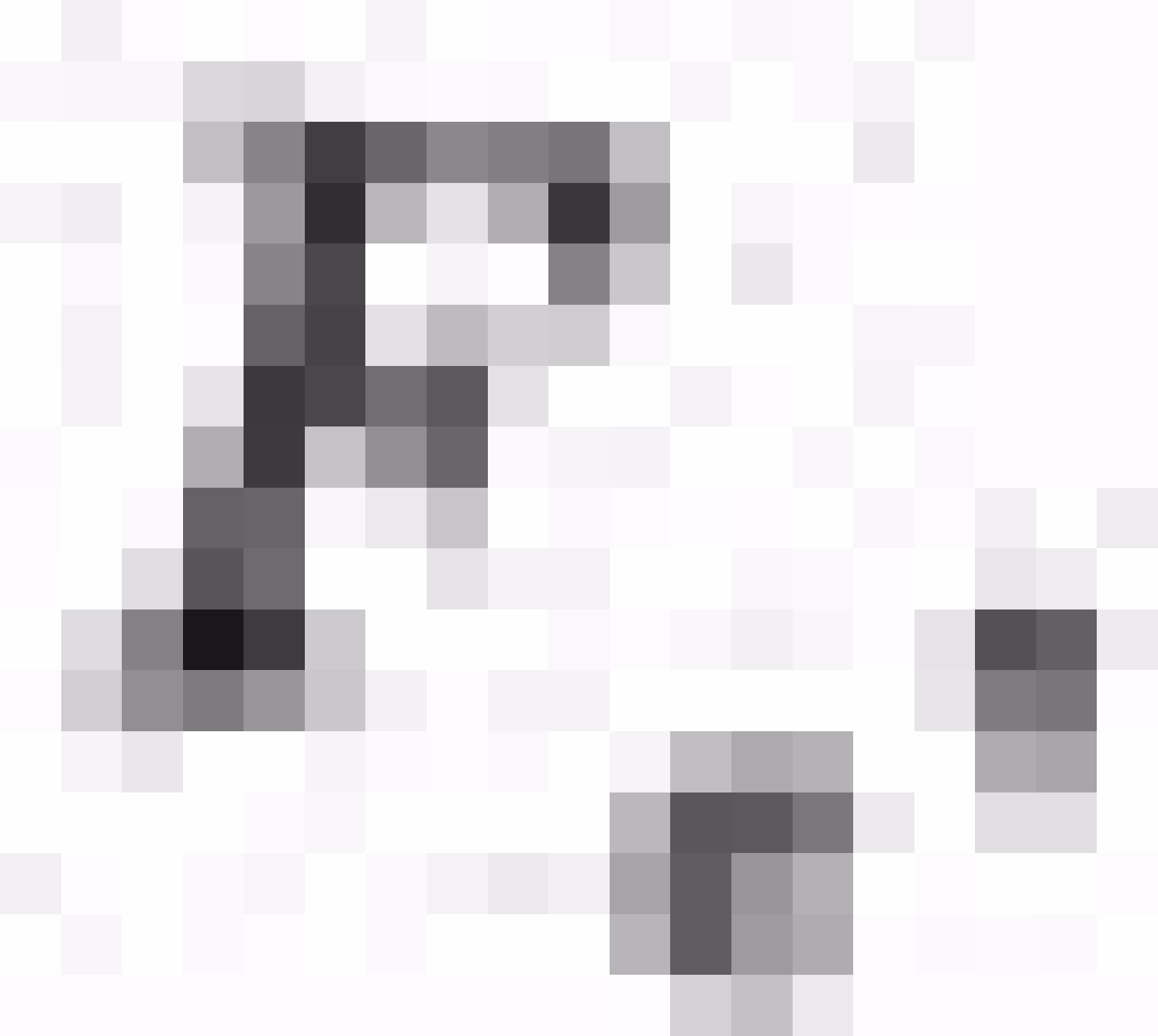










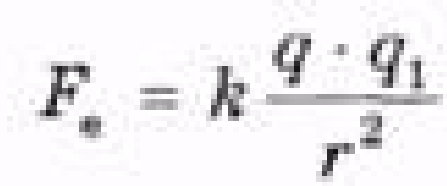


$F = E \cdot Q_1$
 $(35 \cdot 2)$

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$$F_{\theta} = R \frac{Q \cdot Q_1}{r^2} \quad (35.3)$$

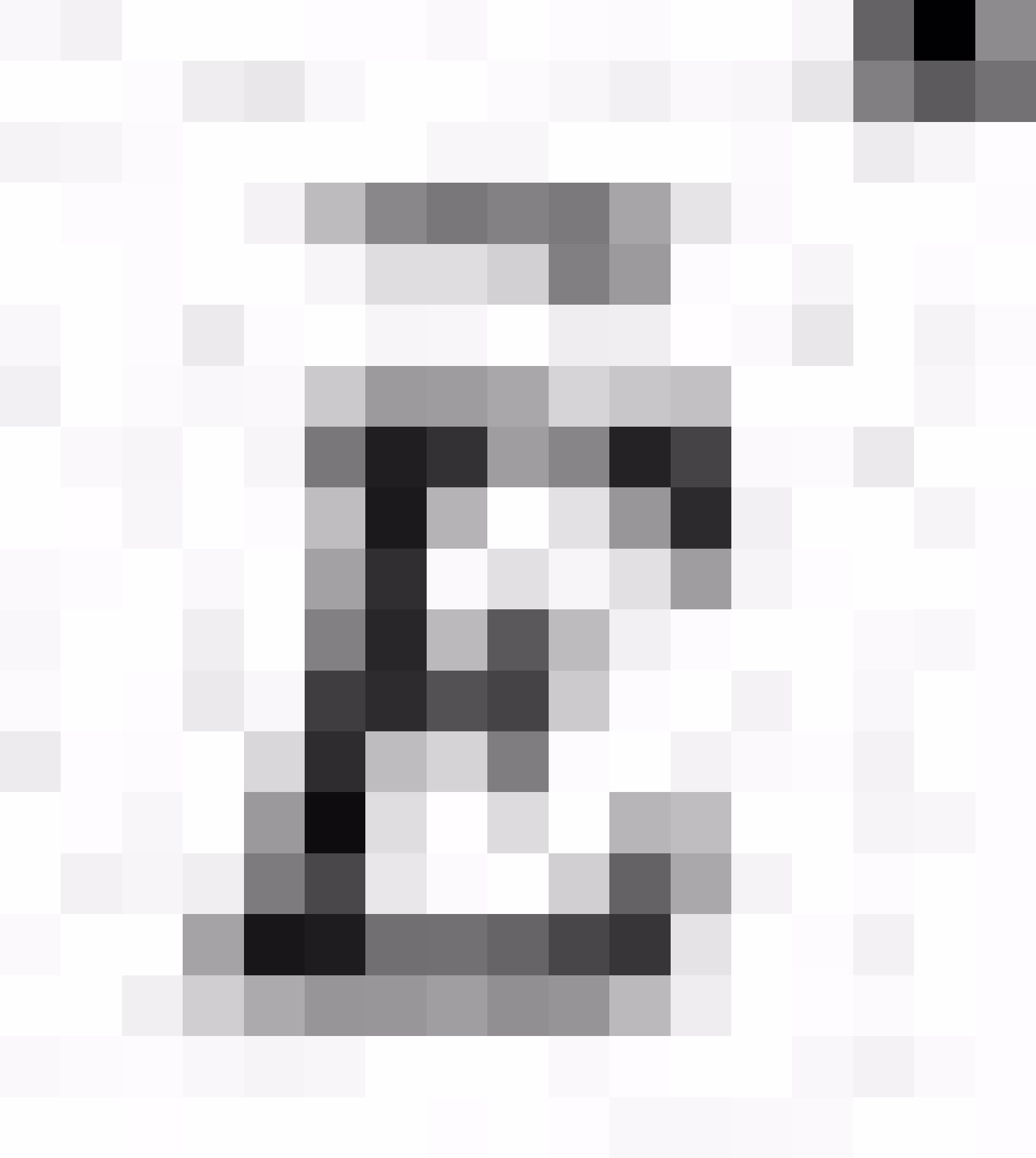


$$E = R \frac{Q}{r^2} \quad (35.4)$$

BRAND

1991





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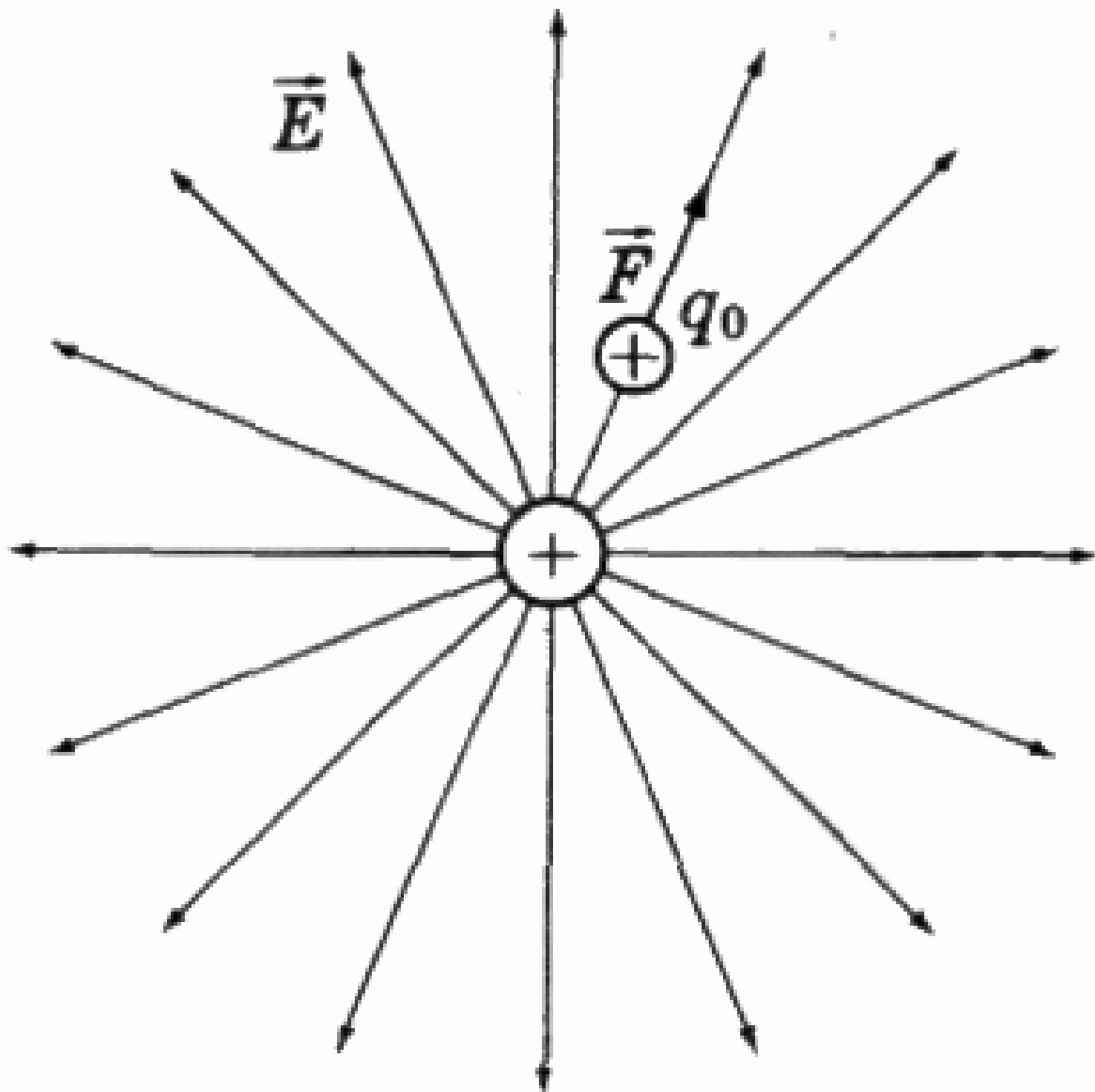
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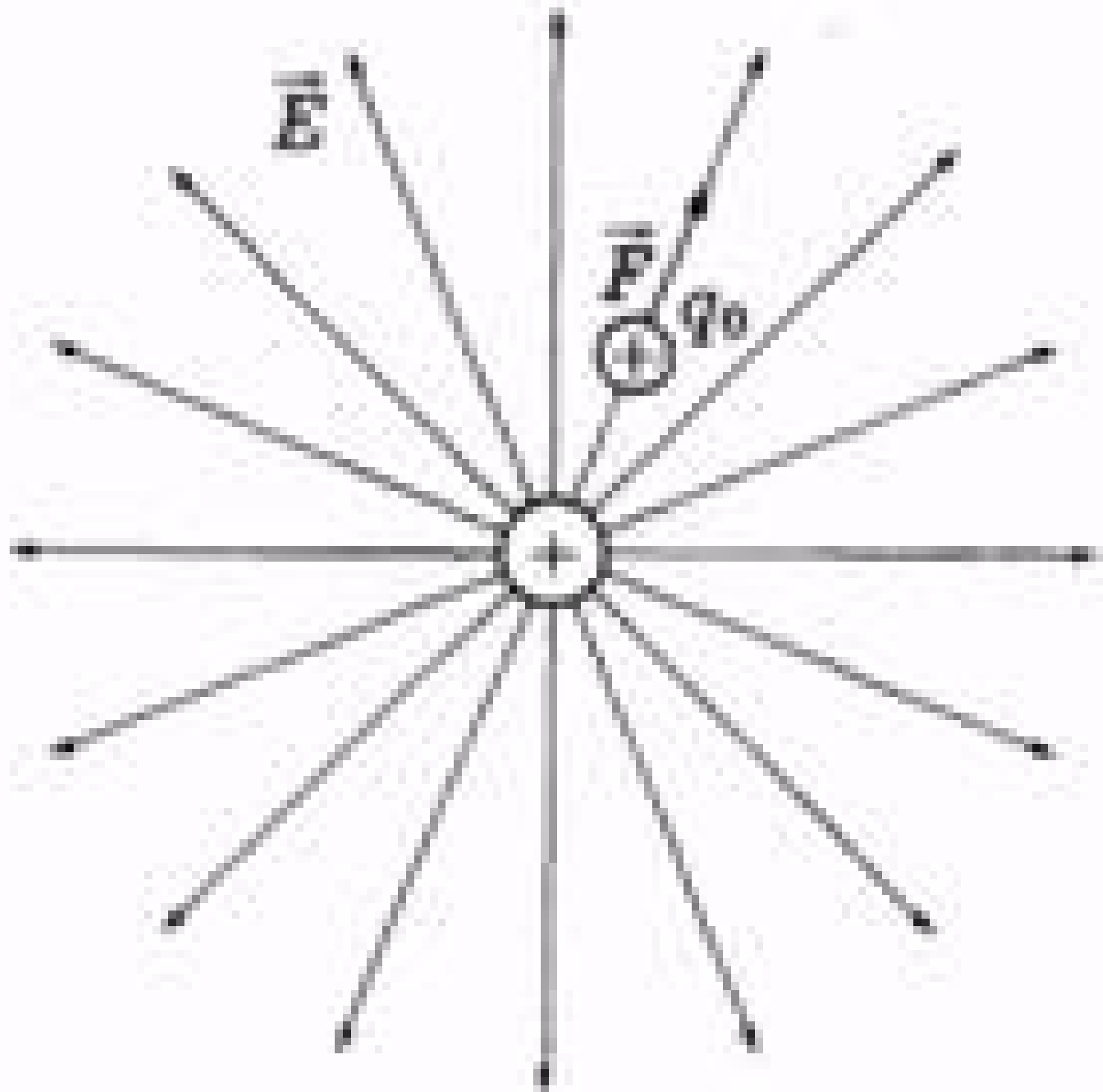


$$E = E_1 + E_2 + \dots + E_n \quad (35.5)$$

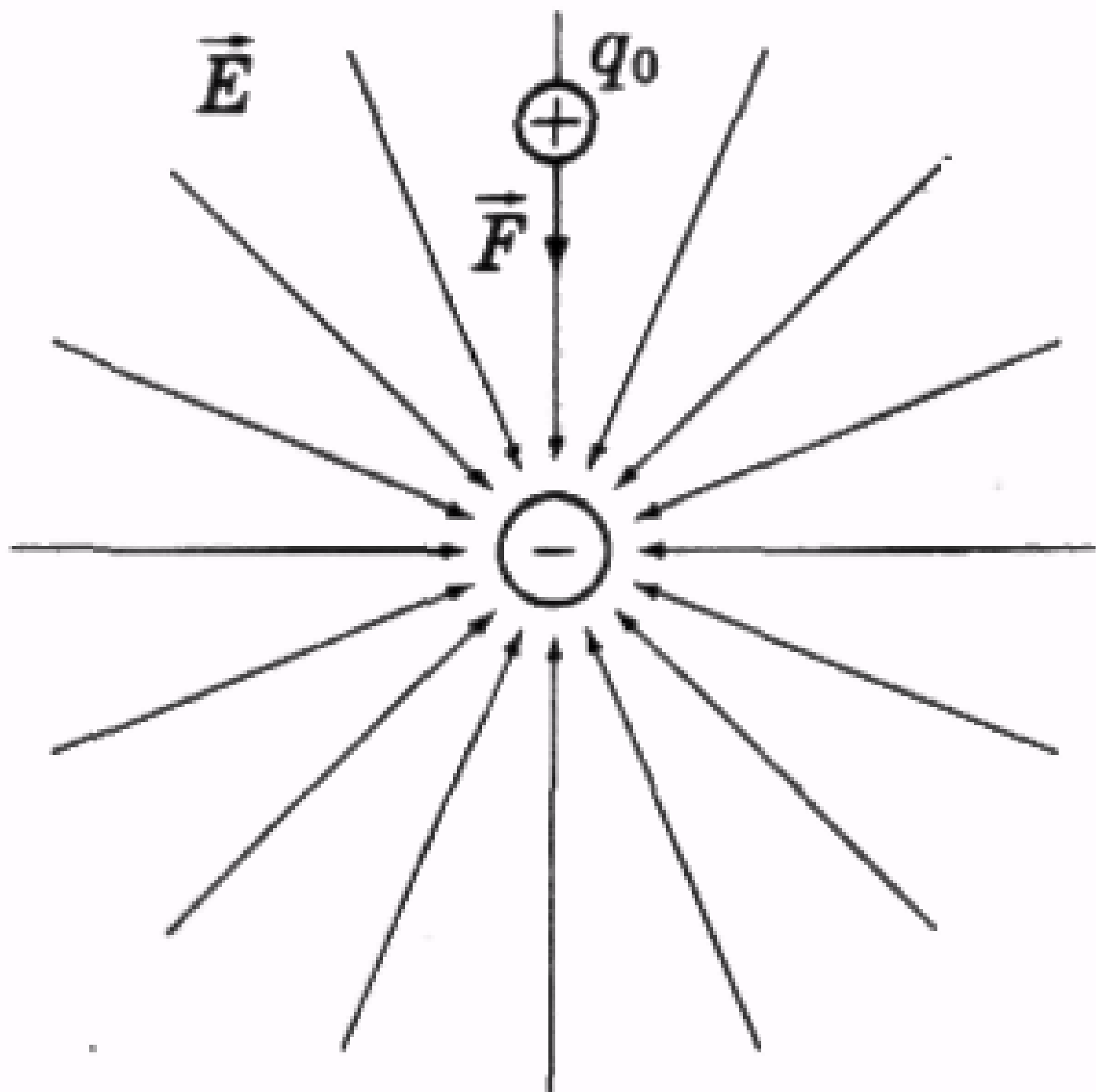
THE UNIVERSITY OF CHICAGO
DIVISION OF THE PHYSICAL SCIENCES
DEPARTMENT OF CHEMISTRY
5780 SOUTH CAMPUS DRIVE
CHICAGO, ILLINOIS 60637
TEL: 773-936-3700
WWW.CHEM.UCHICAGO.EDU



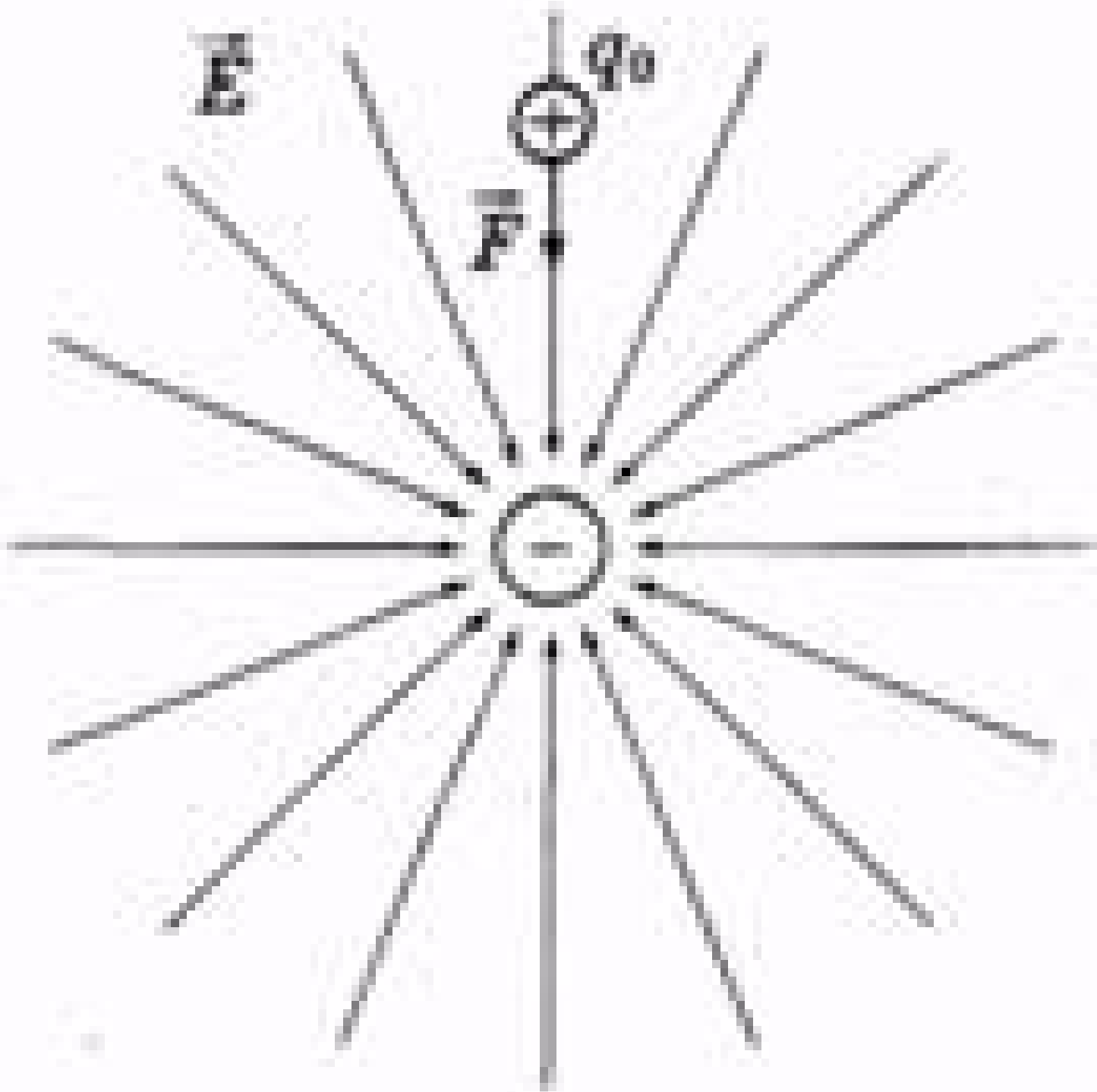
Мал. 2.104



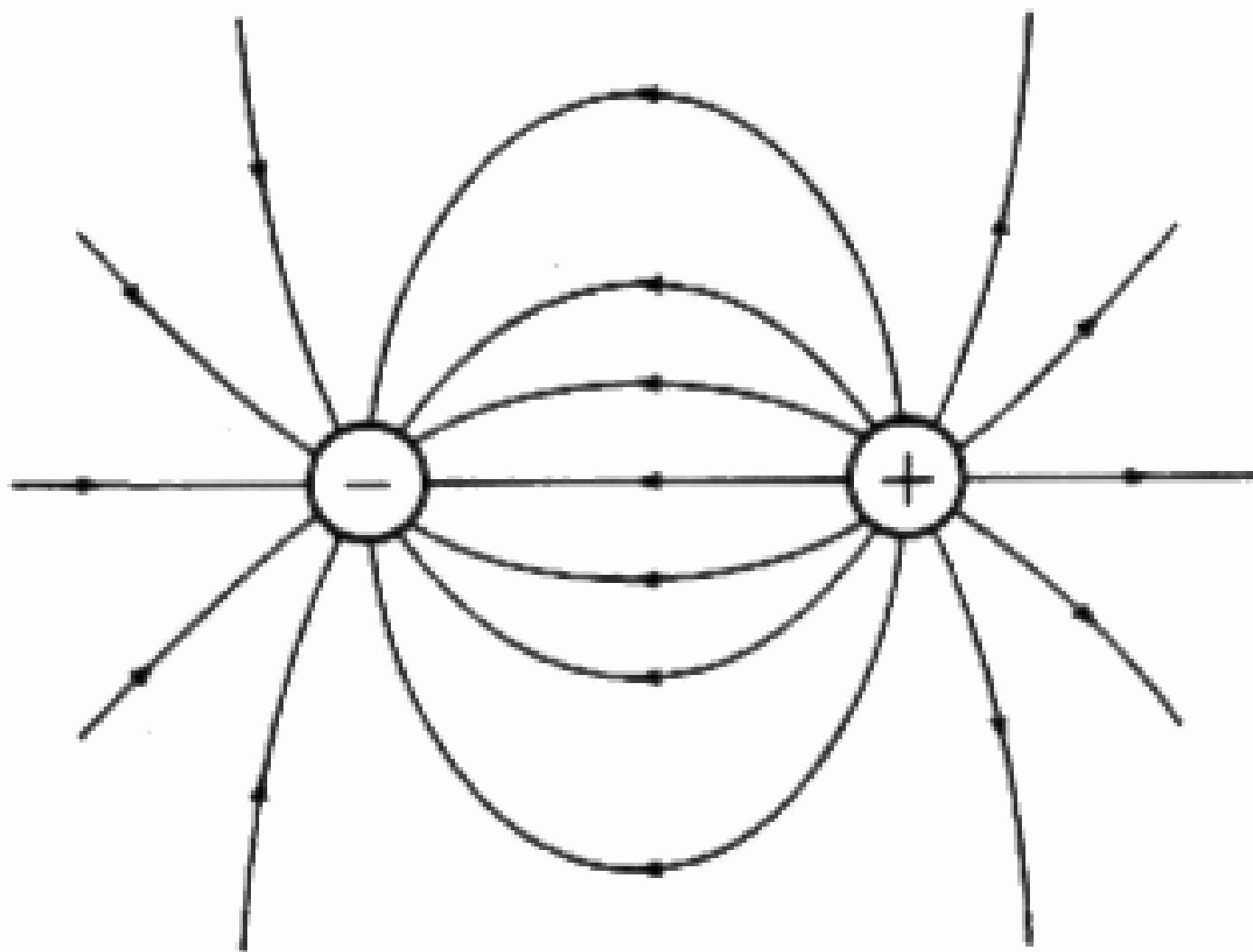
Mat. 2.104



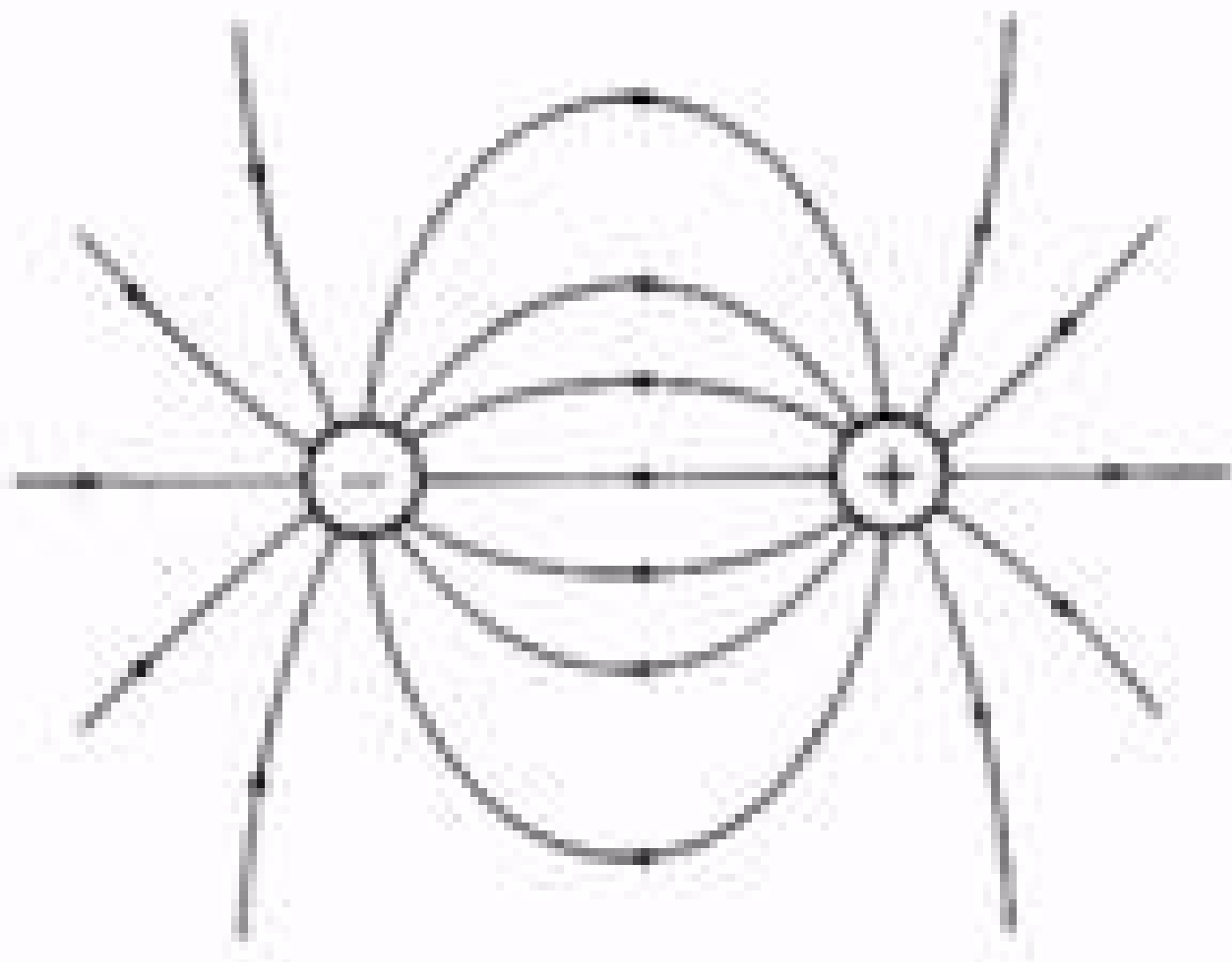
Мал. 2.105



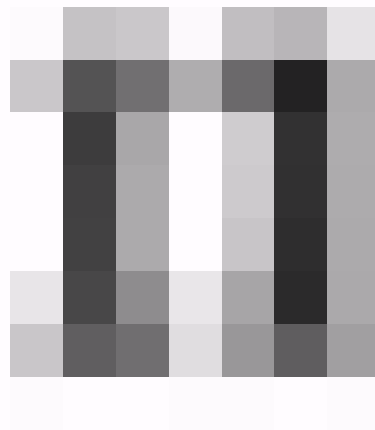
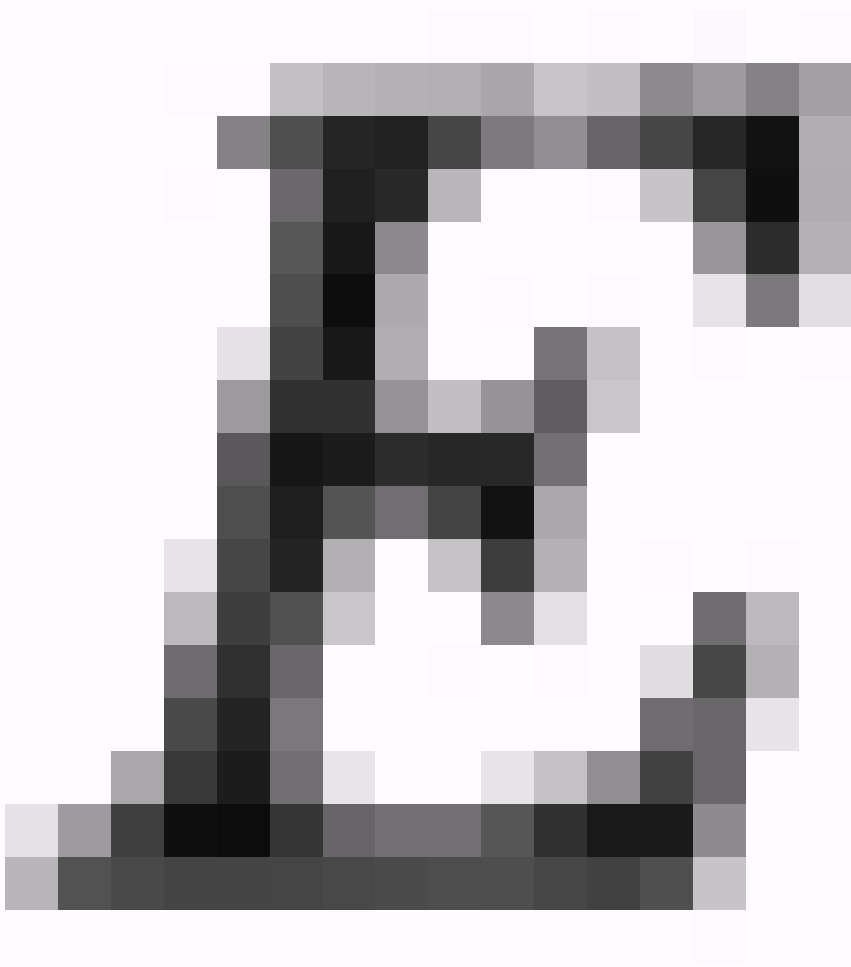
Max 2.105

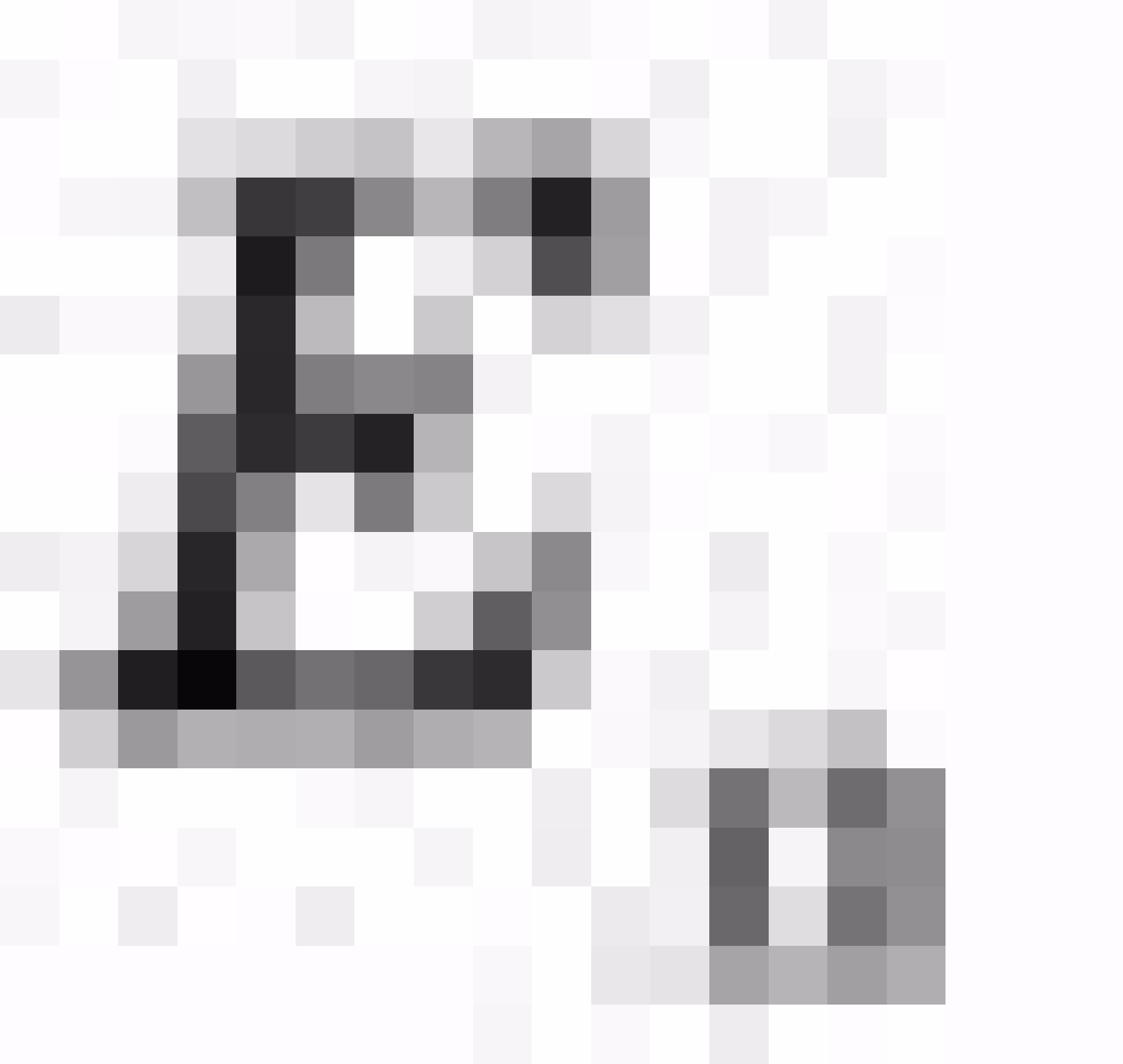


Мал. 2.106



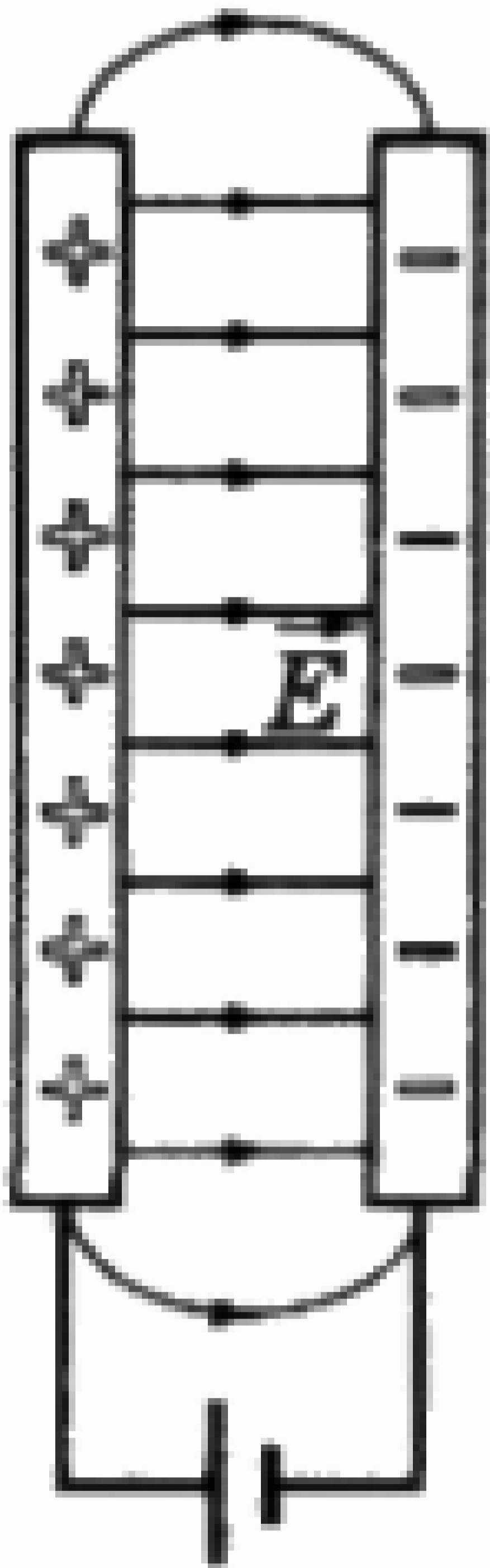
Мал. 3.106



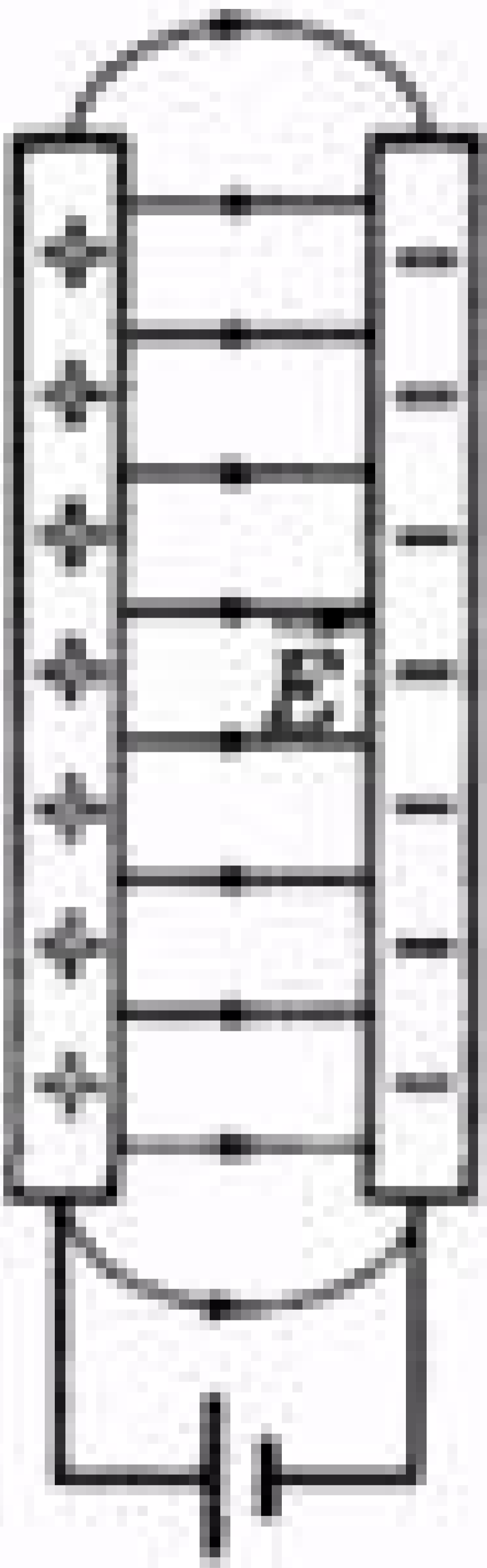


$A = (E, P, Q)$ (E, P, Q)

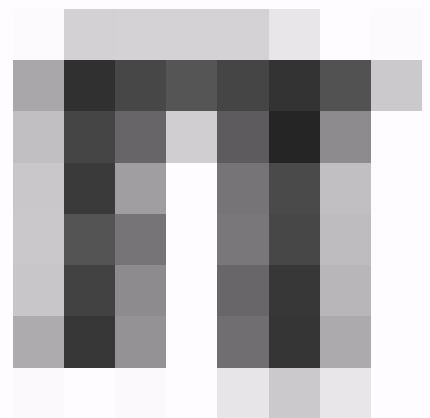
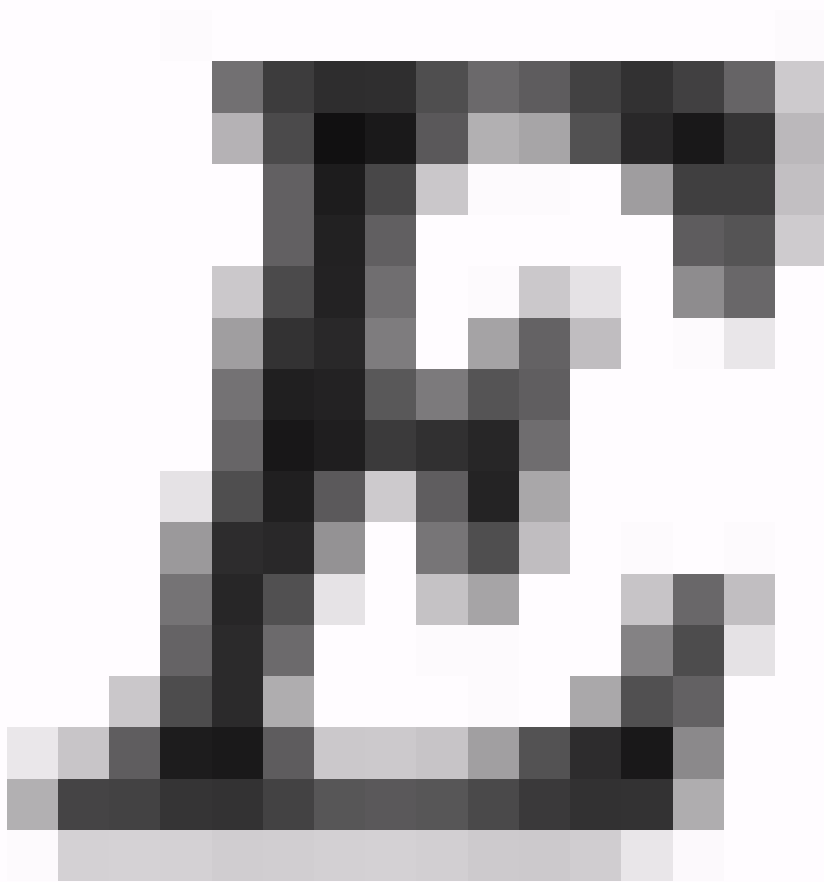




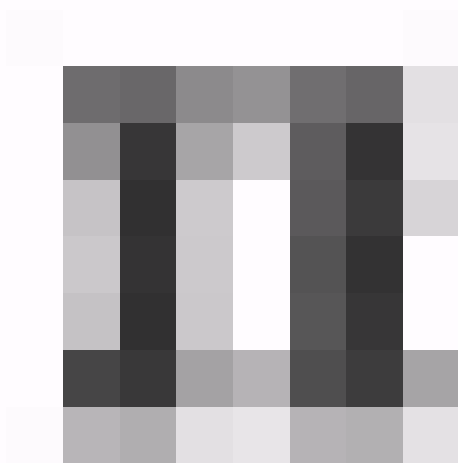
Мал. 2.107

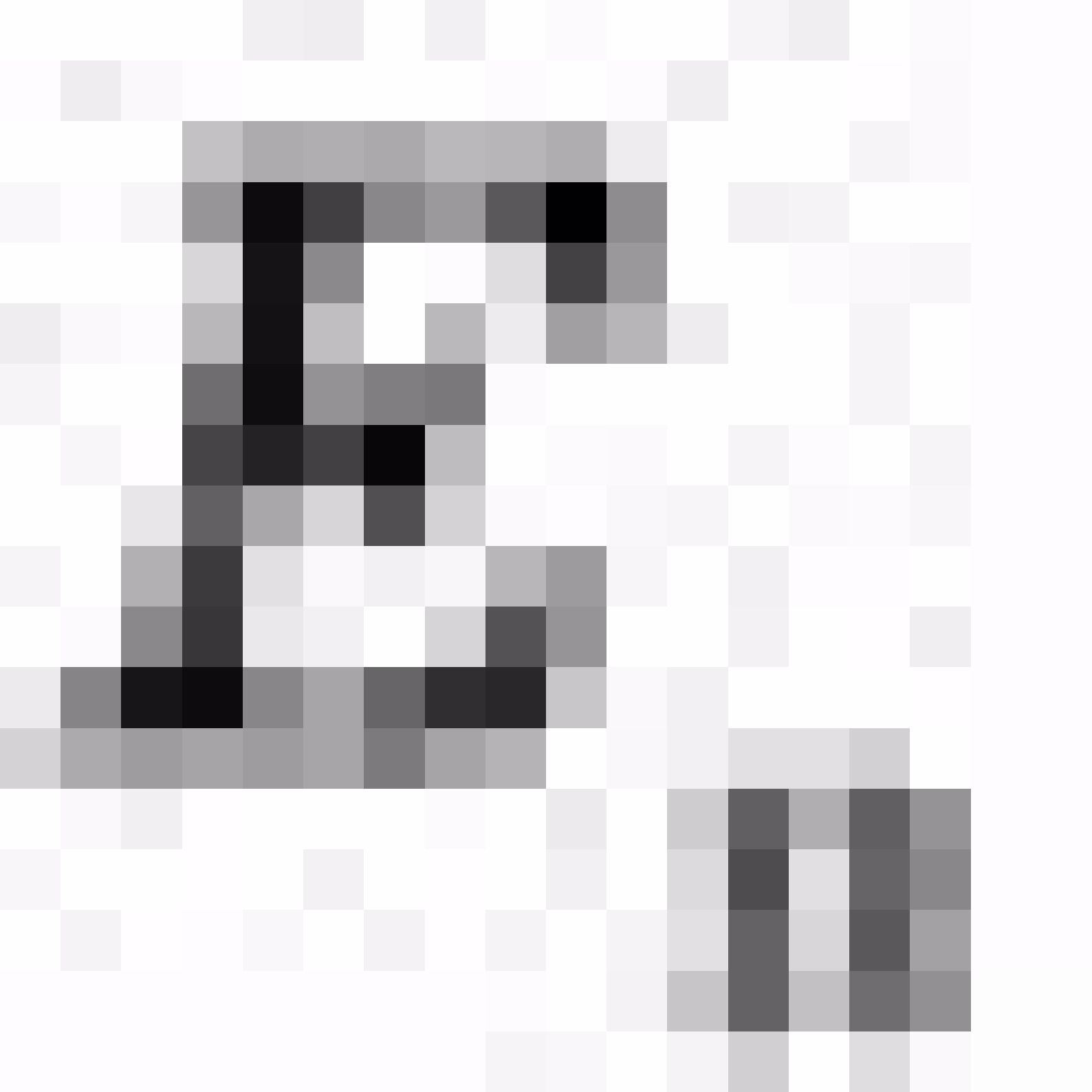


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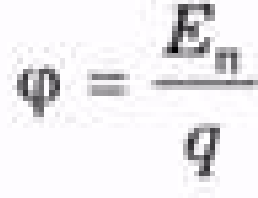








$$\varphi = \frac{E_p}{Q} \quad (35.7)$$



$$A = \begin{pmatrix} \varphi_2 & \varphi_1 \\ \varphi_1 & \varphi_2 \end{pmatrix} = \begin{pmatrix} \varphi_1 & \varphi_1 \\ \varphi_1 & \varphi_2 \end{pmatrix} \quad (35.8)$$

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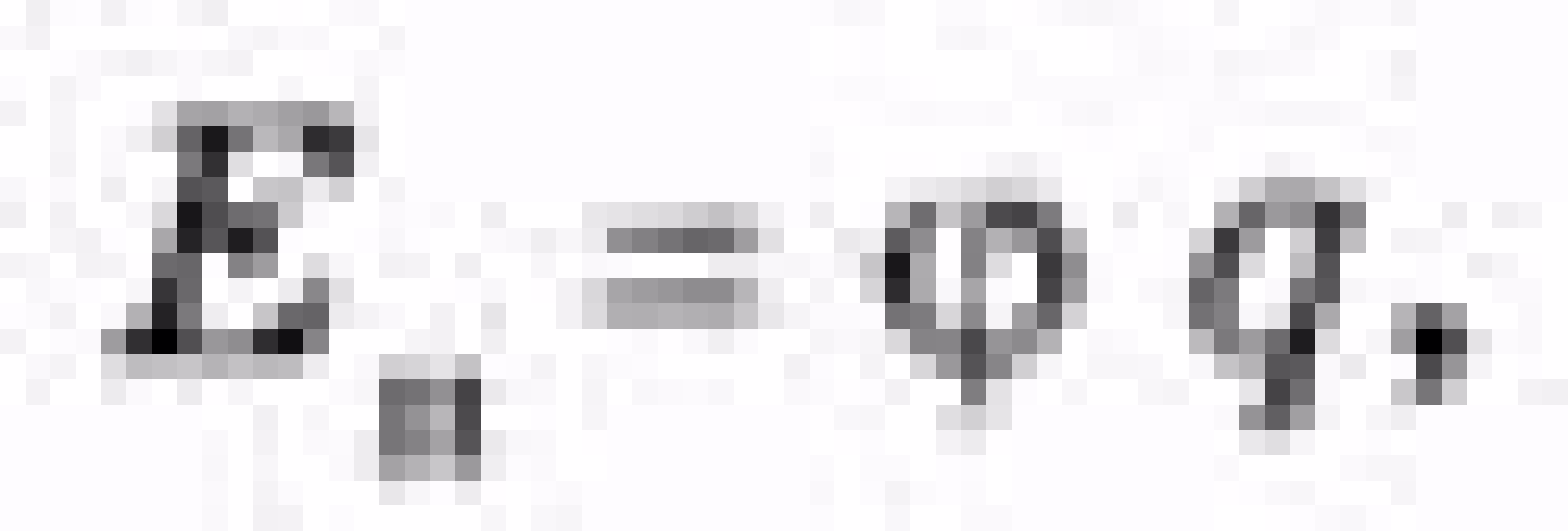
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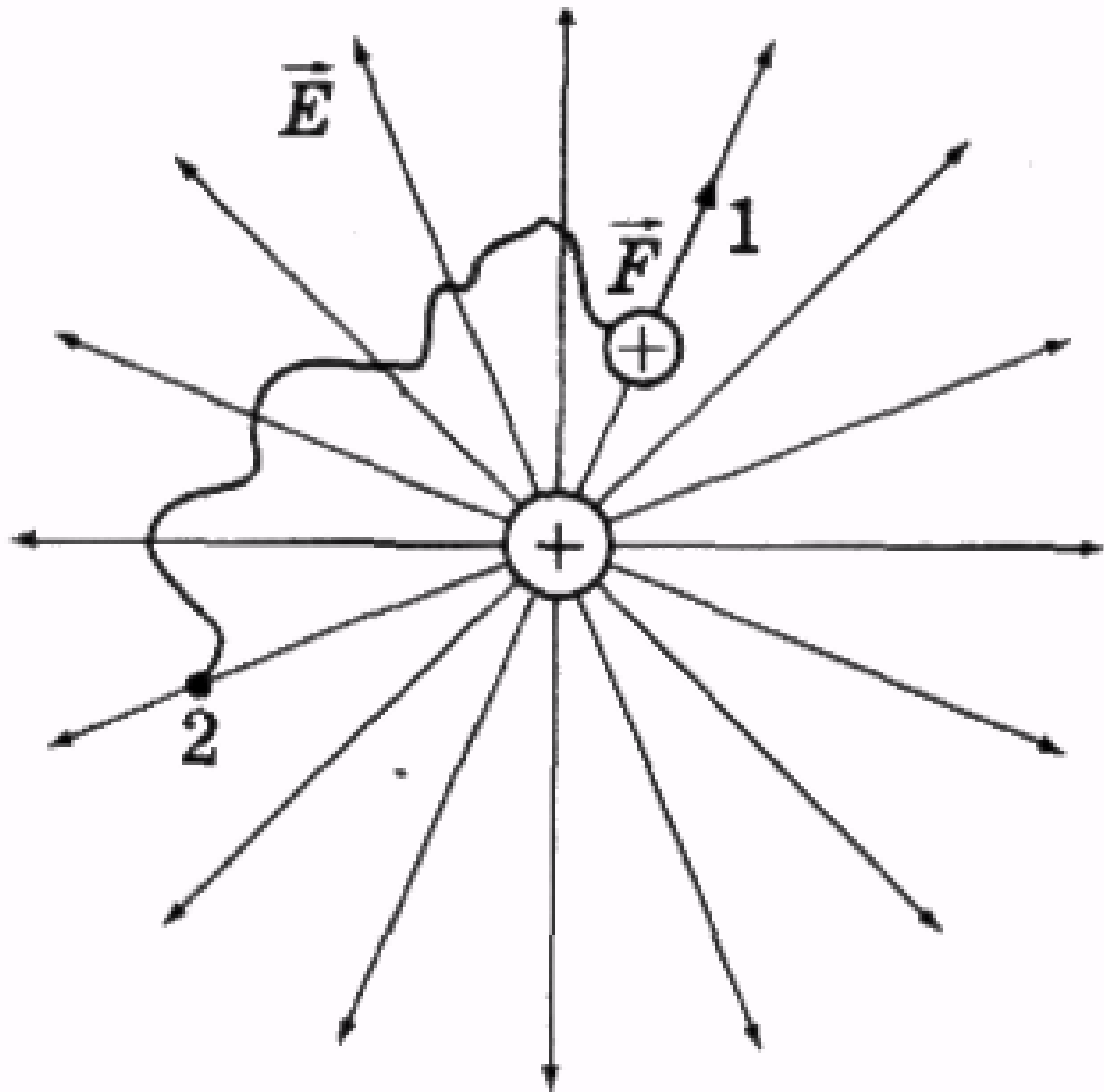
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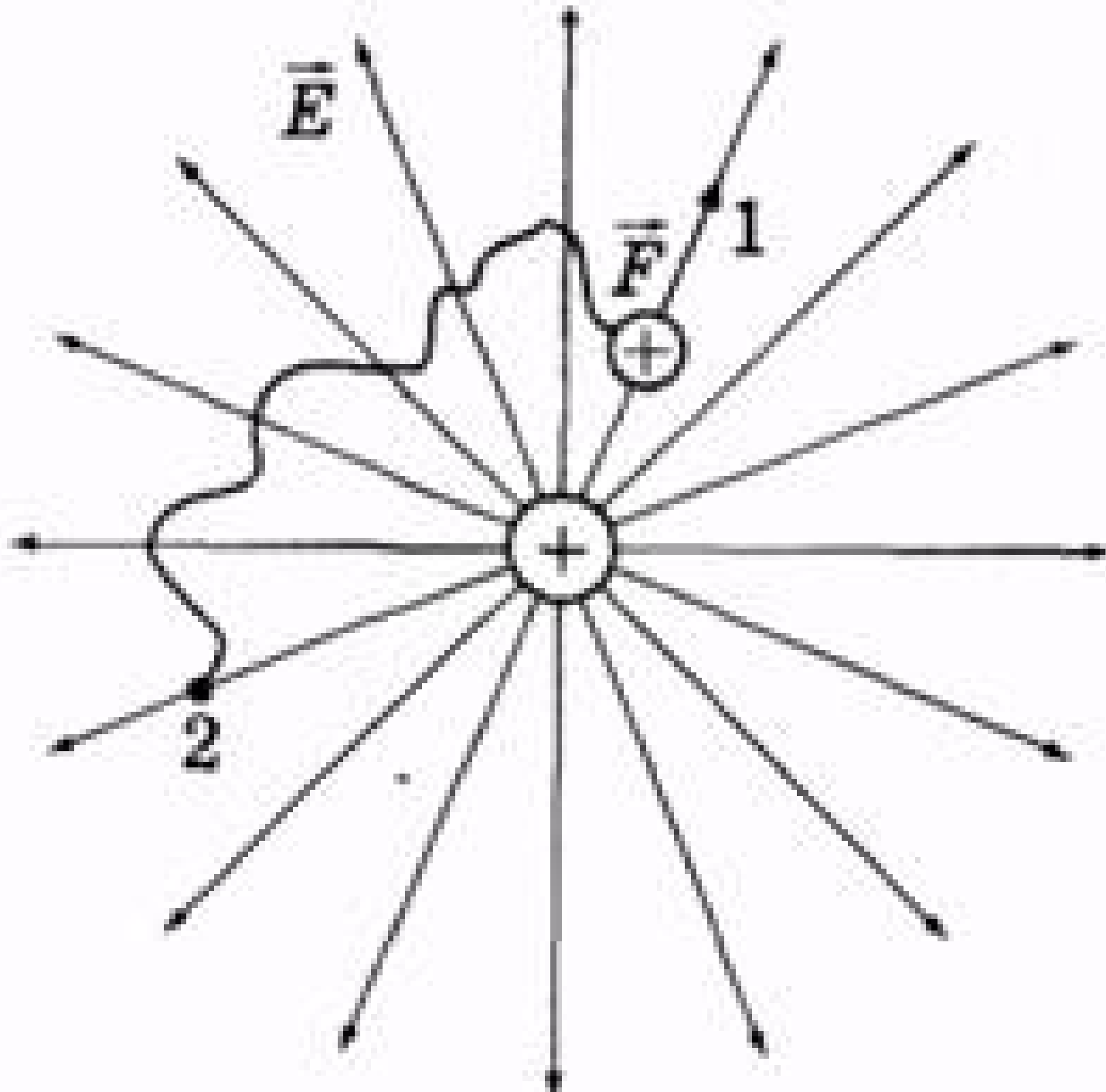
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Мал. 2.108



Мал. 2.108

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φ_2

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\dots

\dots

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(35.9)

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$$\varphi \equiv \frac{RQ}{r}$$

(35.10)

1992

1993

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$=$

A

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(35.11)



(35.12)

$$v = \varphi_1 - \varphi_2$$

(35.12)

1990-1991

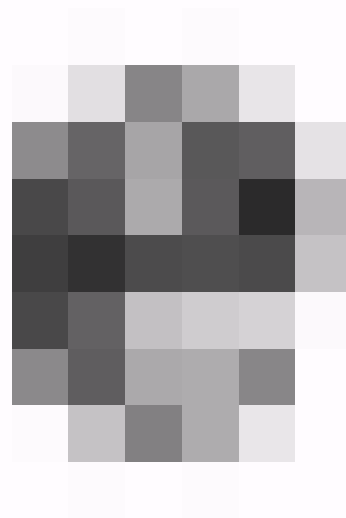
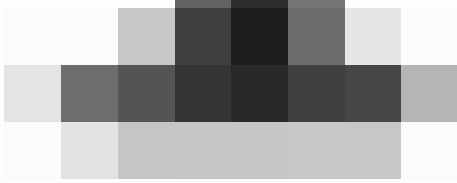
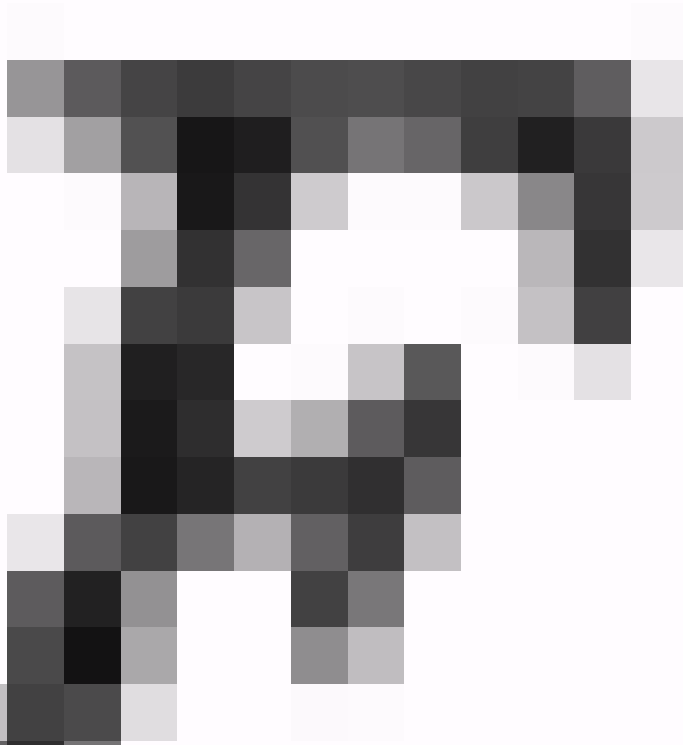
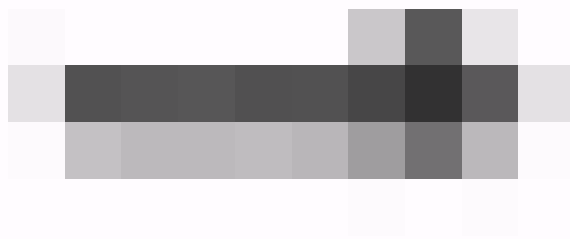
1991-1992

$$1B = \frac{1DX}{1KN} \cdot$$

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$A = Fd = QEd = 120$

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DEPARTMENT OF CHEMISTRY
520 SOUTH EAST ASIAN AVENUE
CHICAGO, ILLINOIS 60607
TEL: (773) 936-3700
WWW.CHEM.UCHICAGO.EDU

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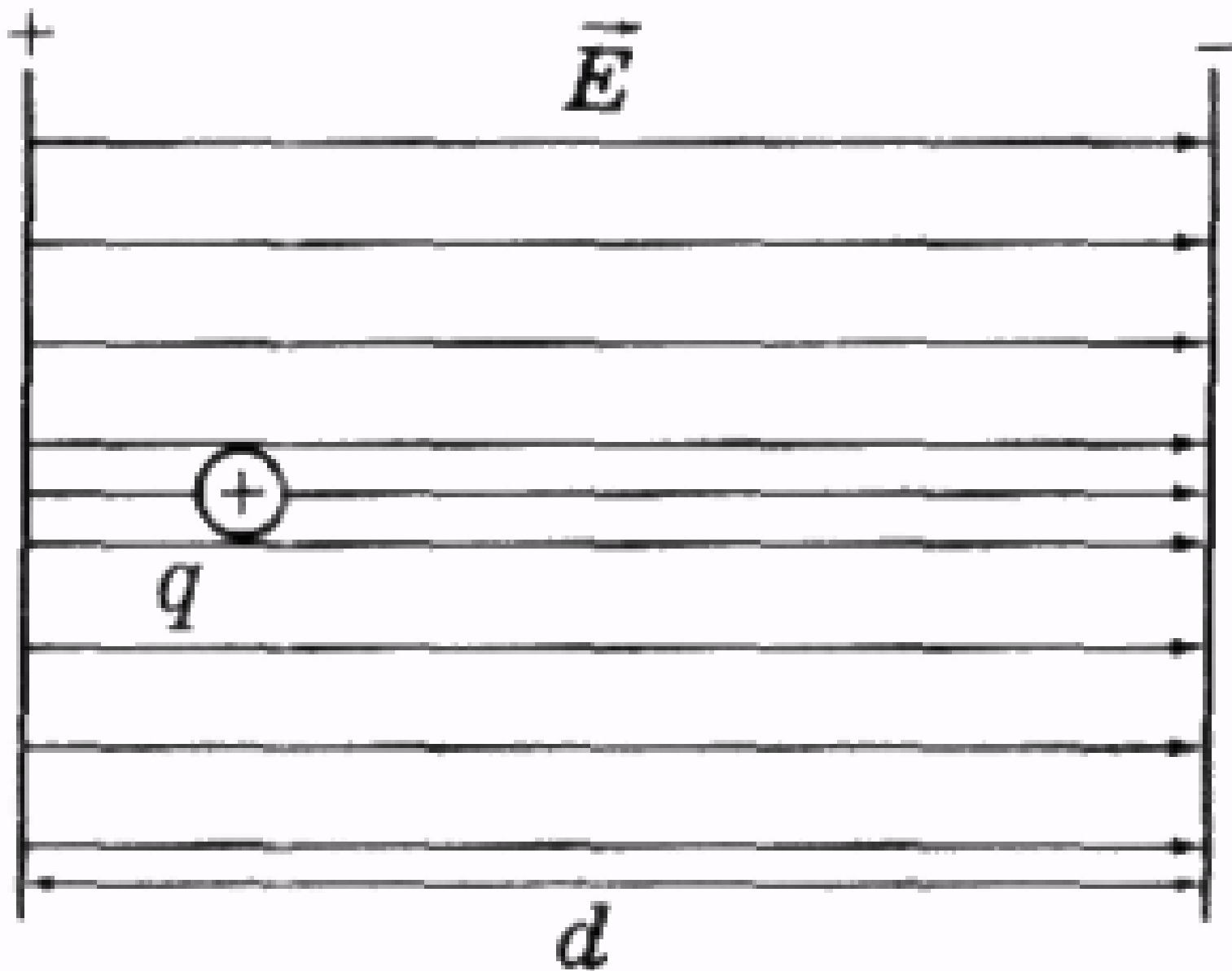
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(35.15).

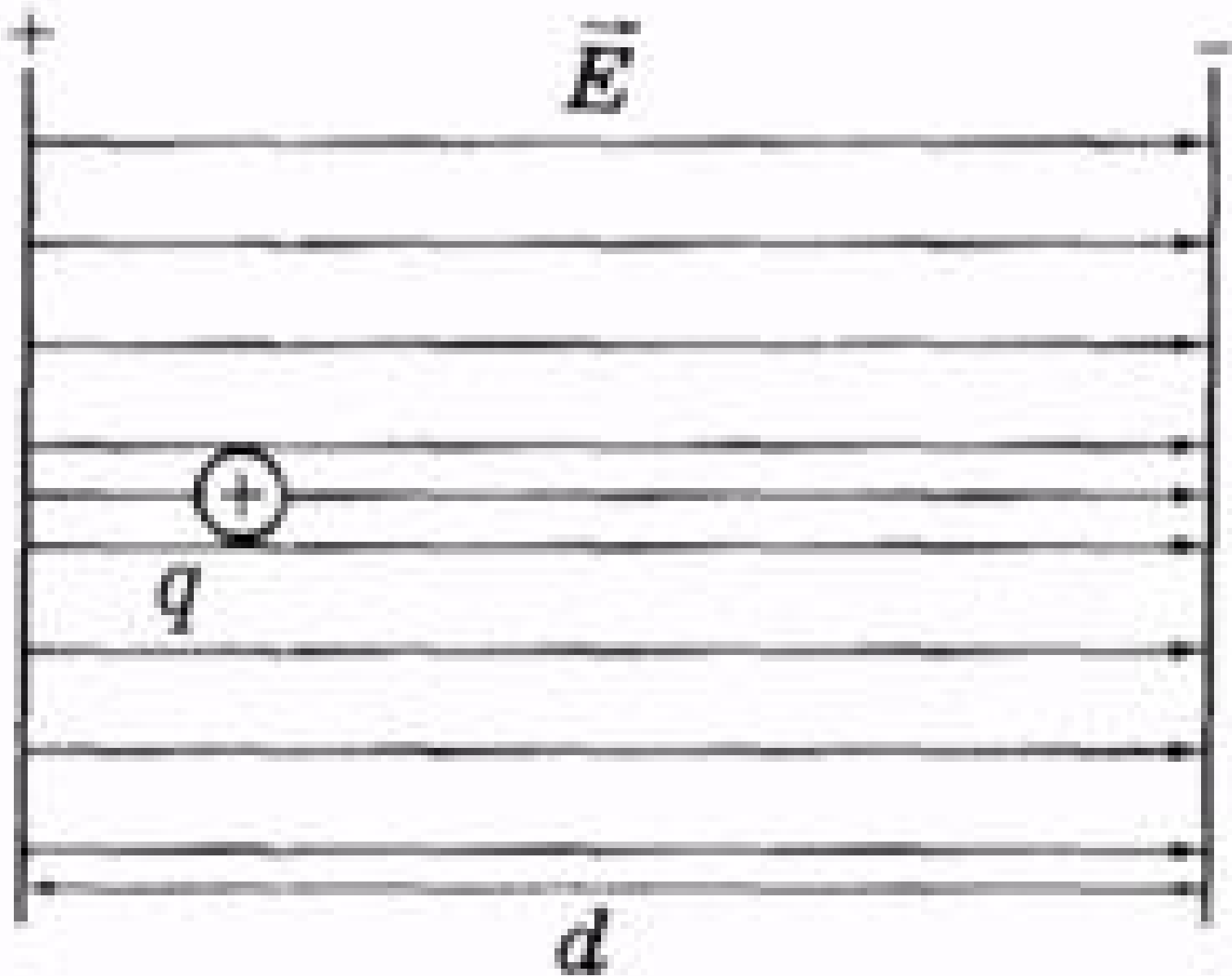
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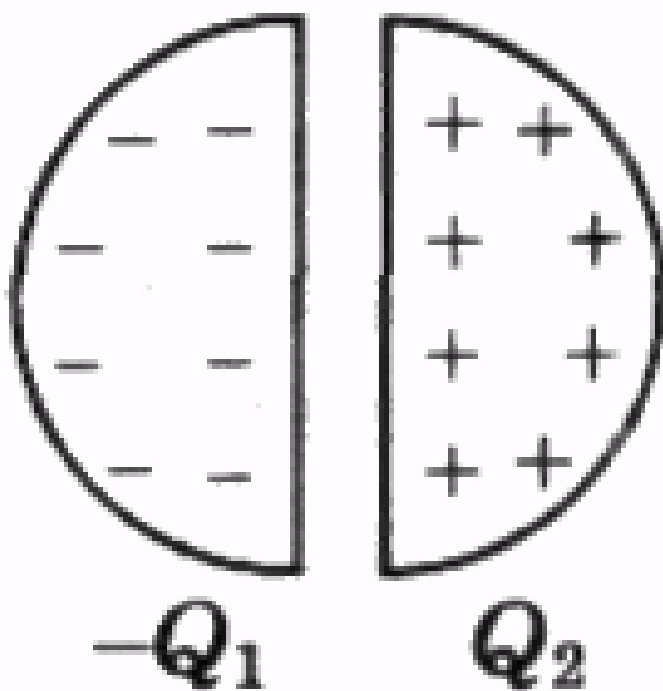
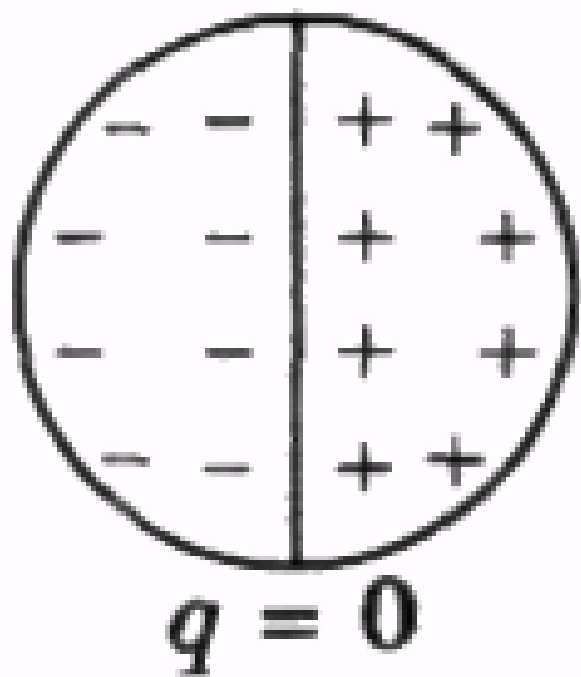
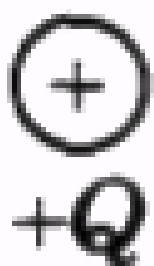
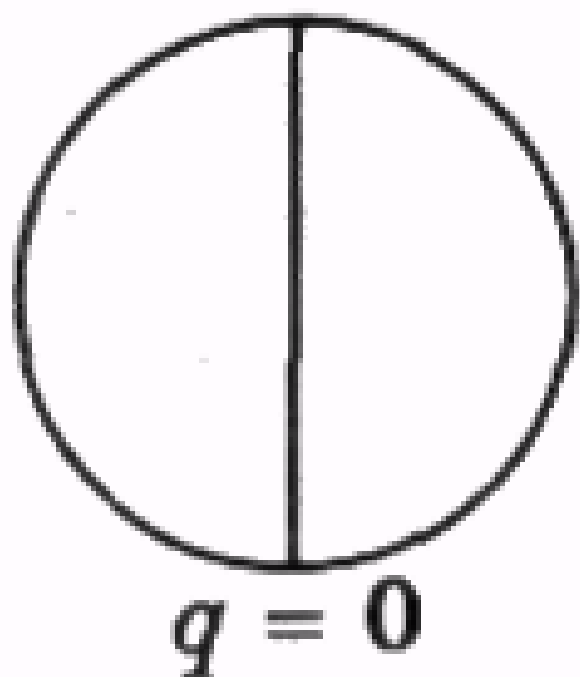
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Мал. 2.109

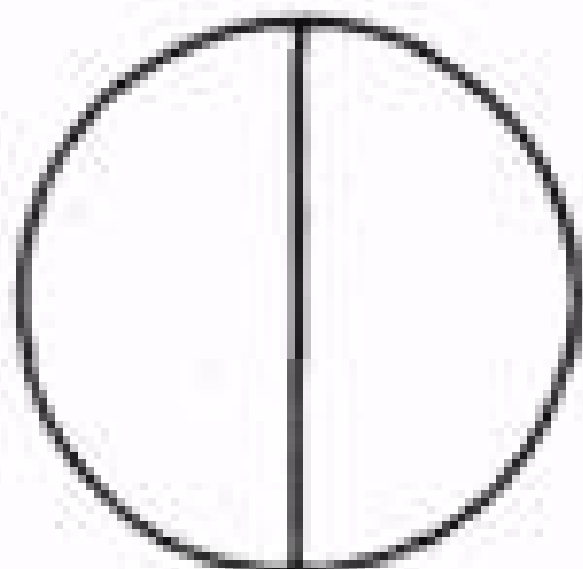


Мал. 2.109



$$q = -Q_1 + Q_2 = 0$$

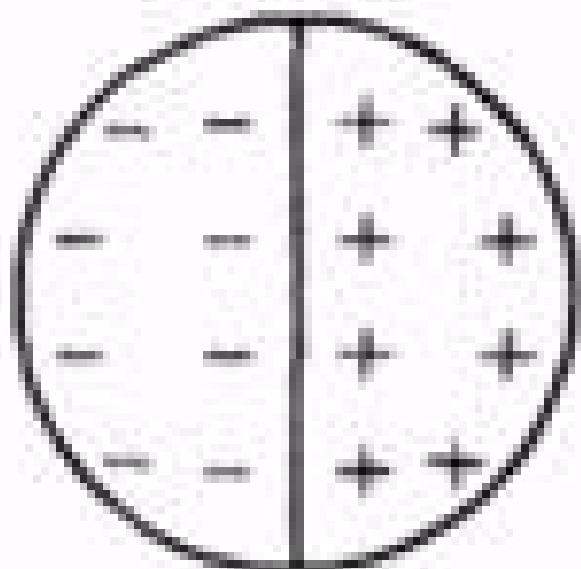
Мал. 2.110



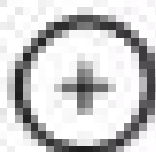
$$q = 0$$



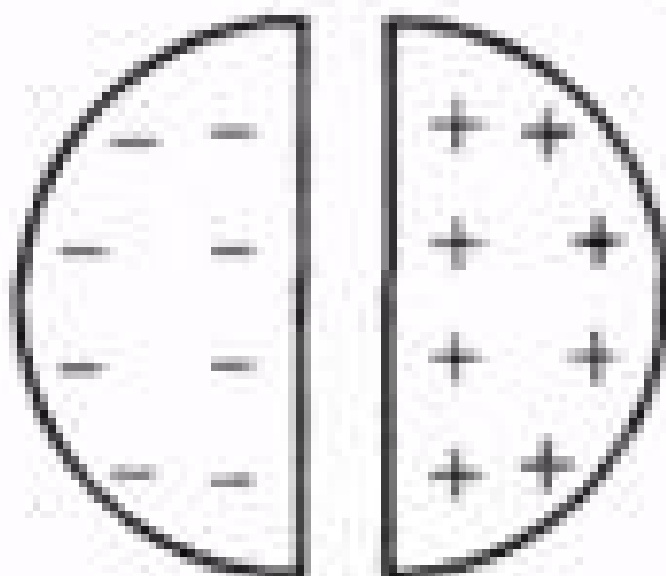
$$+Q$$



$$q = 0$$



$$+Q$$

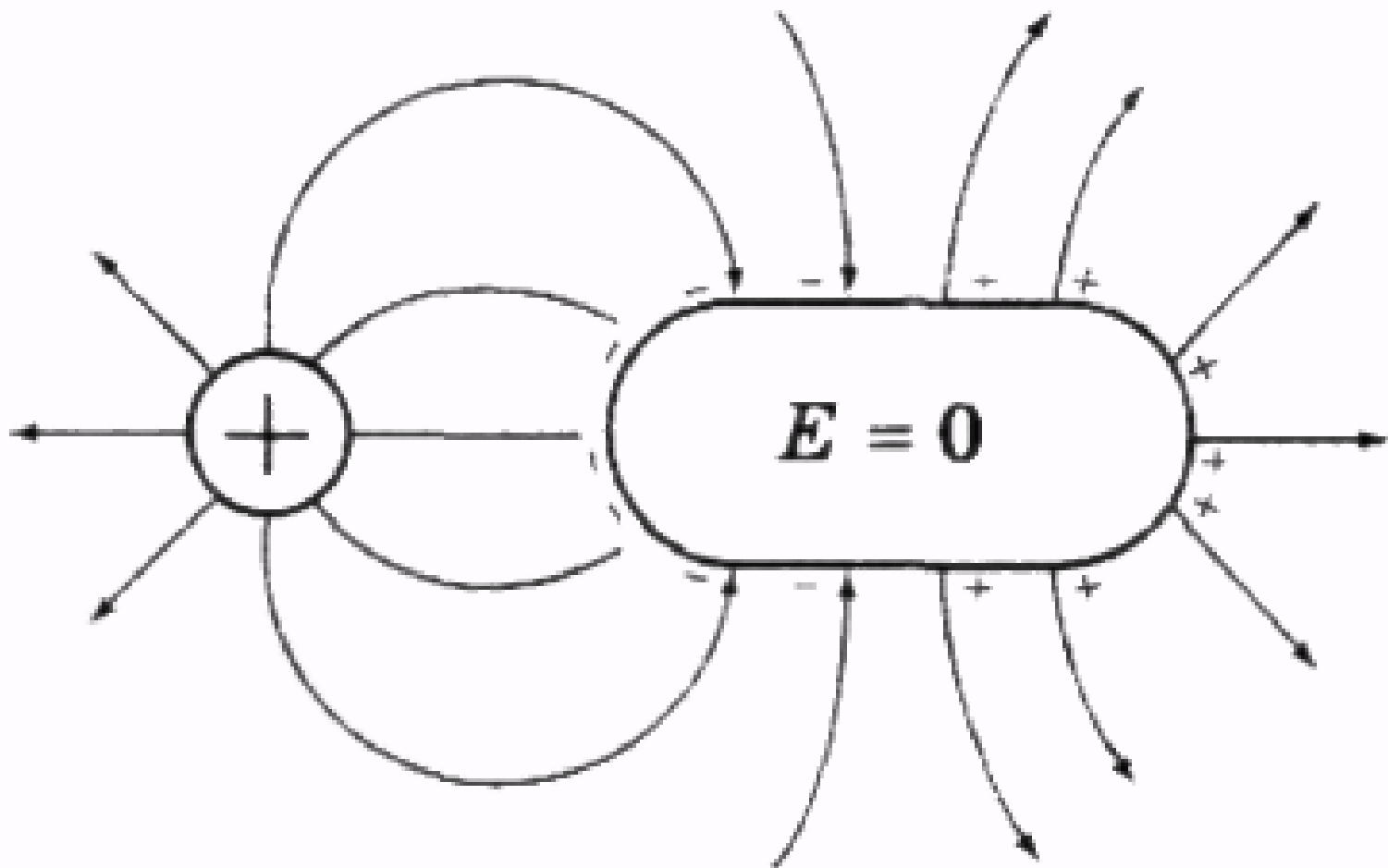


$$-Q_1$$

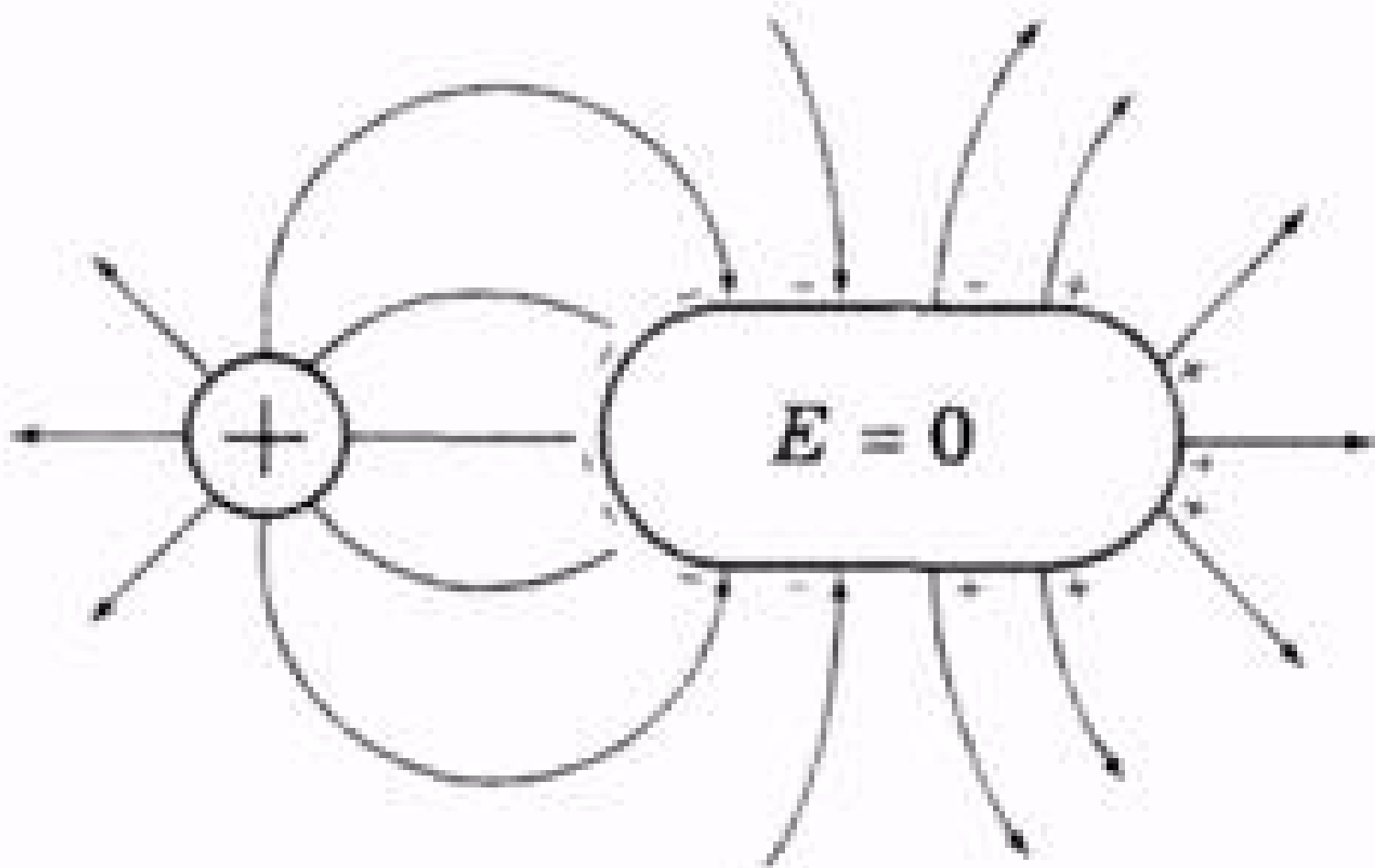
$$Q_2$$

$$q = -Q_1 + Q_2 = 0$$

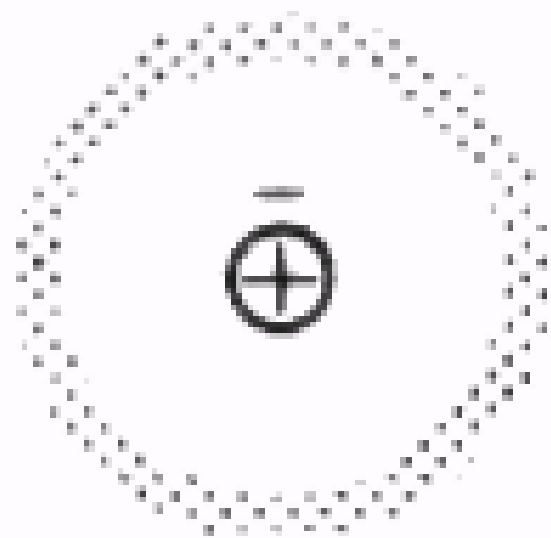
Мал. 2.110



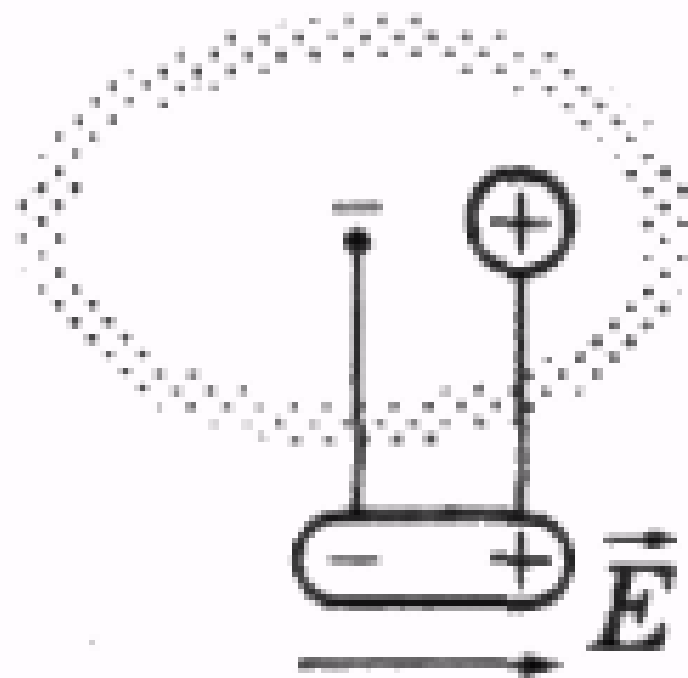
Мал. 2.111



Мал. 2.111



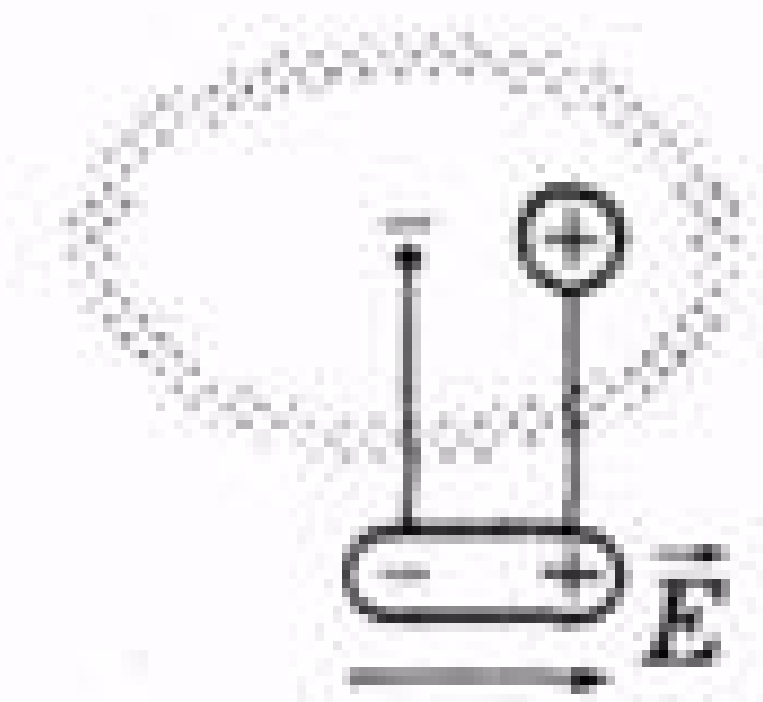
$$E = 0$$



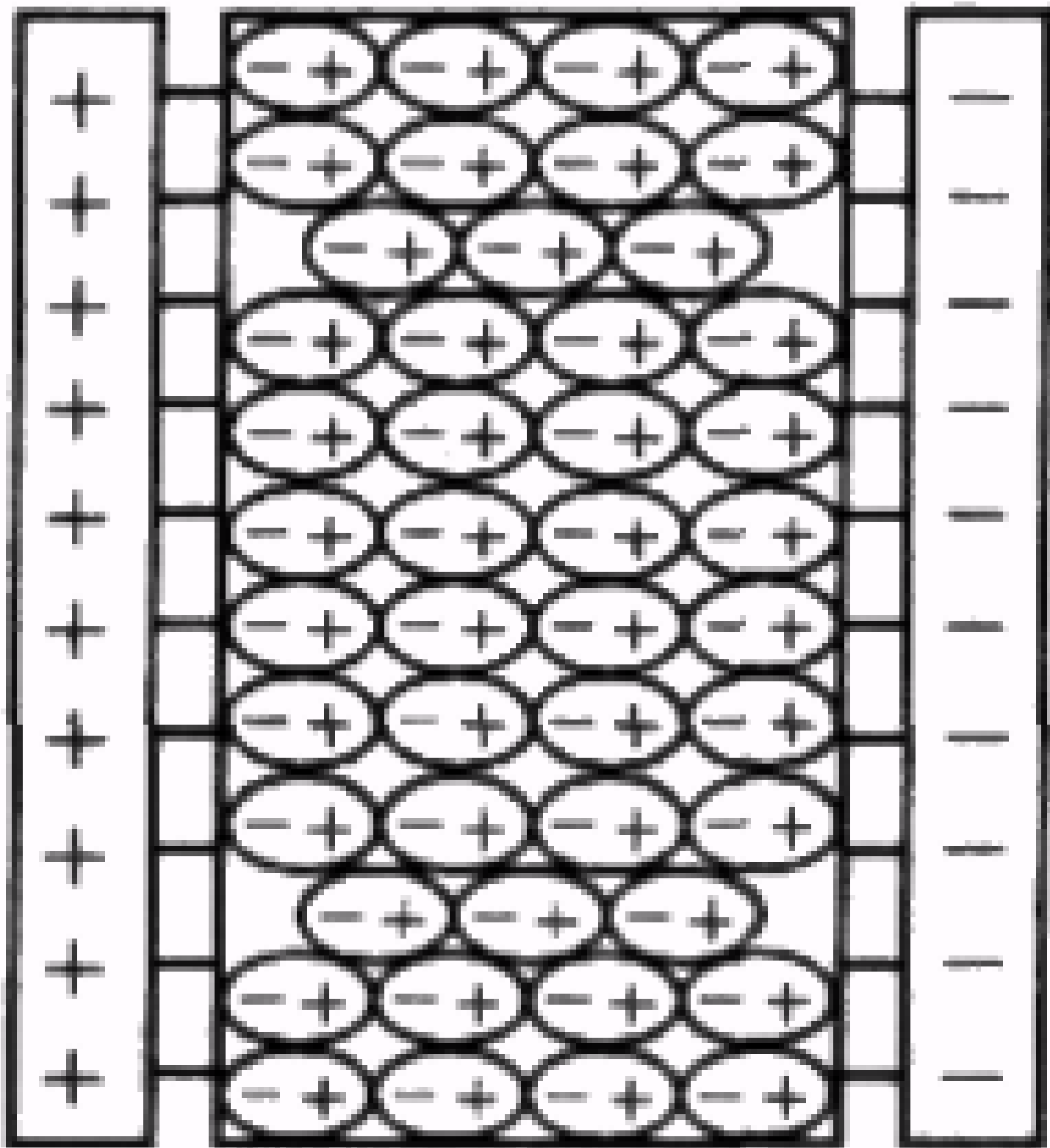
Мал. 2.112



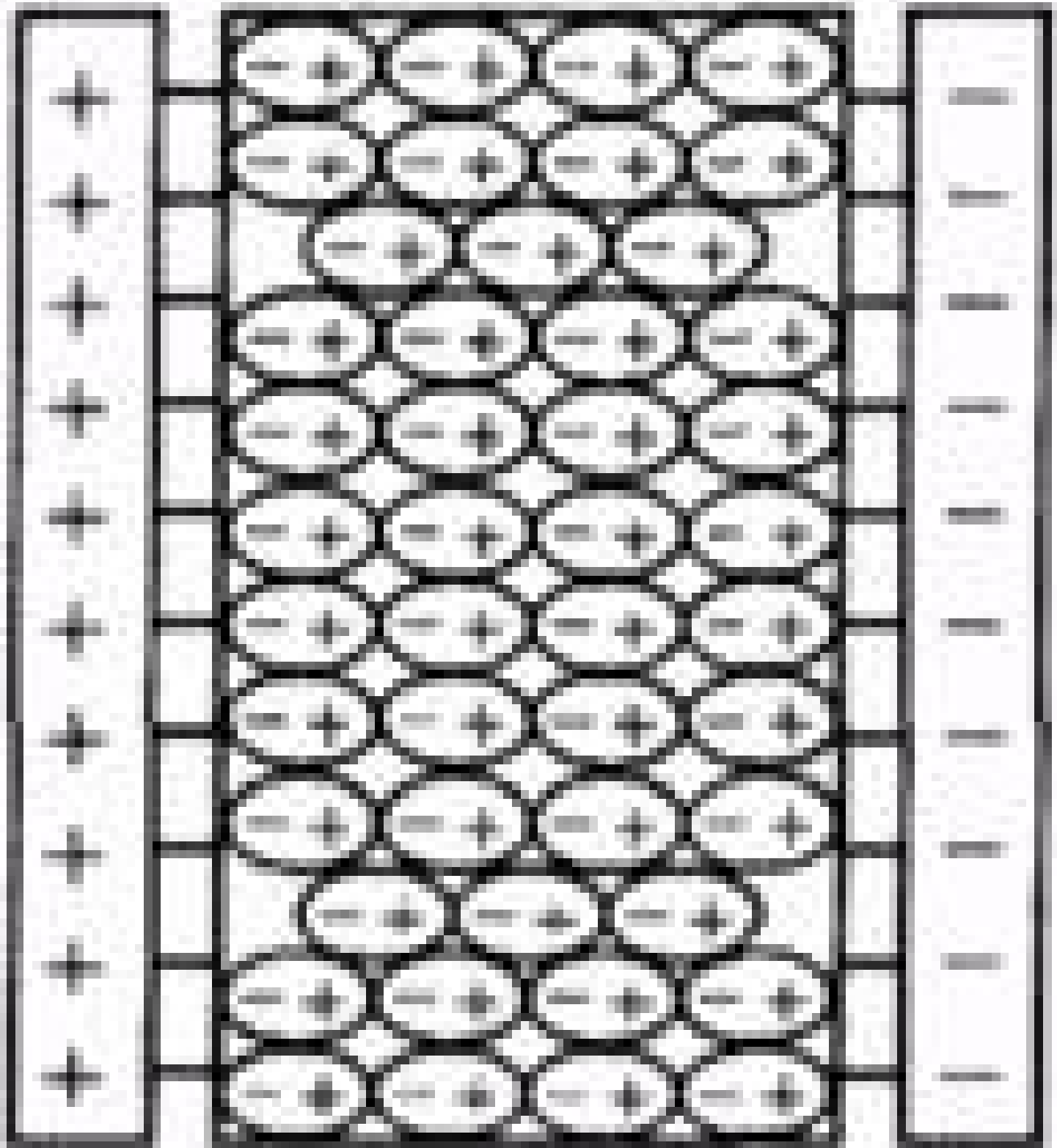
$$E = 0$$



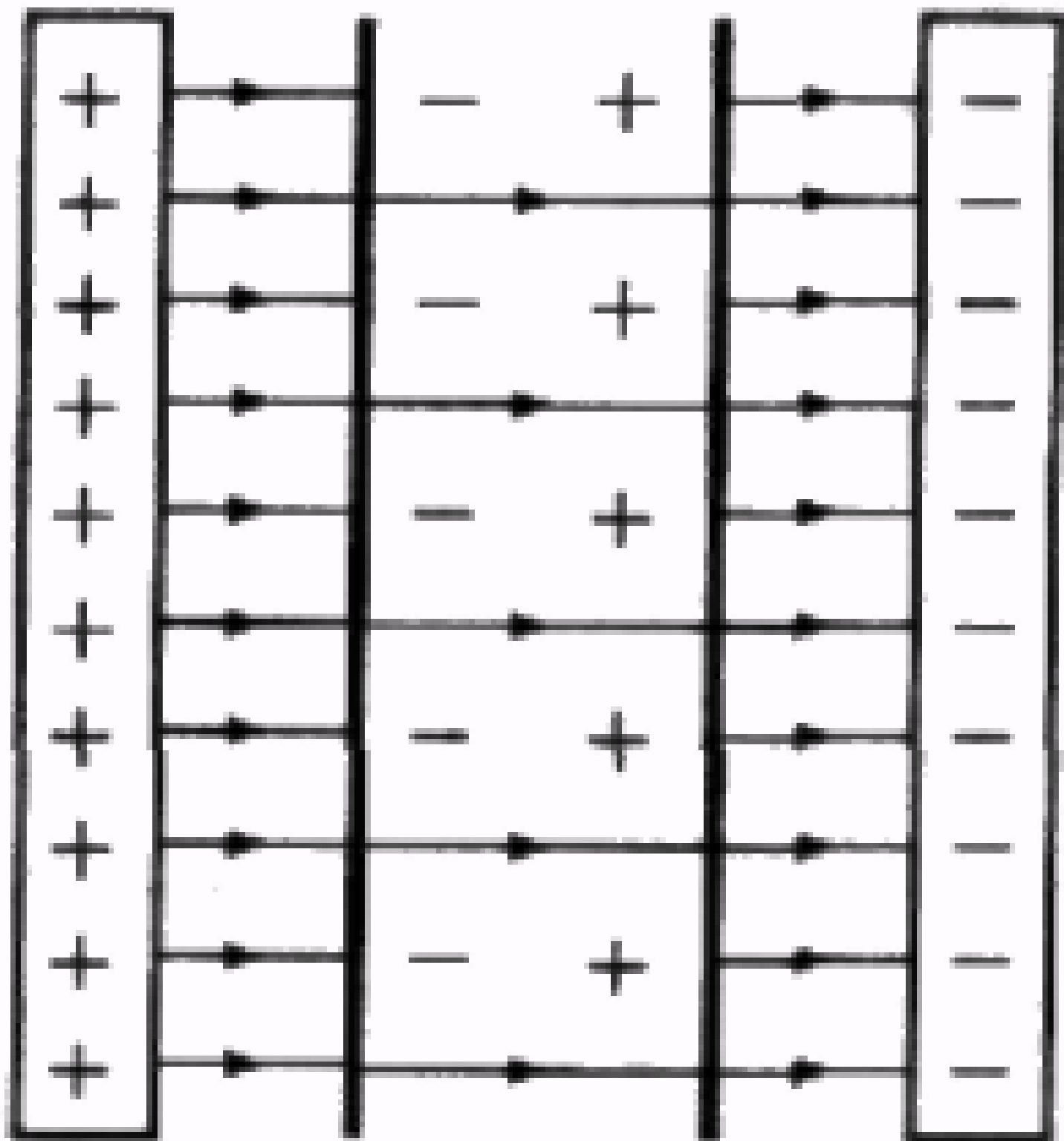
Mat. 2.112



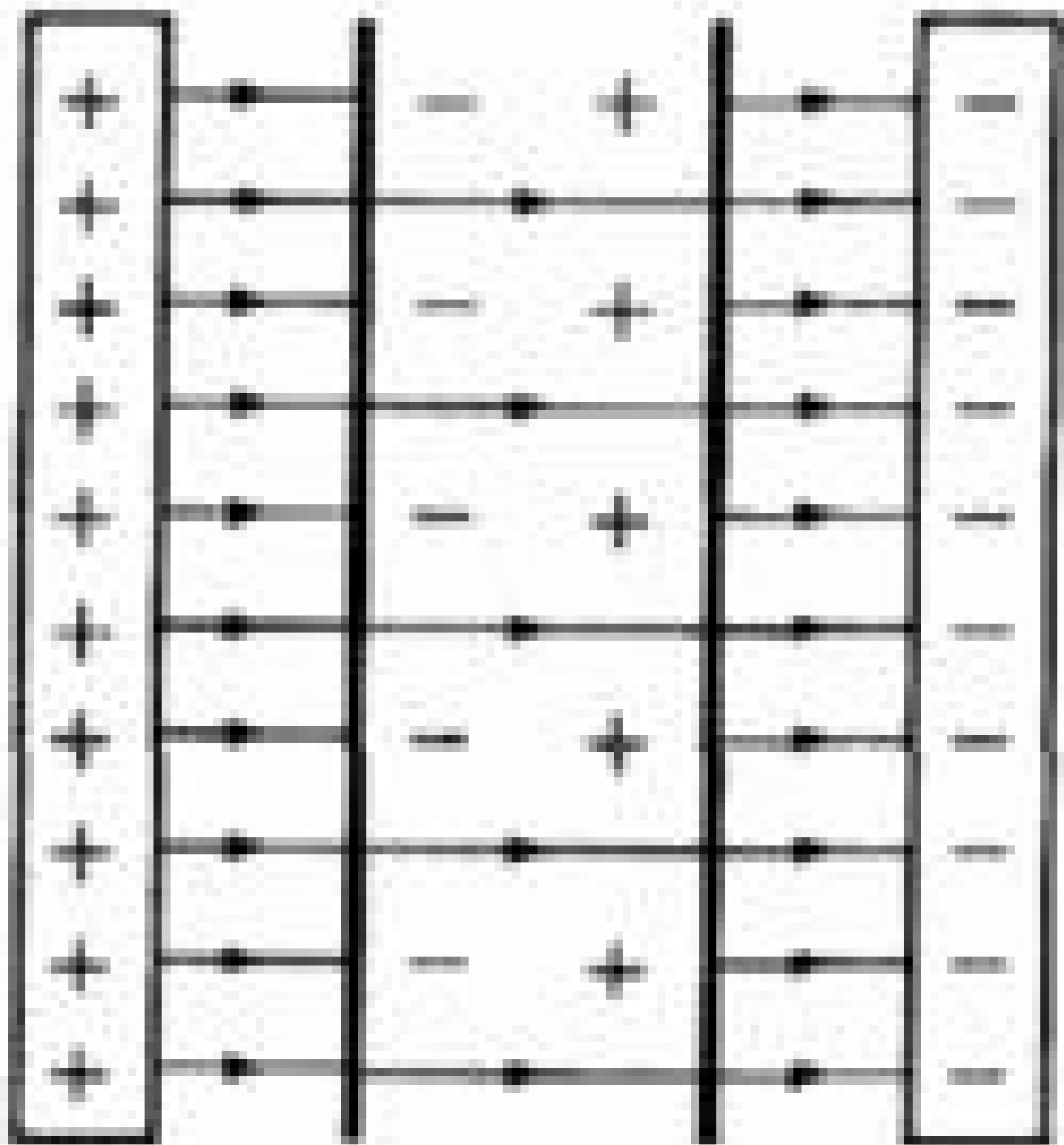
Мал. 2.113



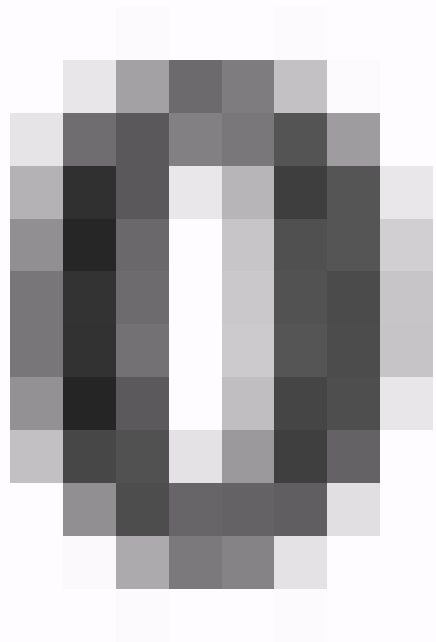
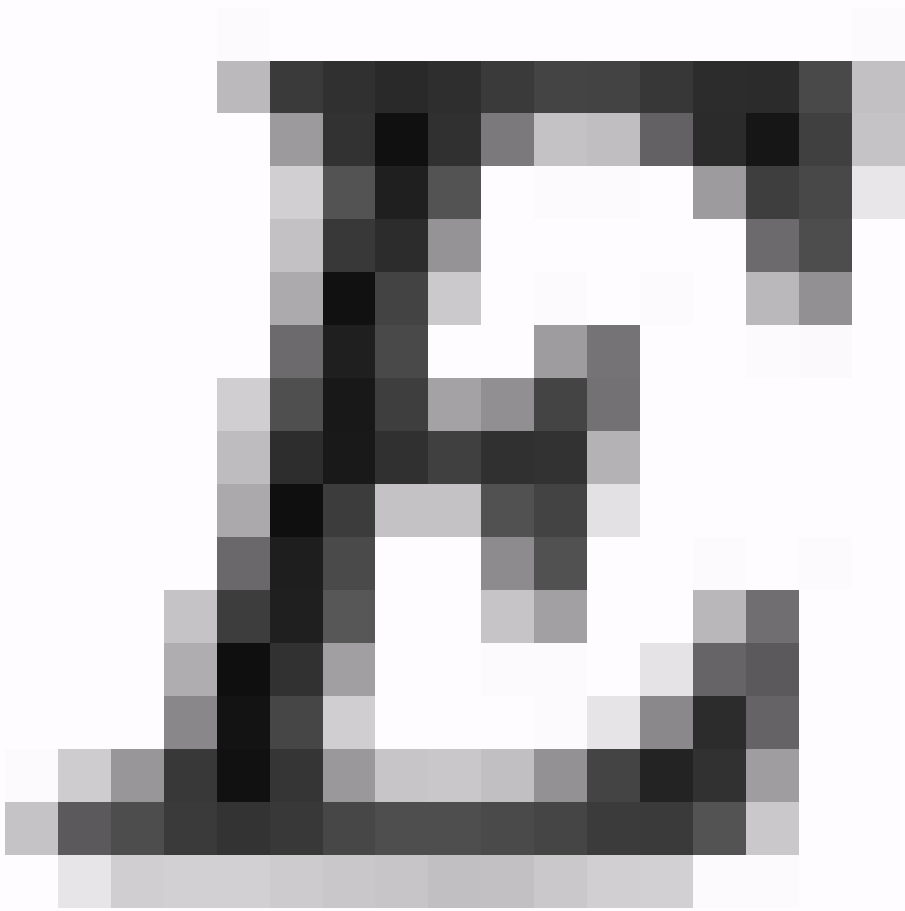
Mat. 2.113



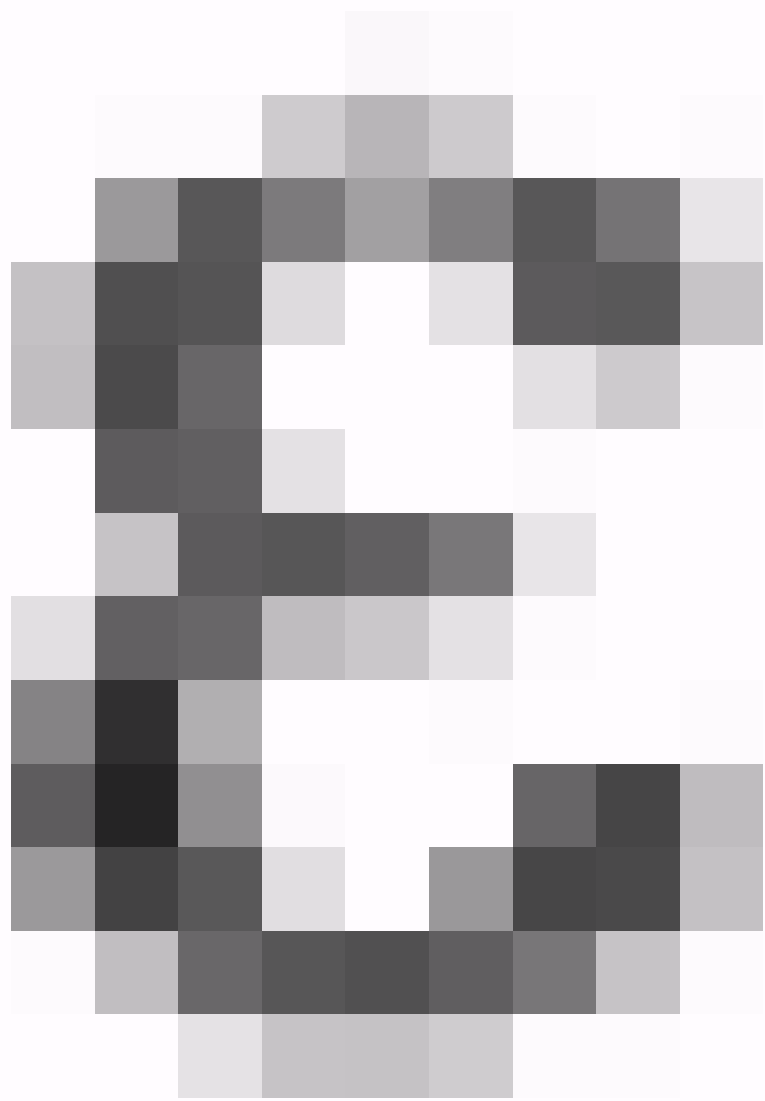
Мал. 2.114



Мал. 2.114

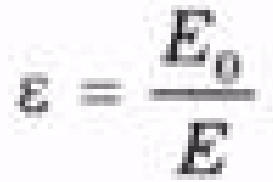


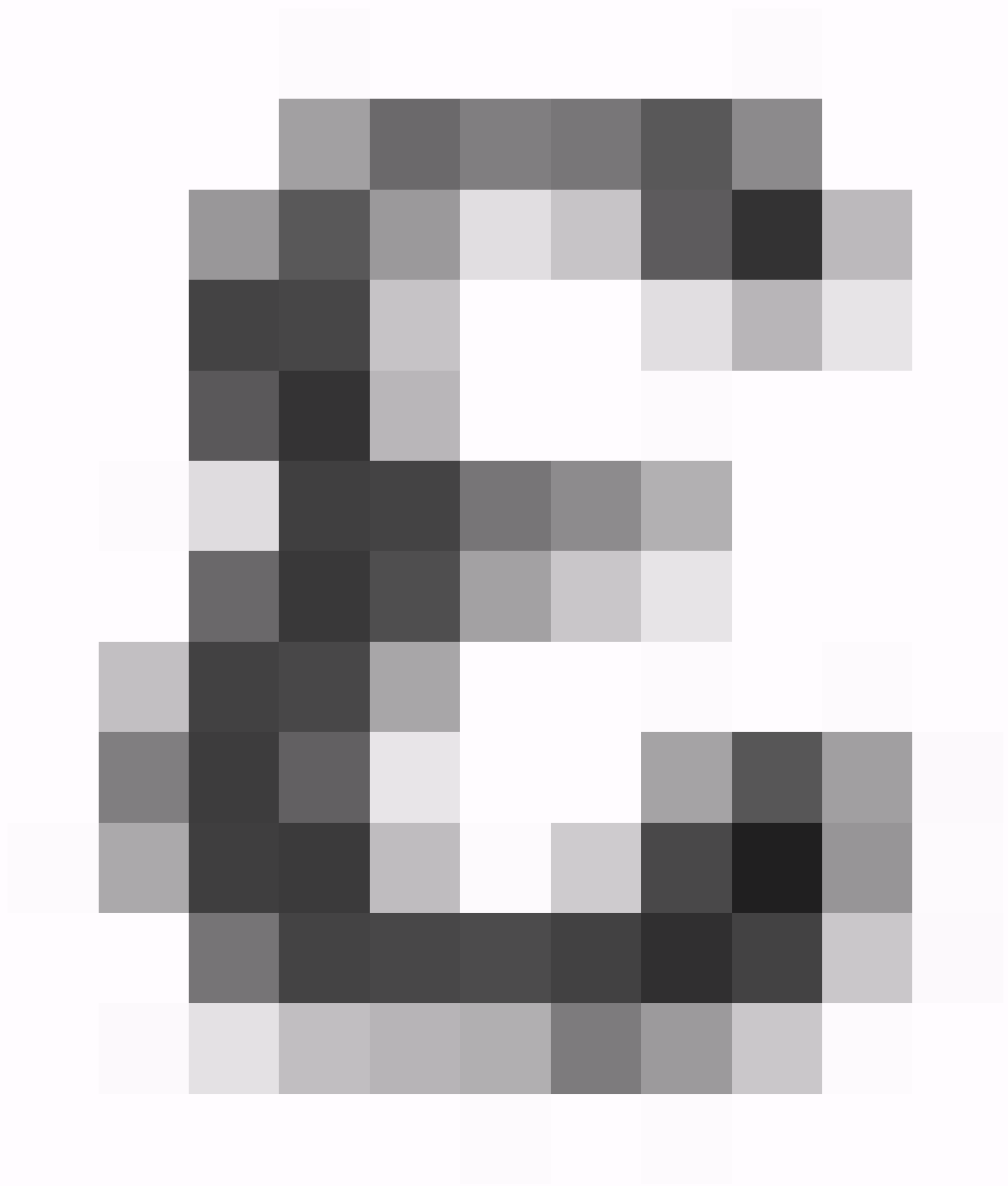




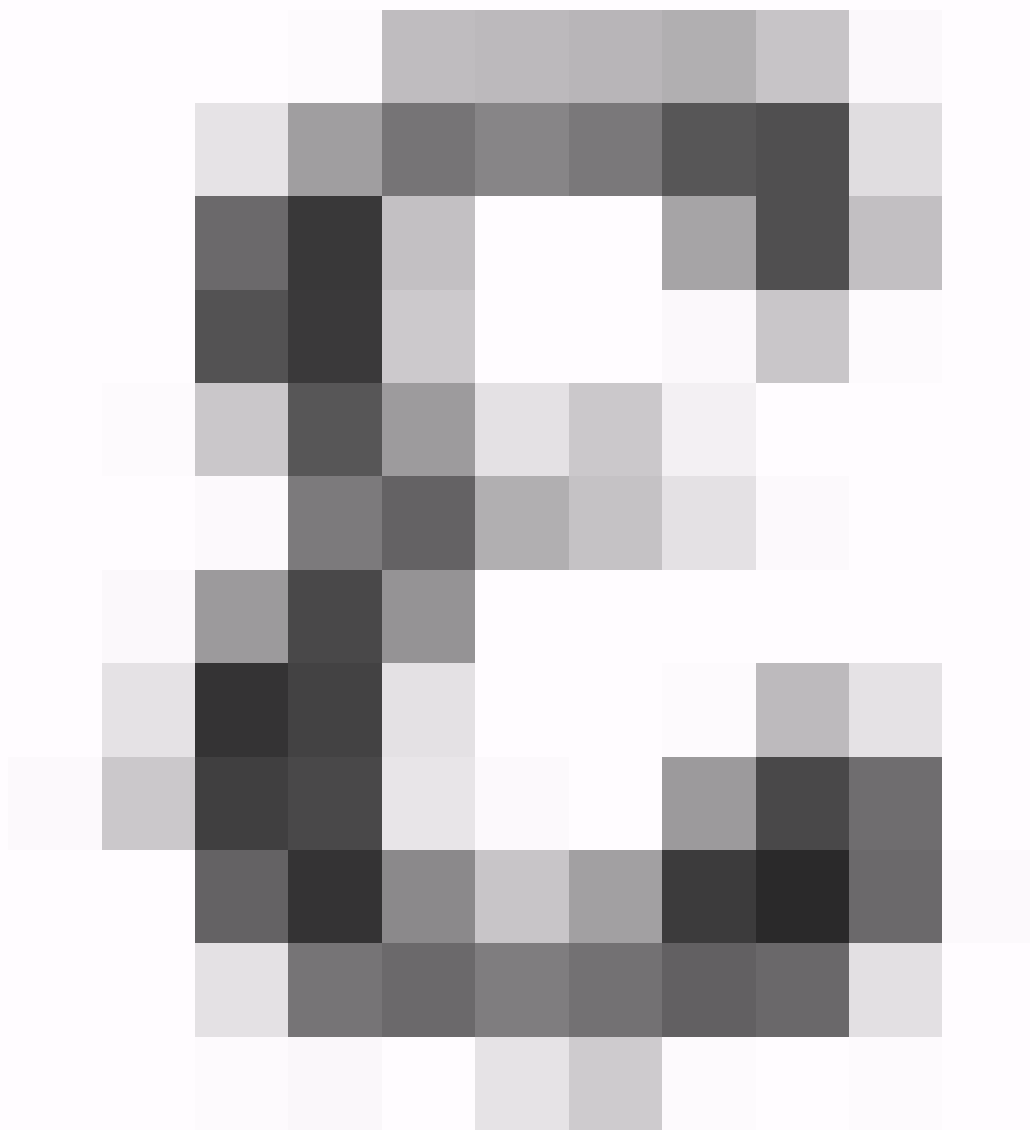


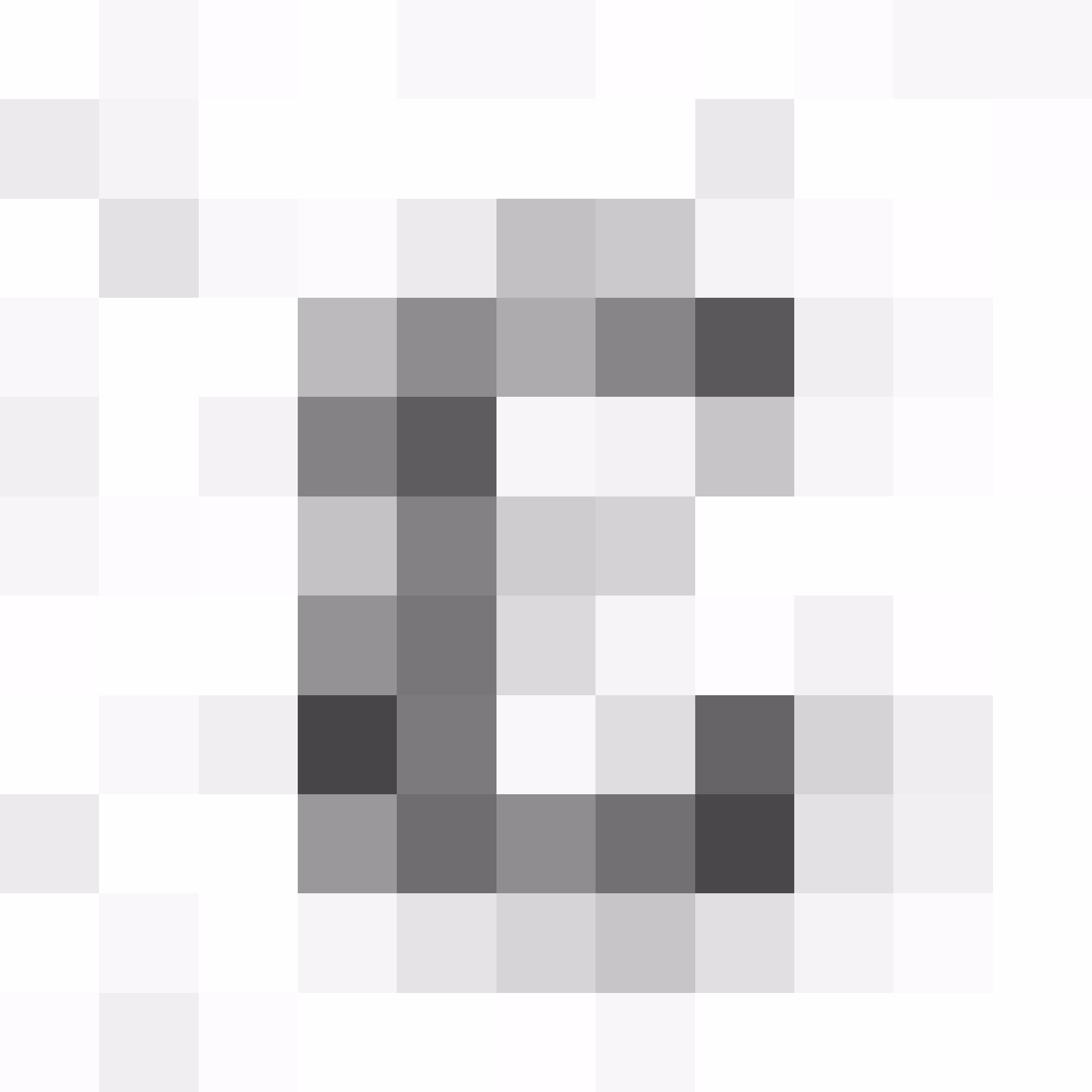
$$\epsilon = \frac{E_0}{E} \quad (36.1)$$

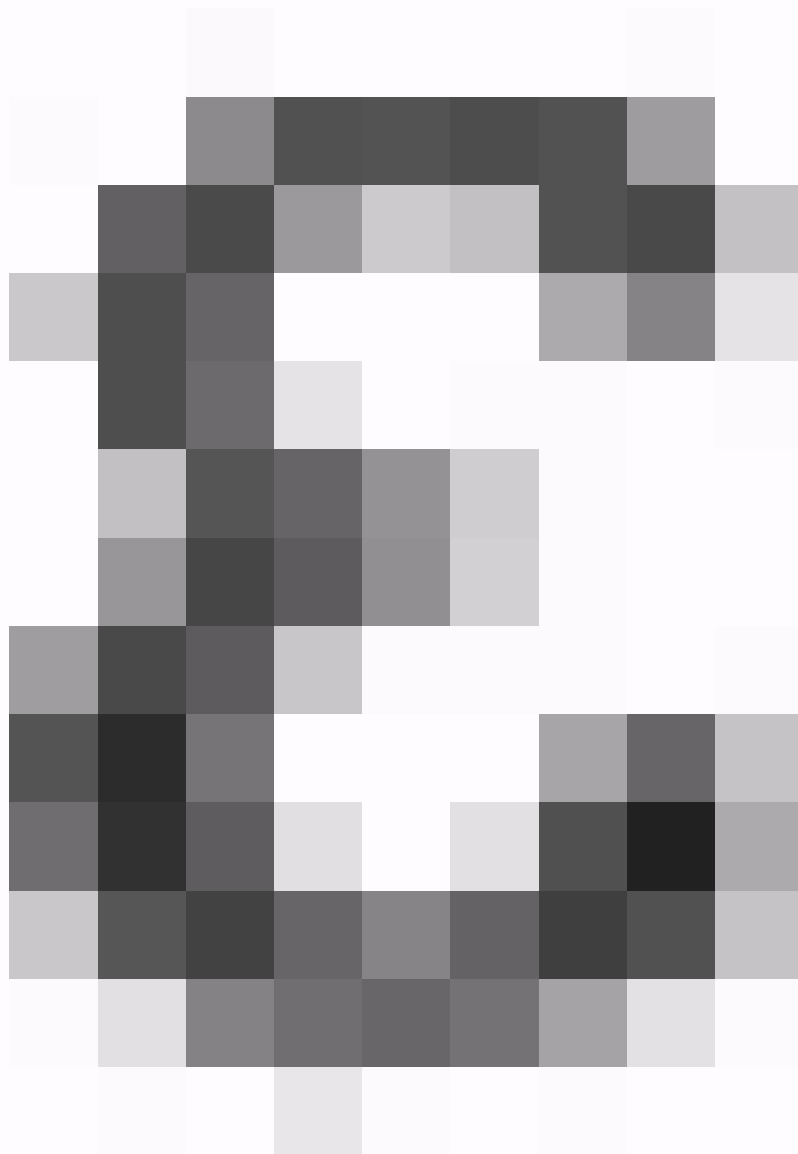




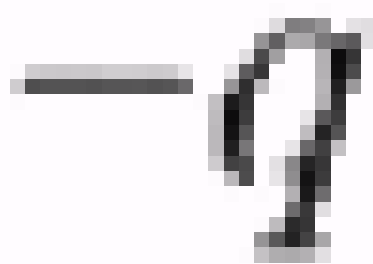
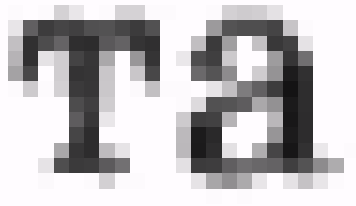
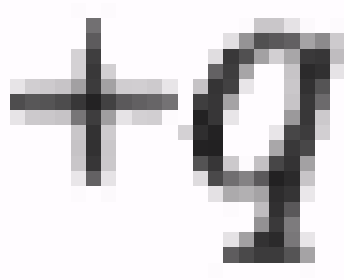


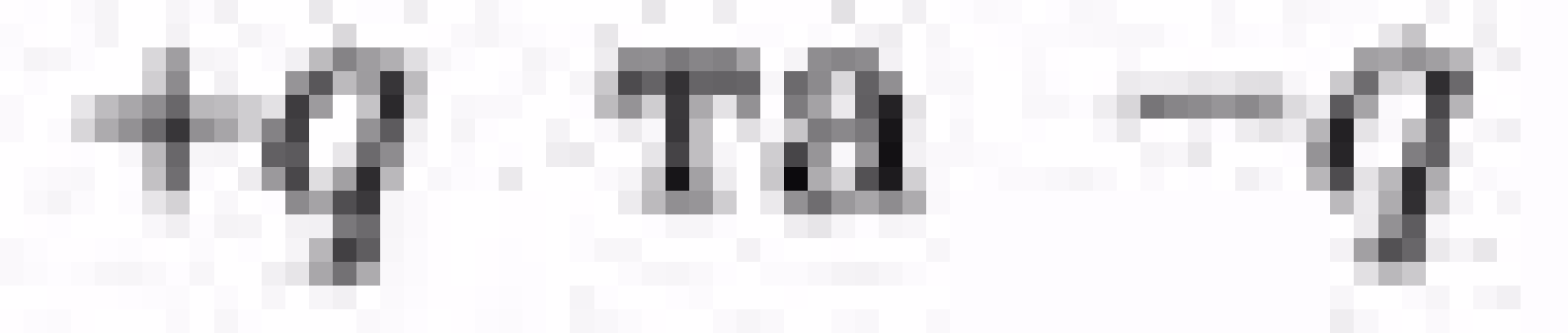


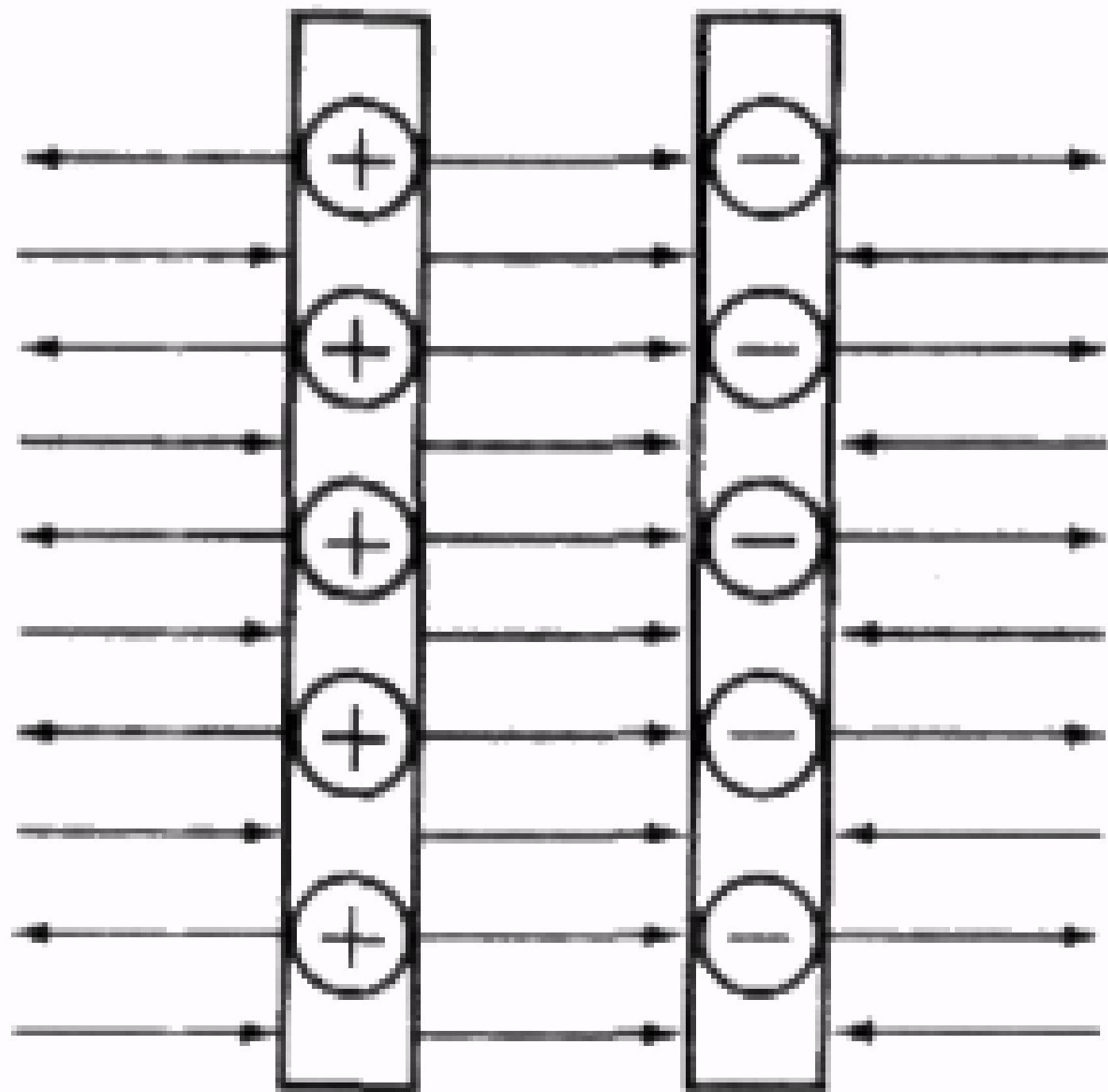




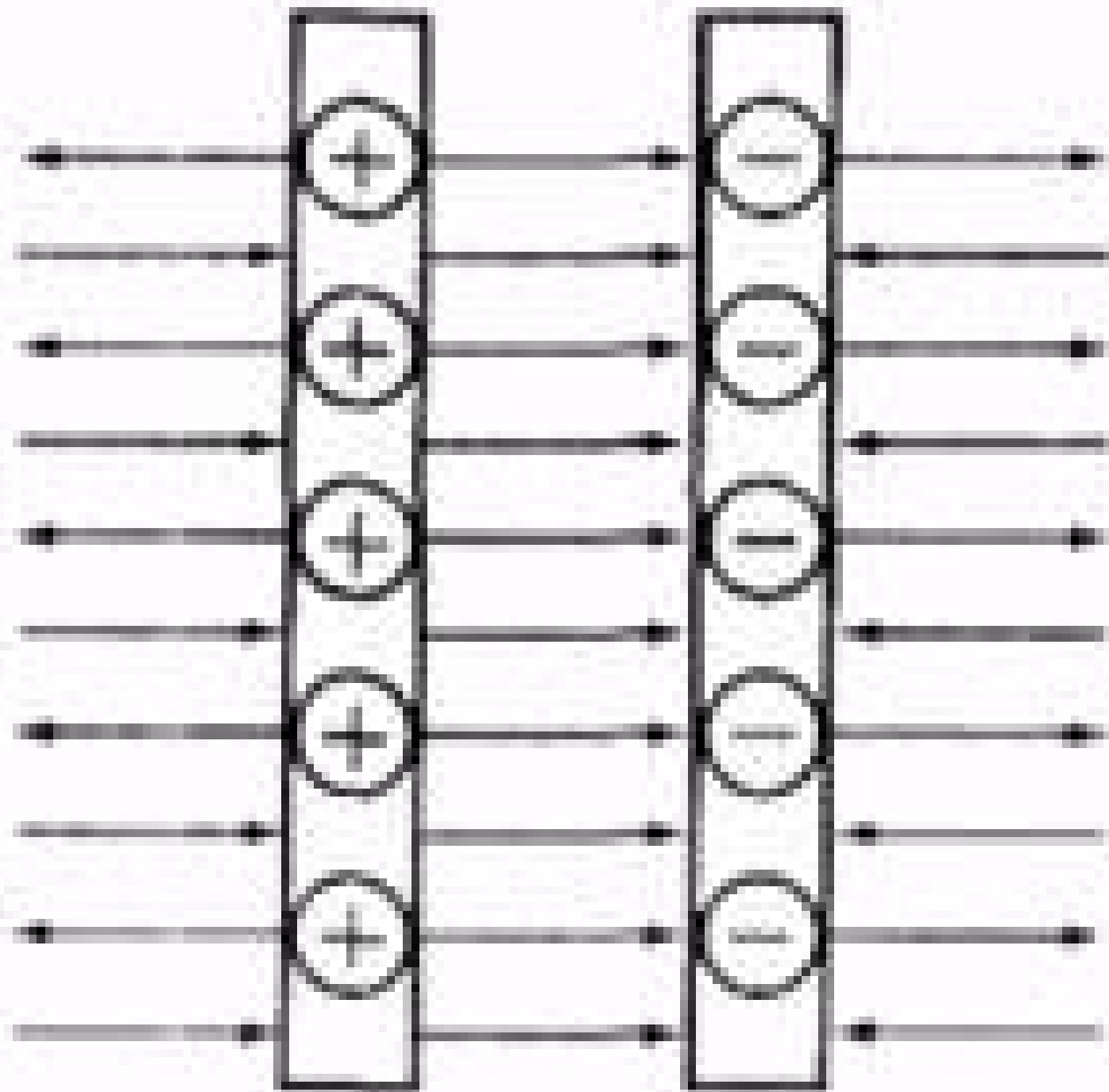
$$F_e = N \frac{Q_1 \cdot Q_2}{\epsilon r^2} \quad (36.2)$$







Мал. 2.115



Мал. 2.115

$$c = \frac{Q}{V} \quad (36.3)$$

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$$1 \Phi = \frac{1 \kappa \pi}{1 B} .$$

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$$1 \text{ МКФ} = 10^{-6} \text{ Ф};$$

$$1 \text{ нФ} = 10^{-9} \text{ Ф};$$

$$1 \text{ пФ} = 10^{-12} \text{ Ф}.$$

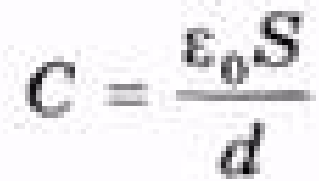
$$I_{MK\Phi} = 10^{-6} \Phi;$$

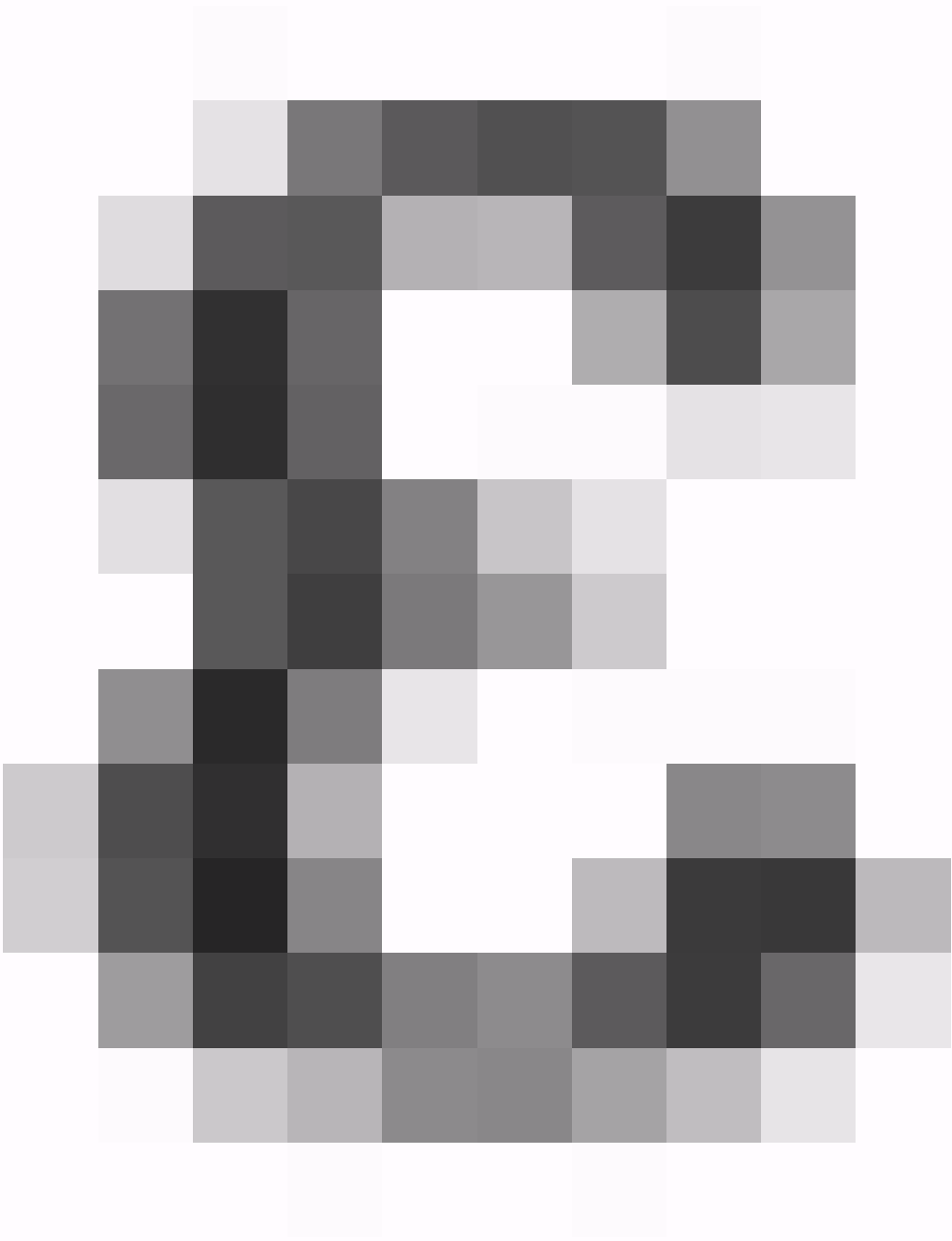
$$I_{H\Phi} = 10^{-8} \Phi;$$

$$I_{n\Phi} = 10^{-12} \Phi.$$

$$C = \frac{E \cdot S}{d}$$

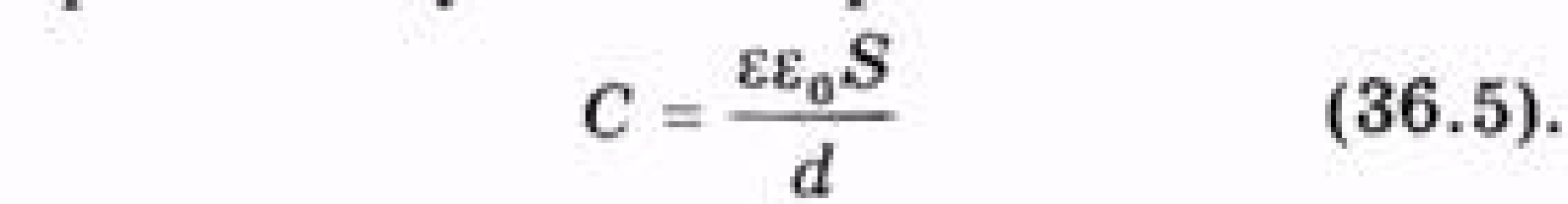
(36.4)

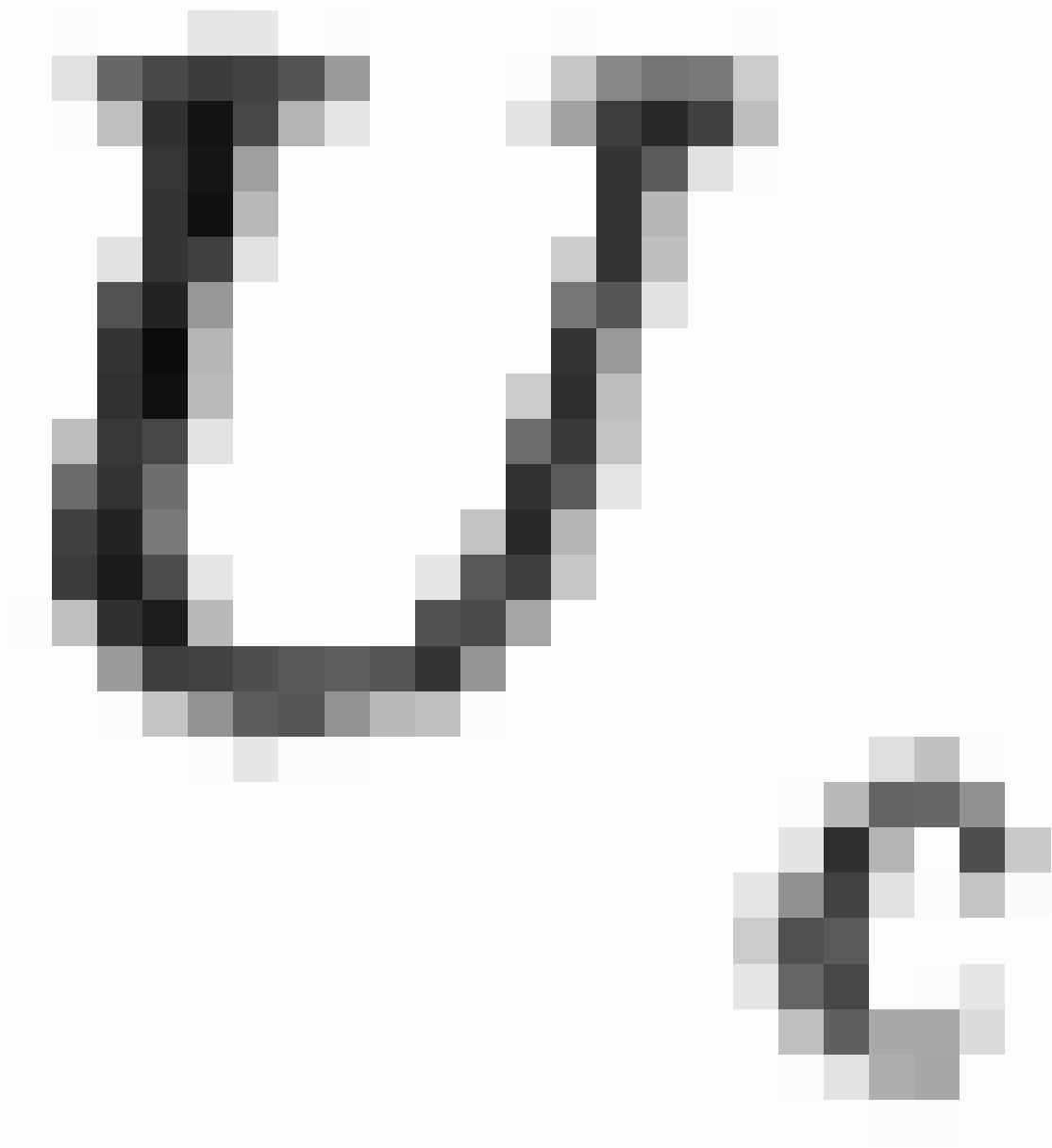






$$C = \frac{\epsilon \epsilon_0 S}{d} \quad (36.5)$$







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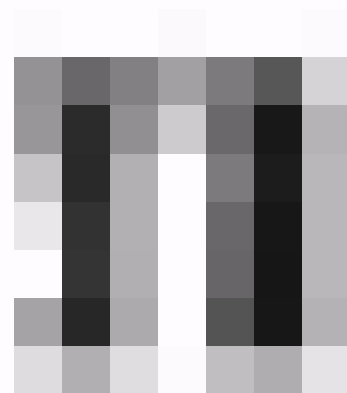
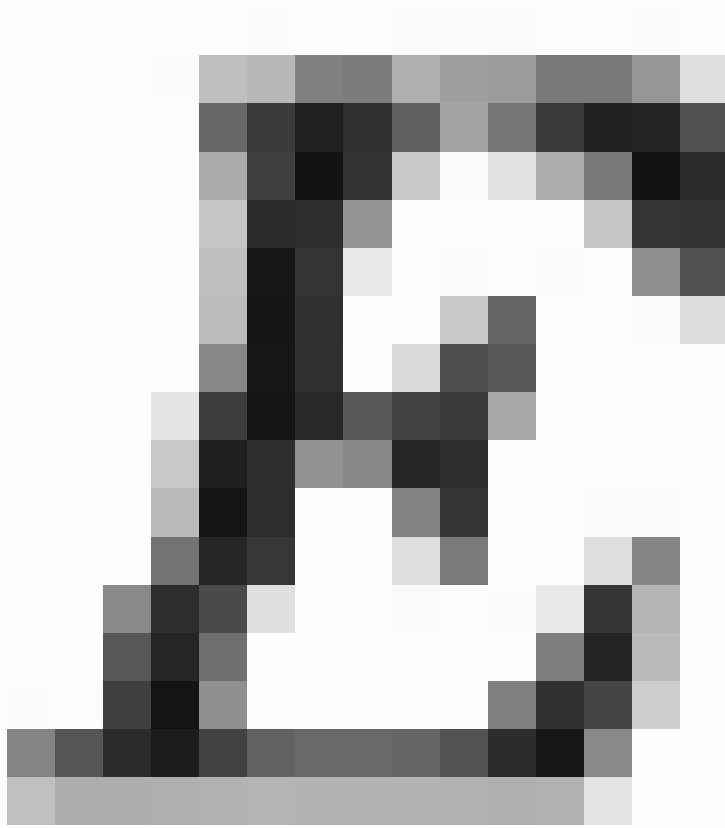


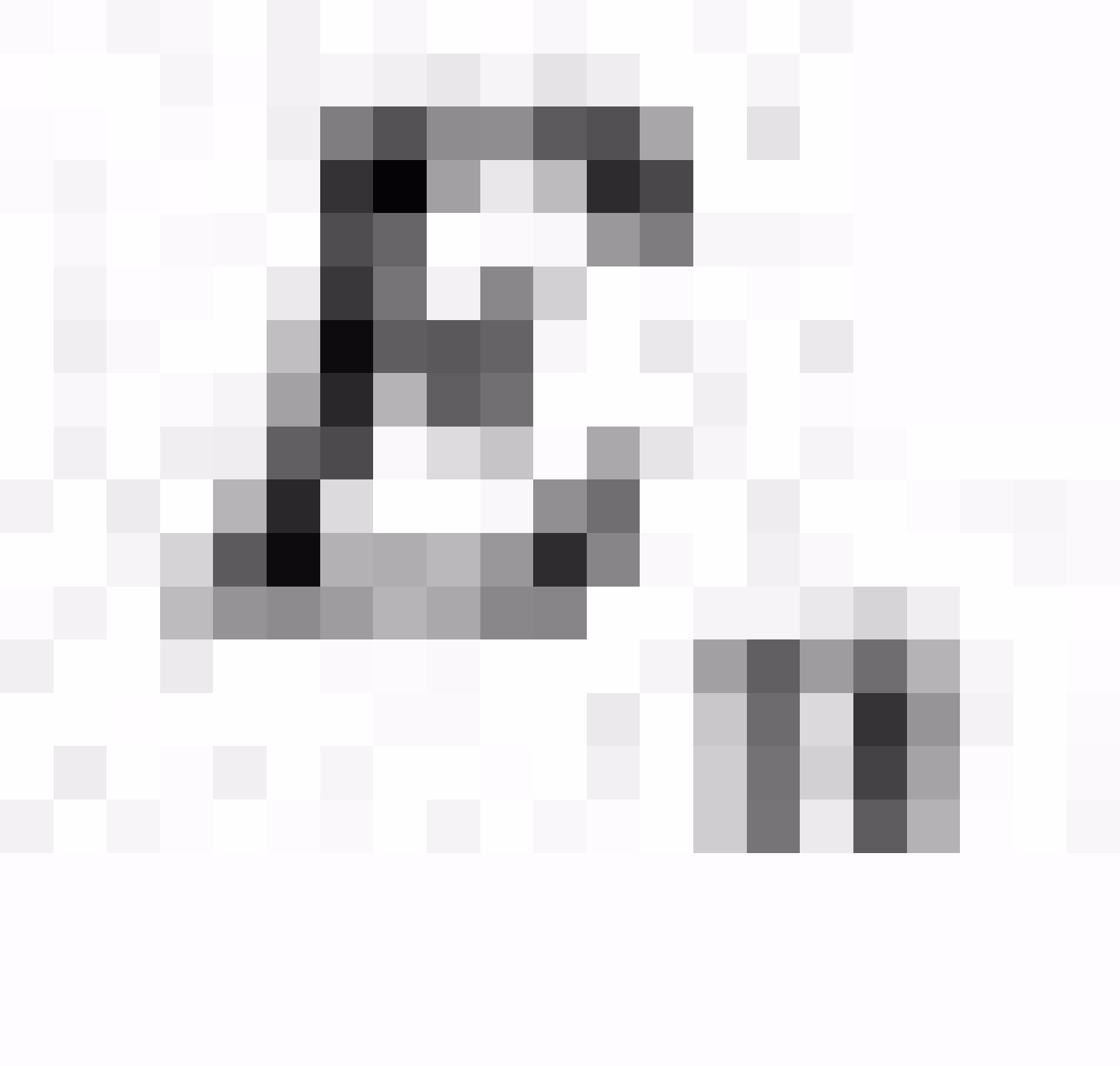
$$A = qv_e = \frac{qv}{2} \quad (30.6)$$



$$A = \frac{CV^2}{2} \quad (36.7)$$







$$A = E_{\pi}, \quad E_{\pi} = \frac{qU}{2} = \frac{cU^2}{2} = \frac{q^2}{2c} \quad (36.8)$$

1. $\frac{1}{x^2} = x^{-2}$

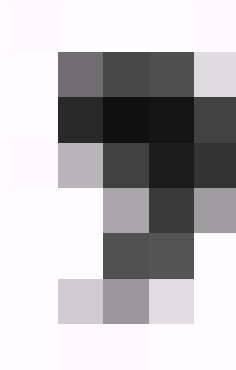
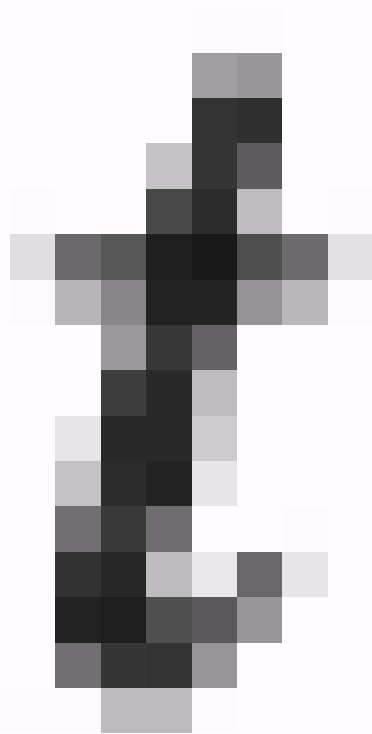
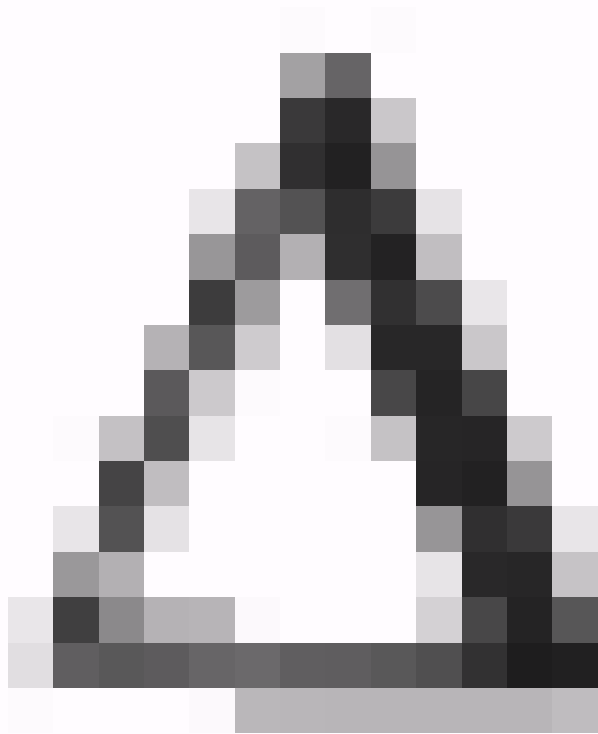
2. $\frac{d}{dx} x^{-2} = -2x^{-3}$

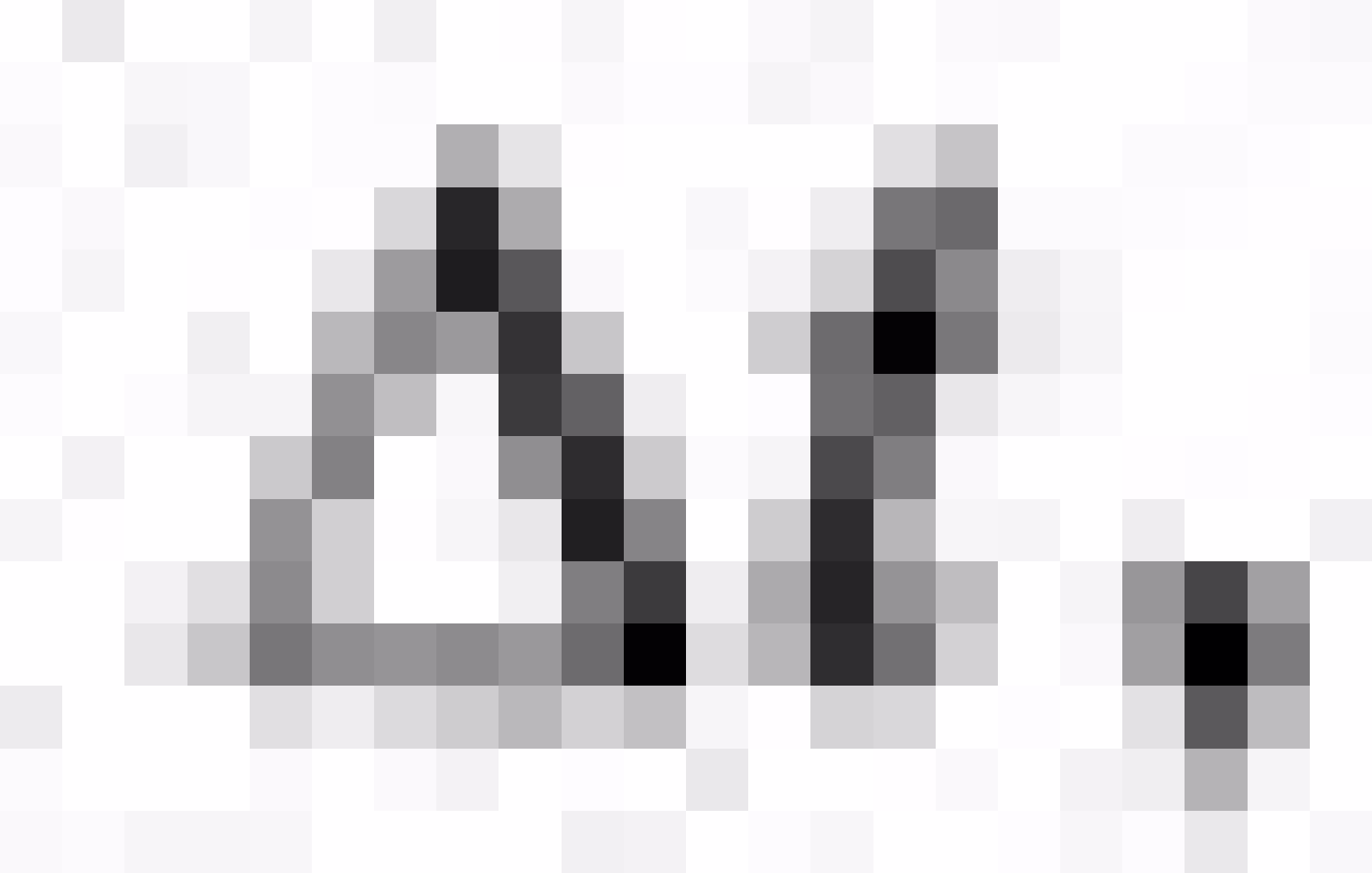
3. $= -2x^{-3} = -\frac{2}{x^3}$

4. $= -\frac{2}{x^3}$

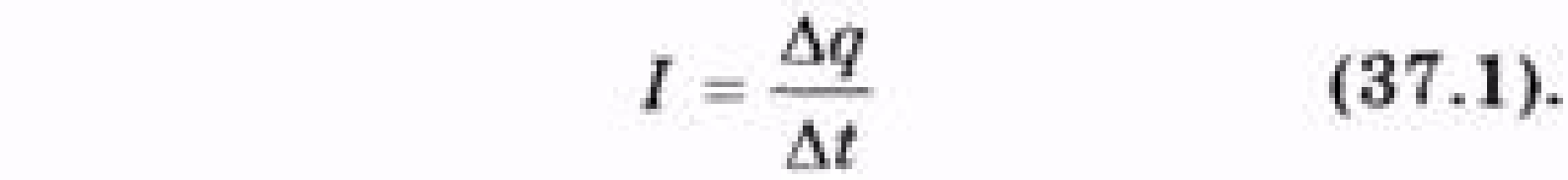


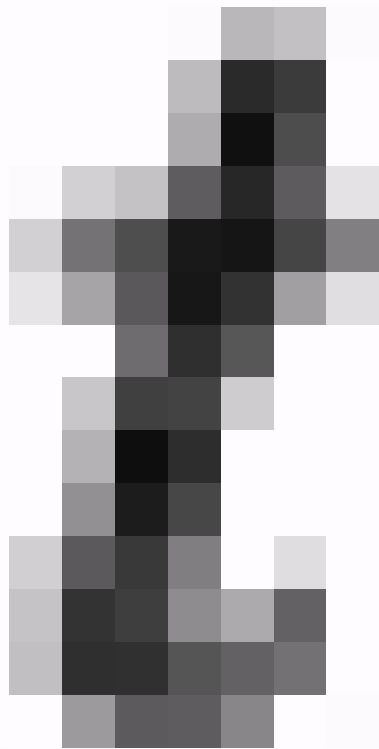
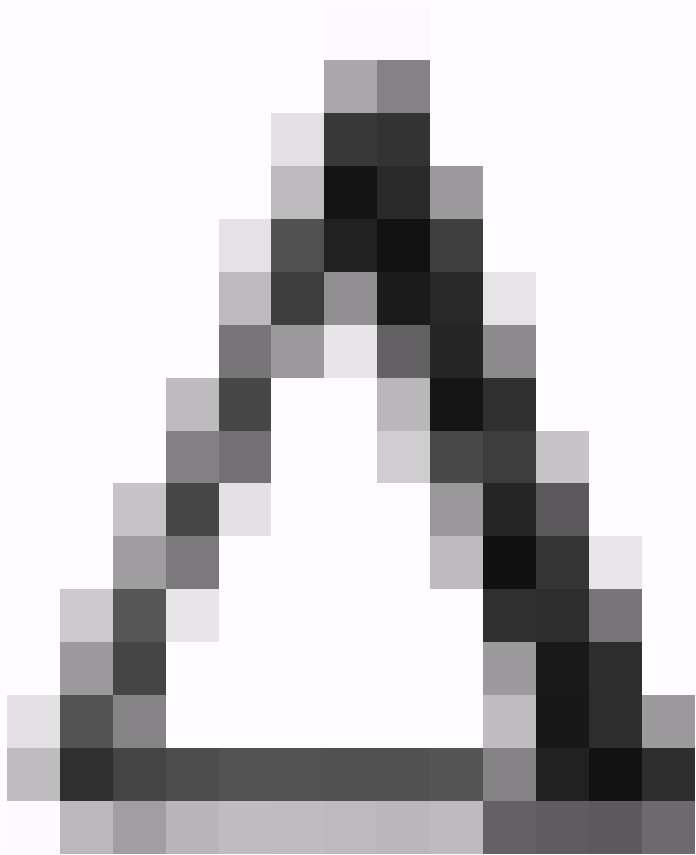


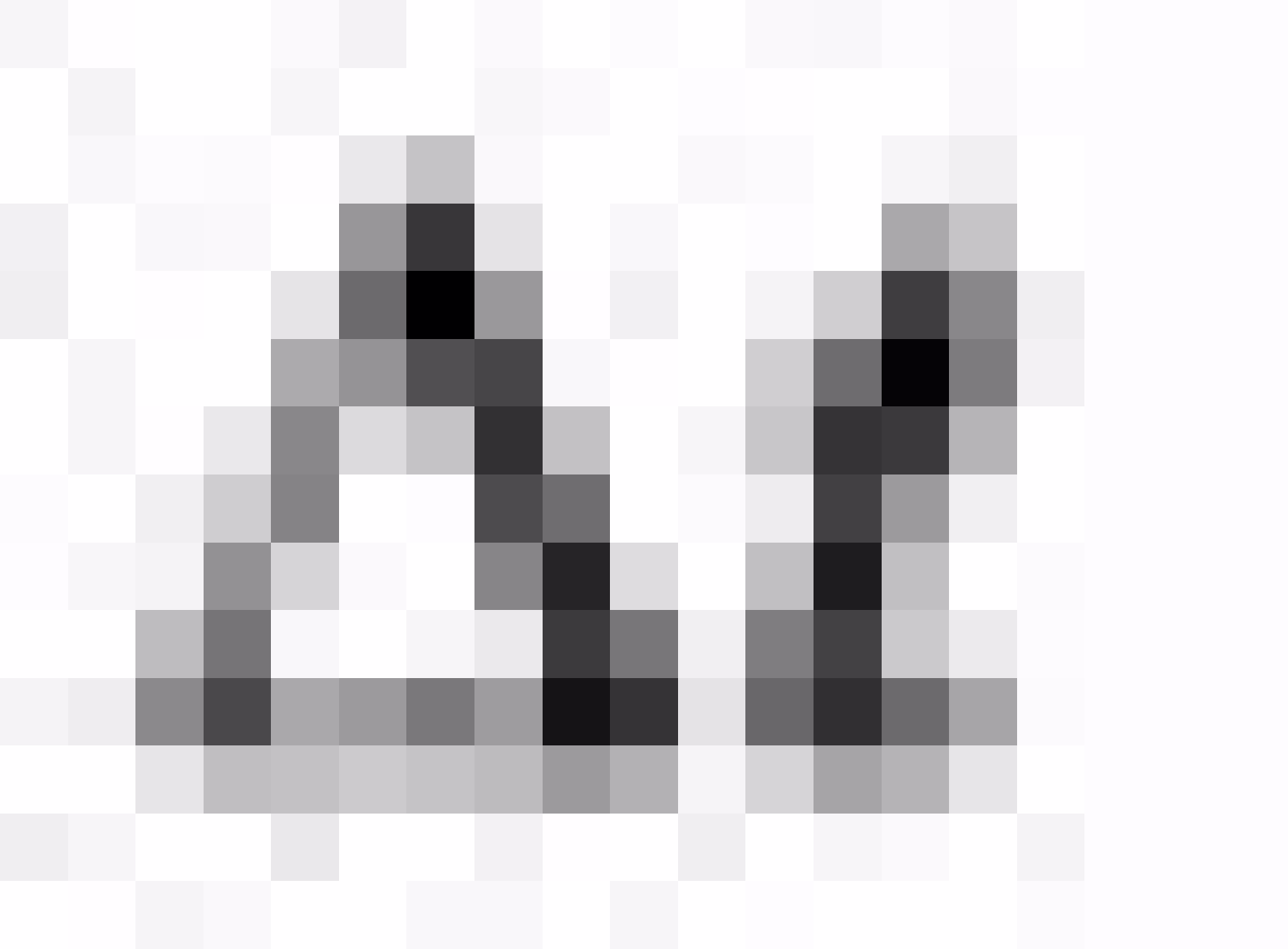


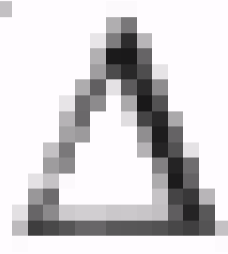
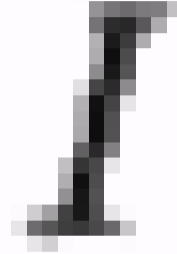
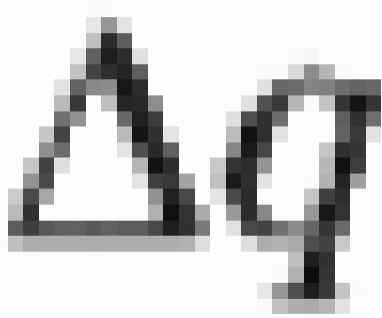


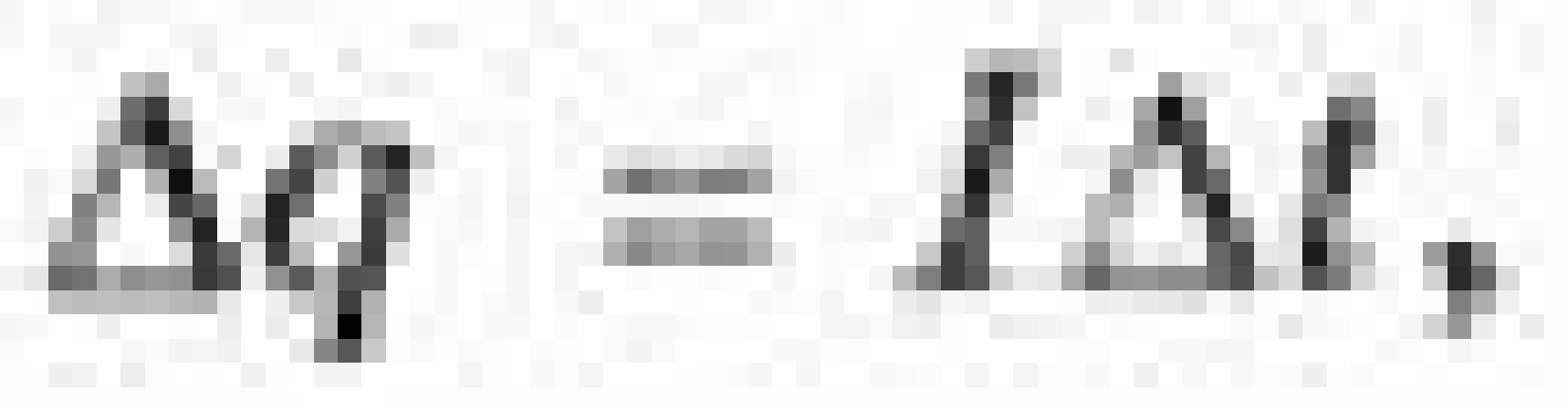
$$I = \frac{\Delta q}{\Delta t} \quad (37.1)$$

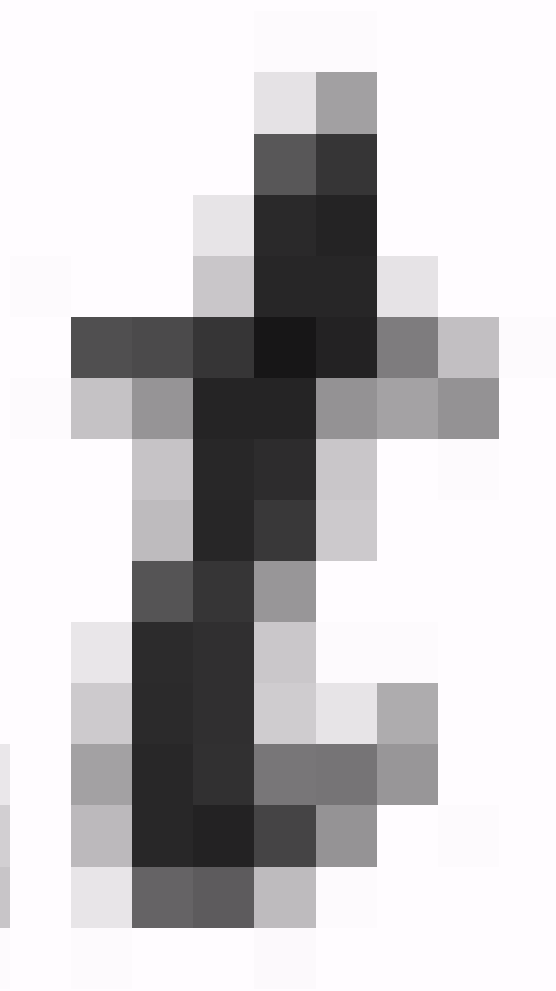
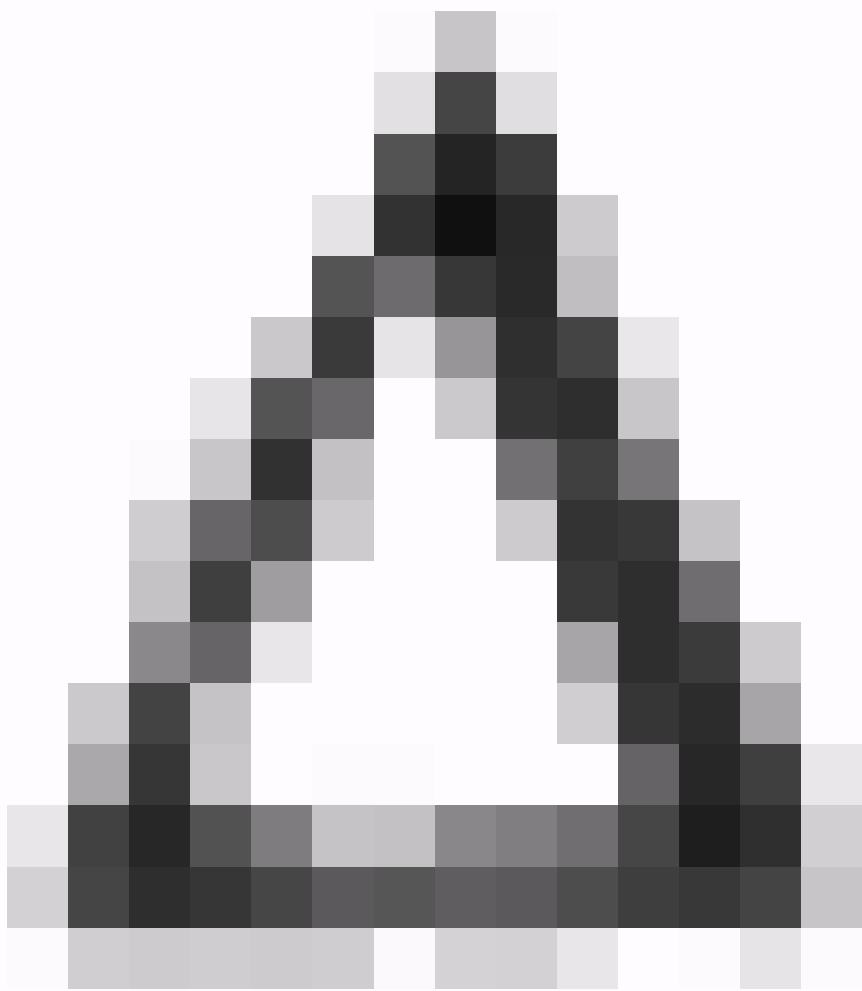


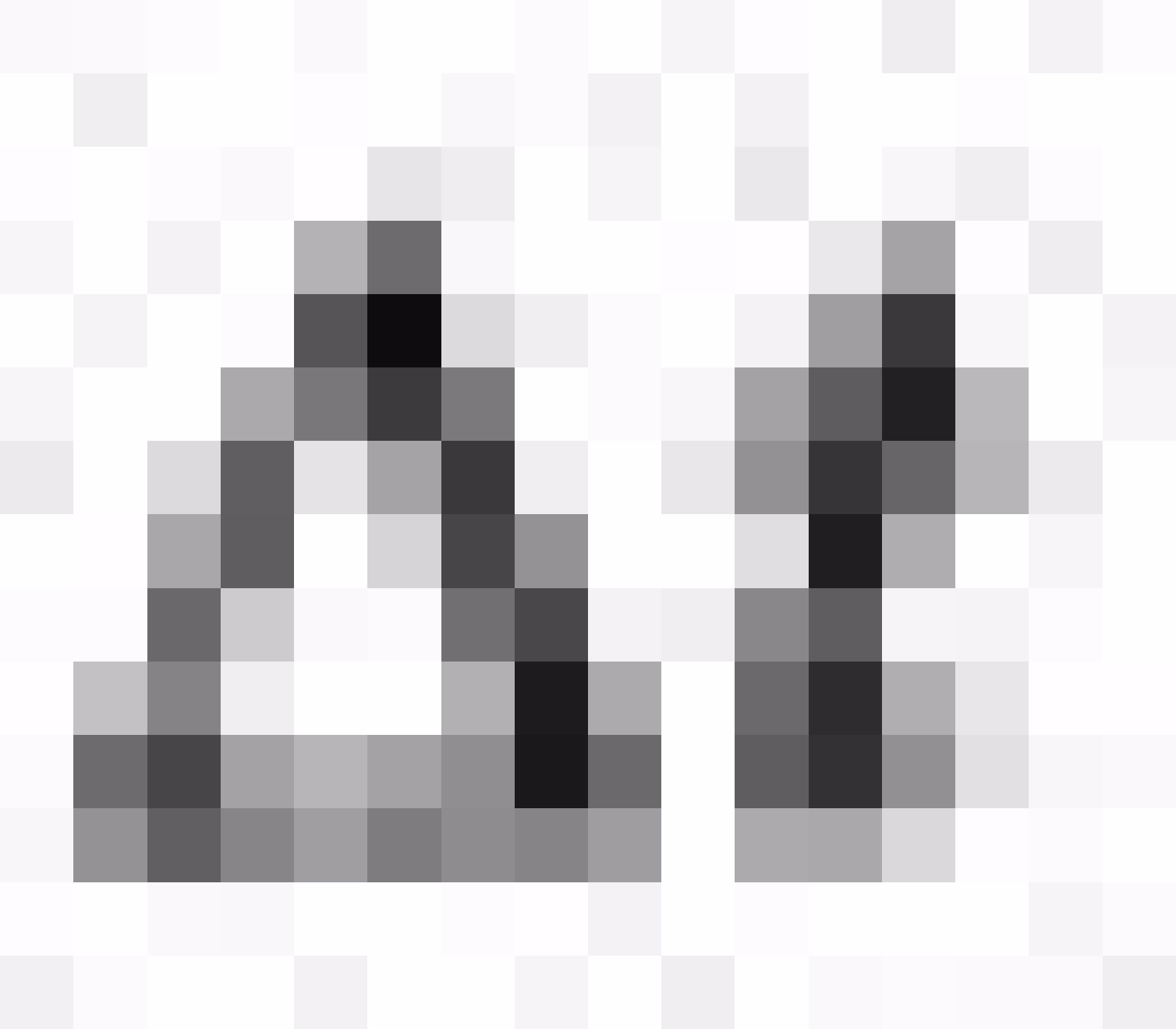


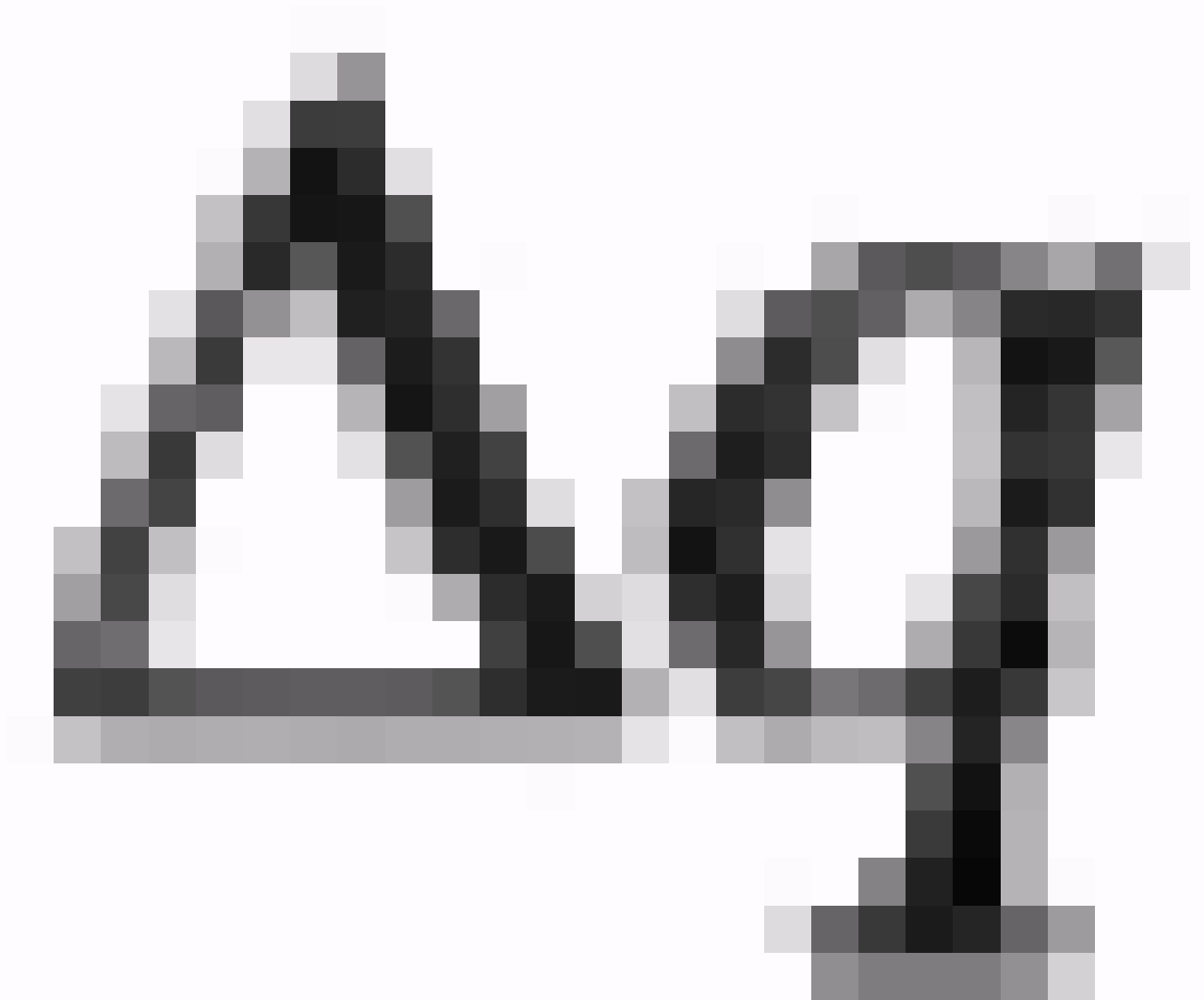


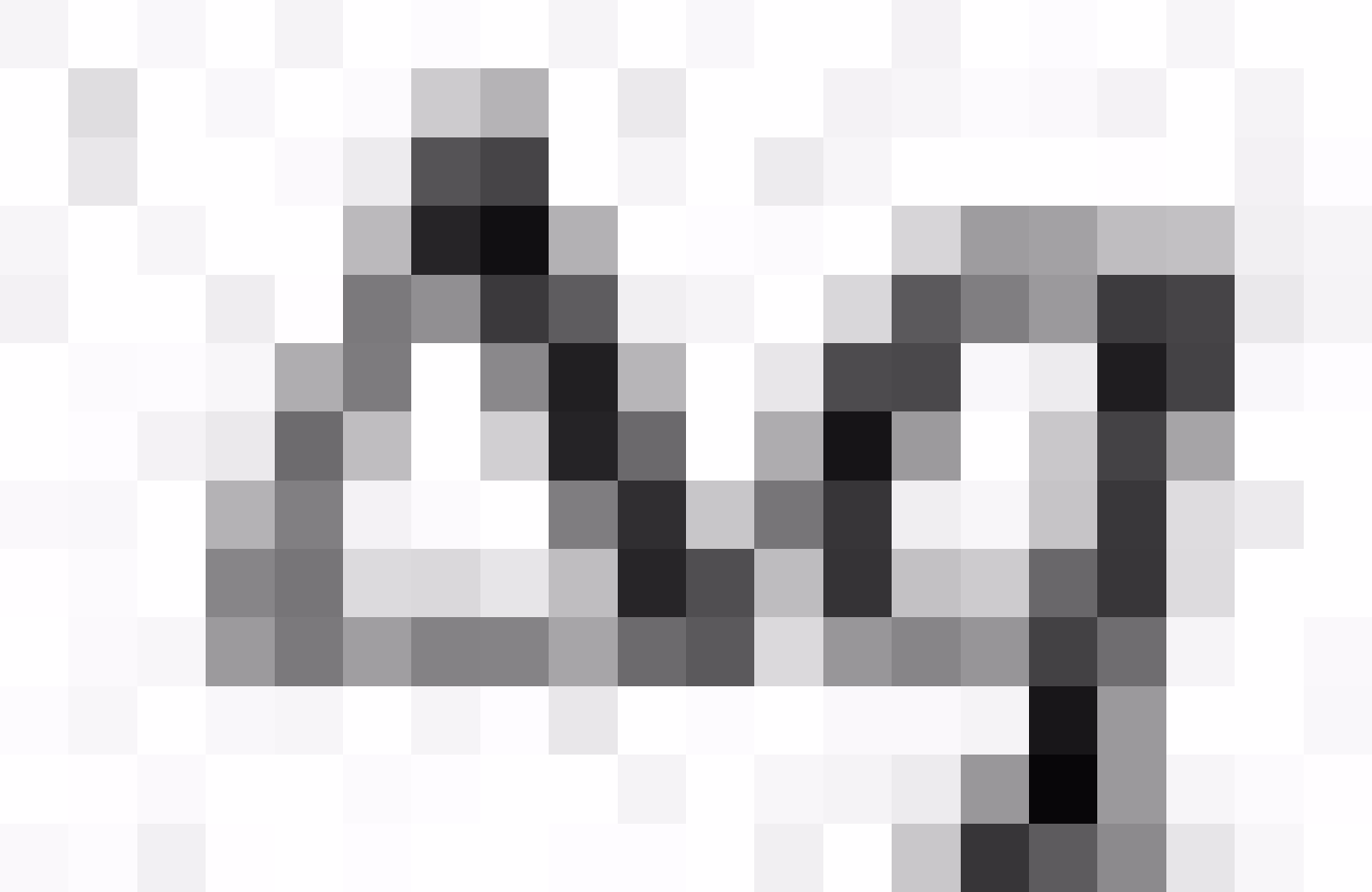


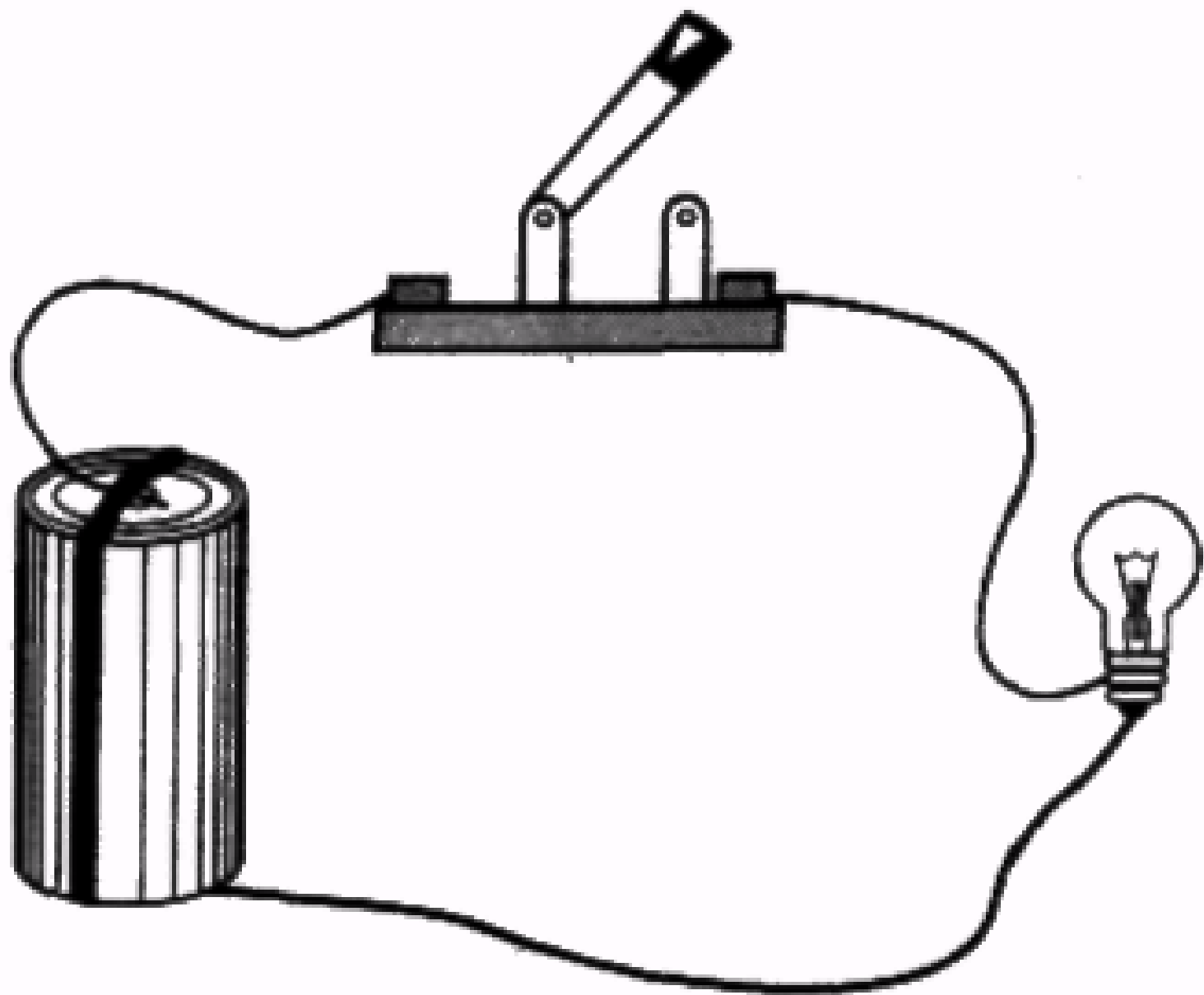




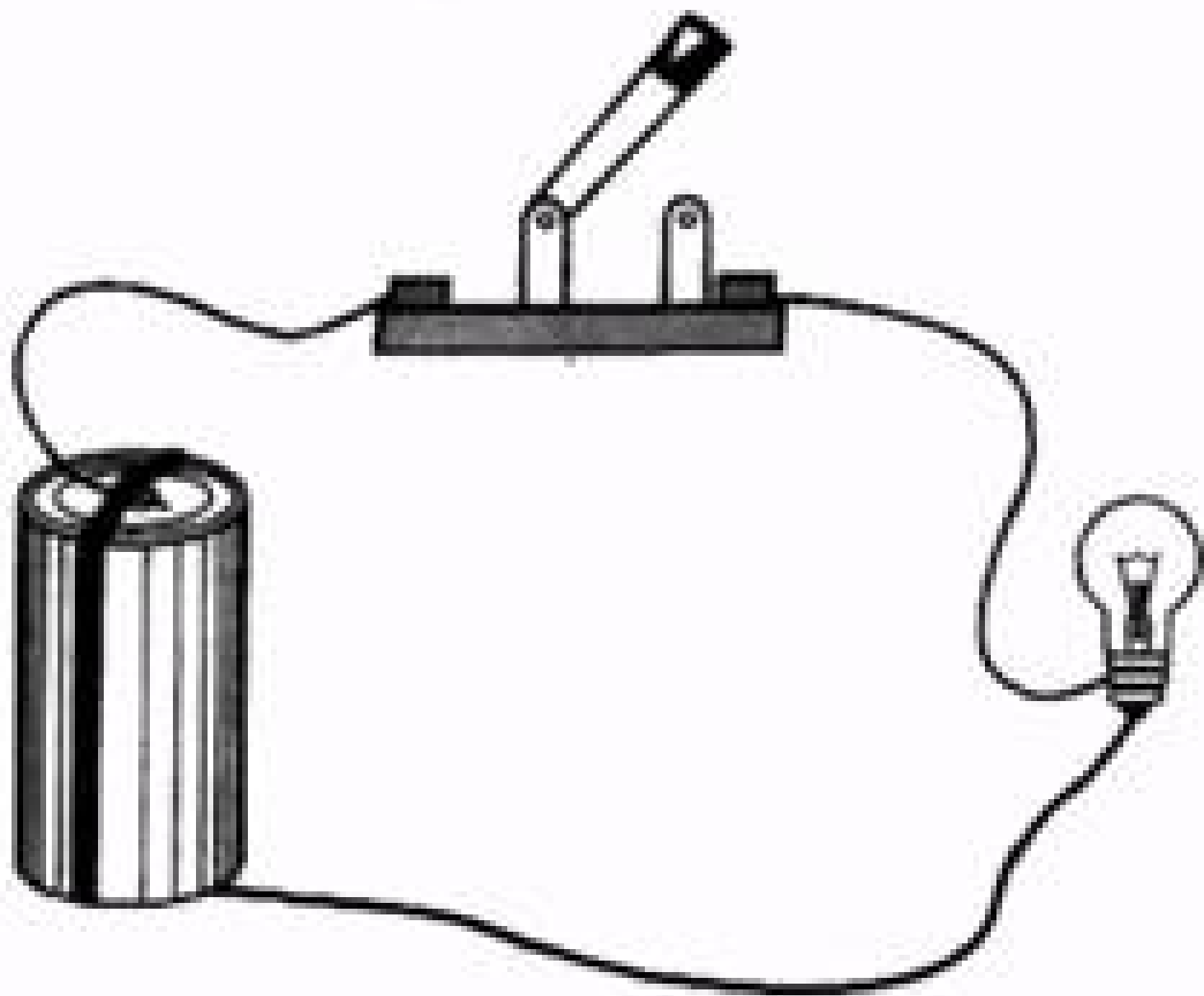




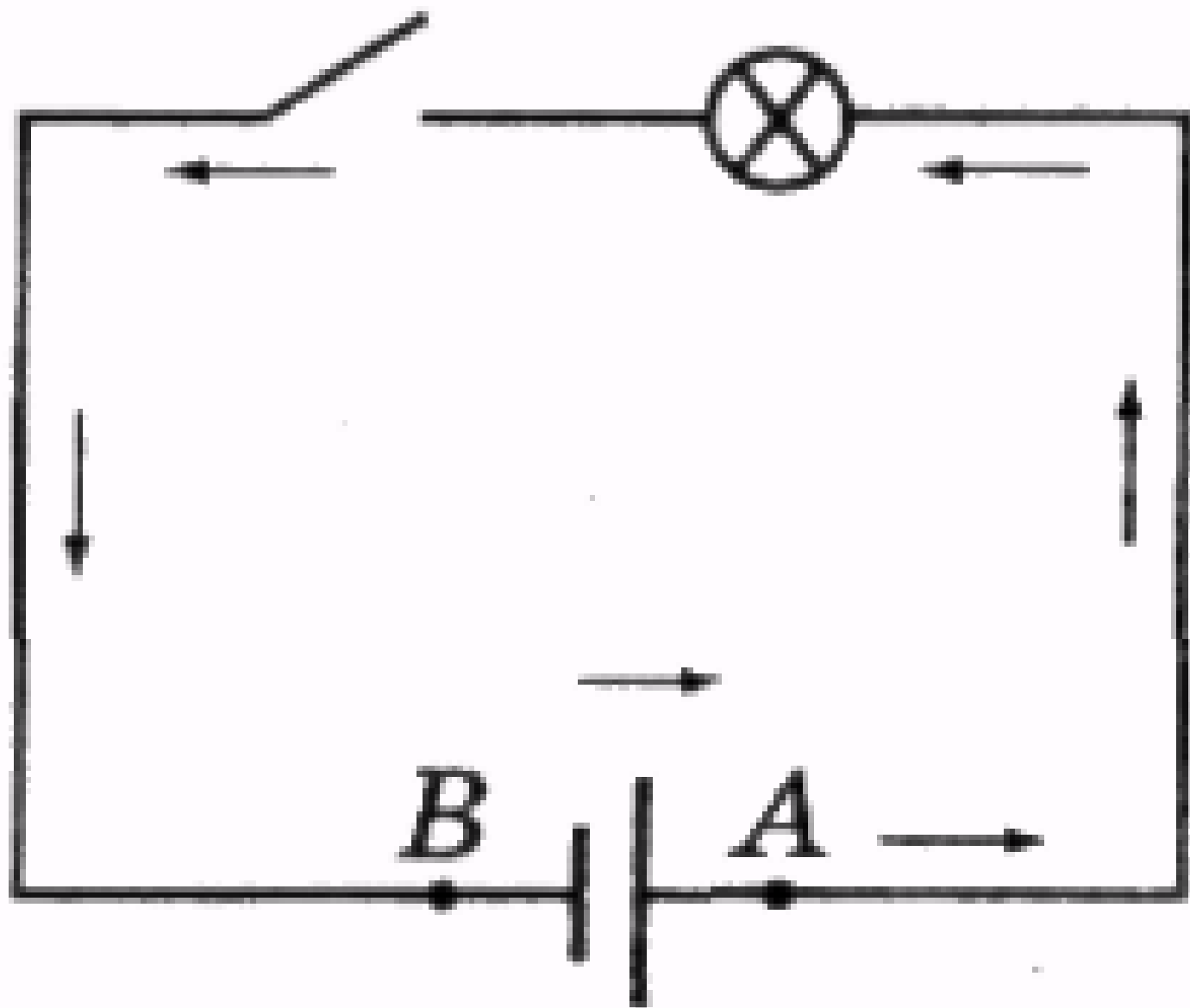




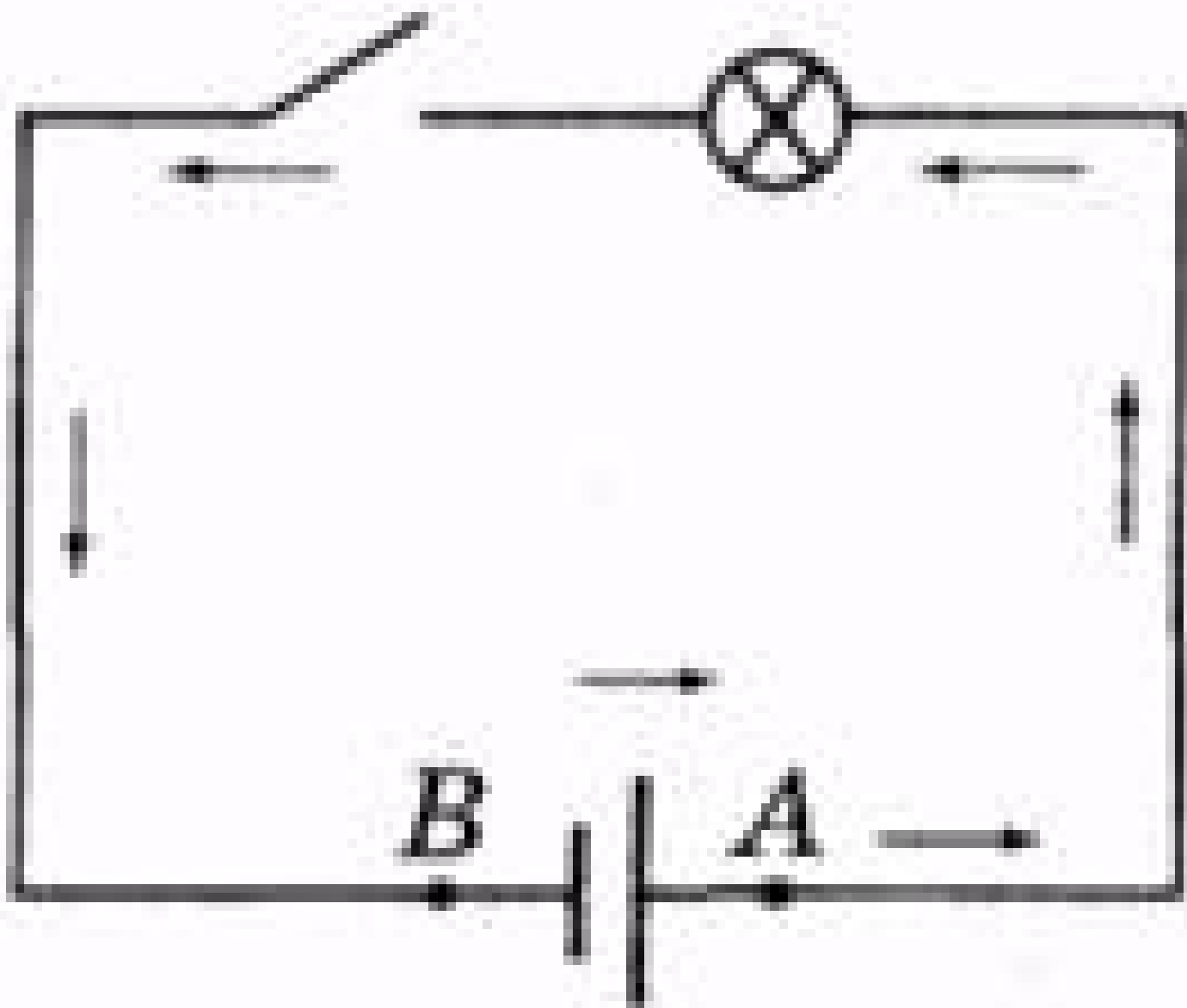
Мал. 2.116



Мал. 2.116



Мал. 2.117



Mar. 2.117

| | |
|---|----------------------|
|  | гальванічний елемент |
|  | провідник |
|  | лампа розжарювання |
|  | резистор |
|  | конденсатор |
|  | катушка |
|  | ключ |
|  | вольтметр |
|  | амперметр |

Мал. 2.118

 гальванічний елемент

 провідник

 лампа розжарювання

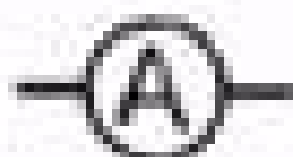
 резистор

 конденсатор

 котушка

 ключ

 вольтметр

 амперметр

Мал. 2.118

$$R = \frac{V}{I} \quad (37.2)$$



10M

=

1B

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1A

1000

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1000

1000

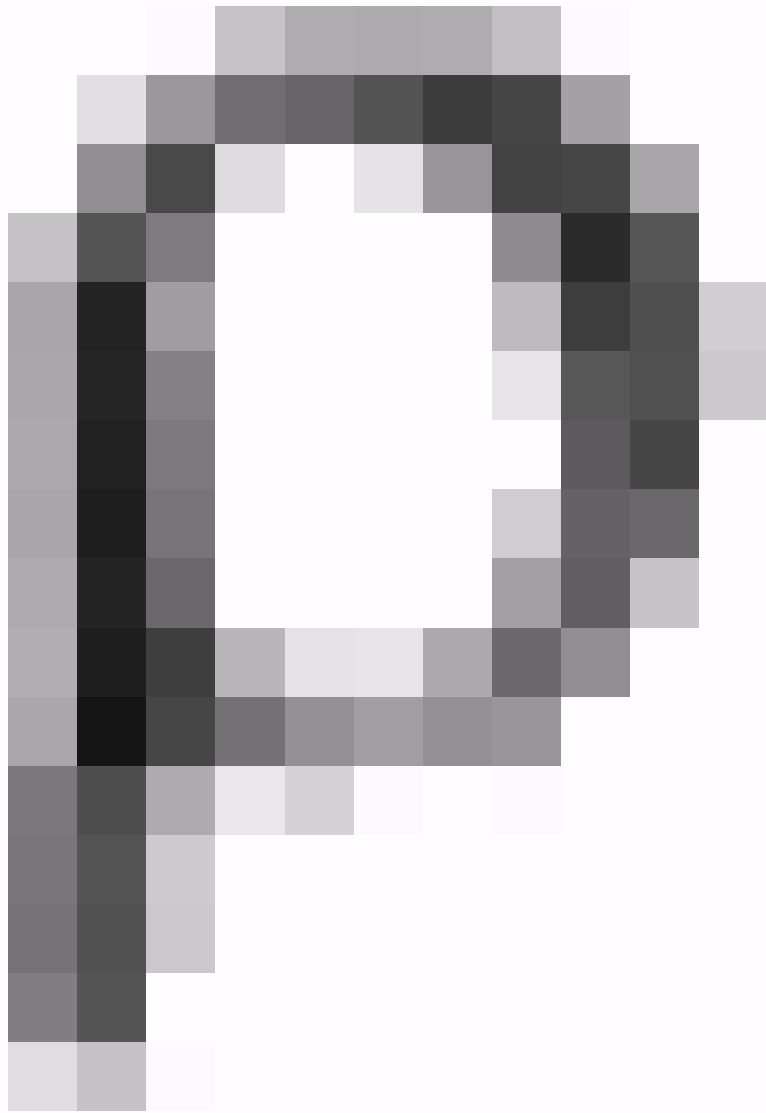
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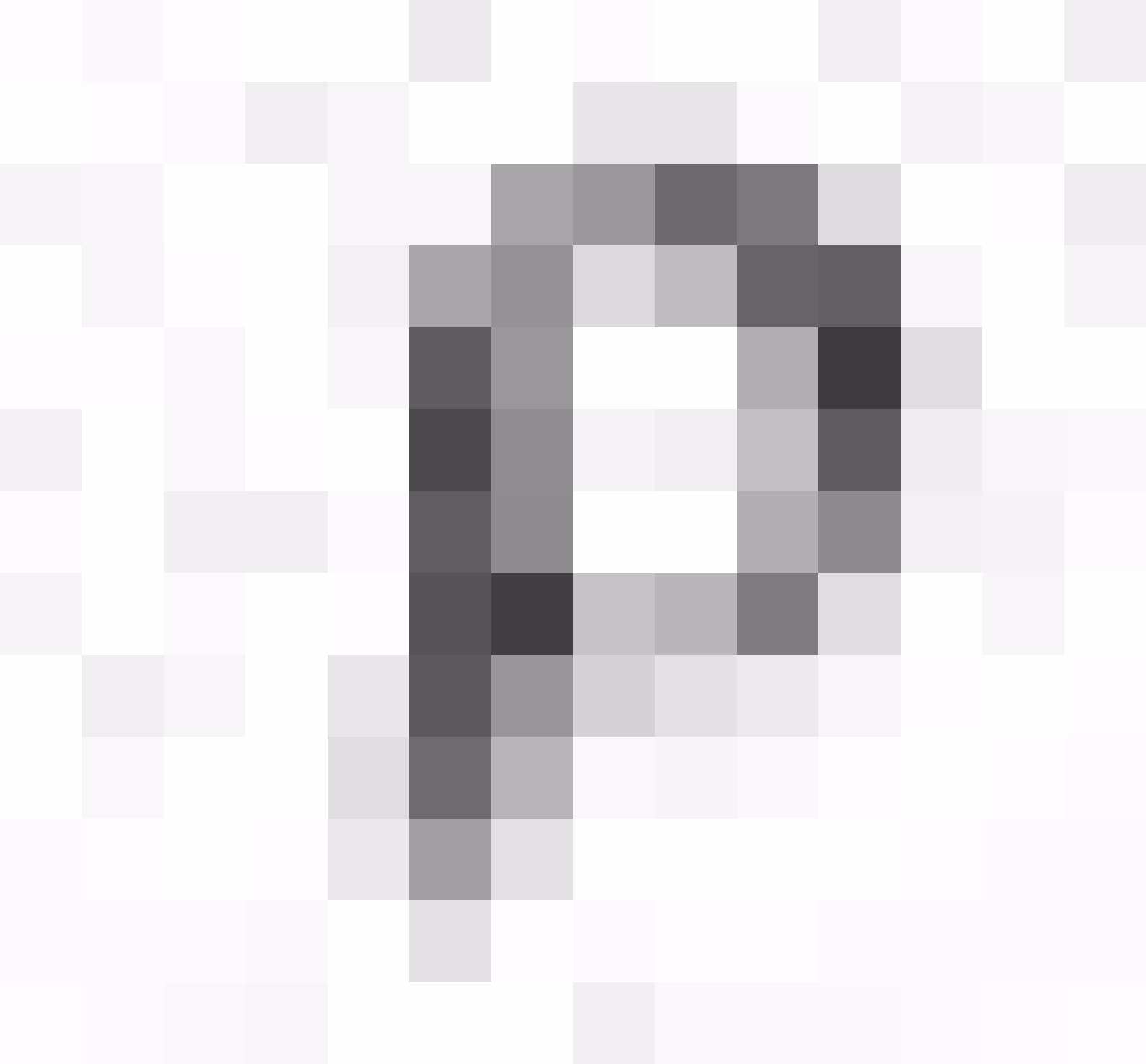
$$R = \rho \frac{L}{S}$$

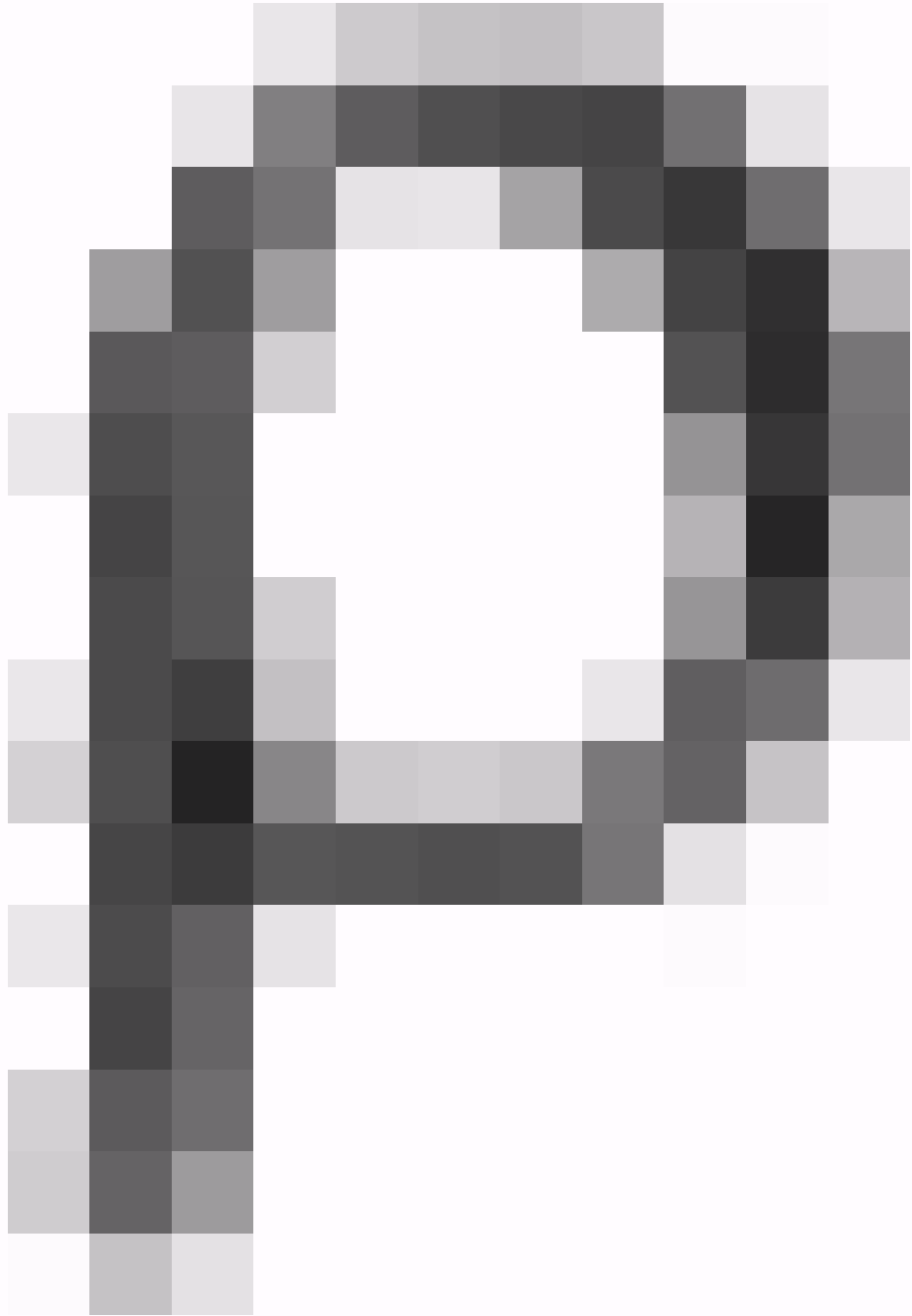
(37.3)



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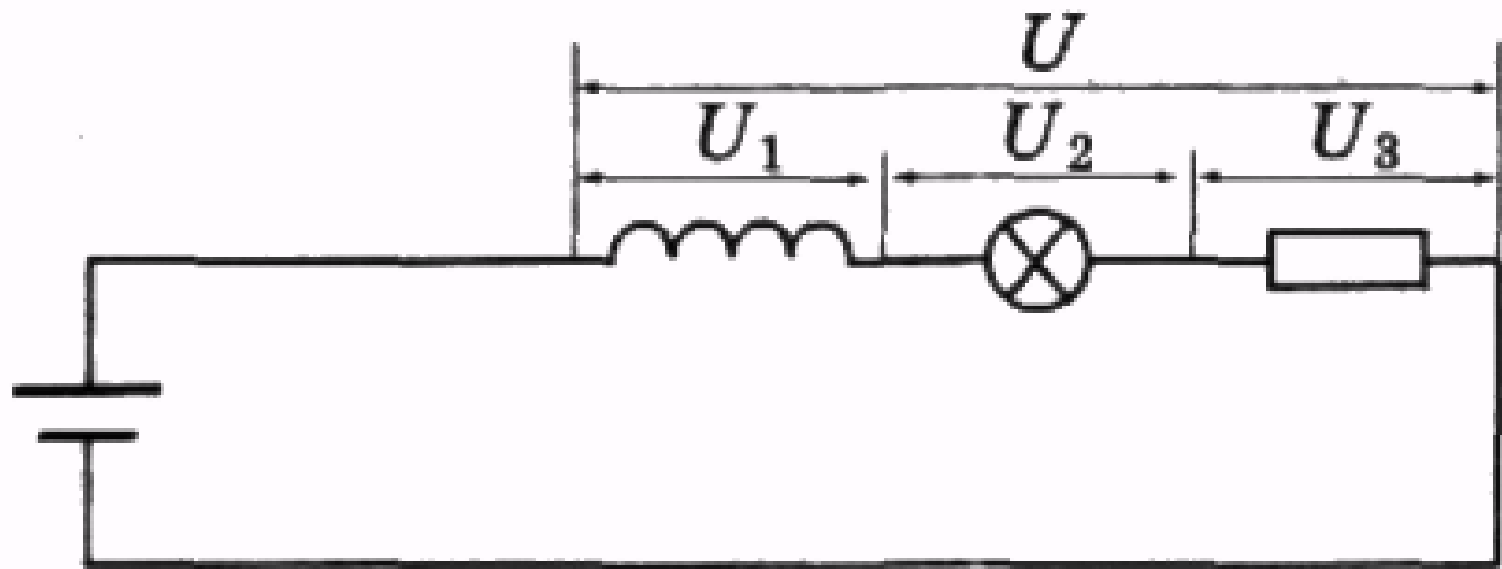
$$I = \frac{U}{R} \quad (37.4)$$

11

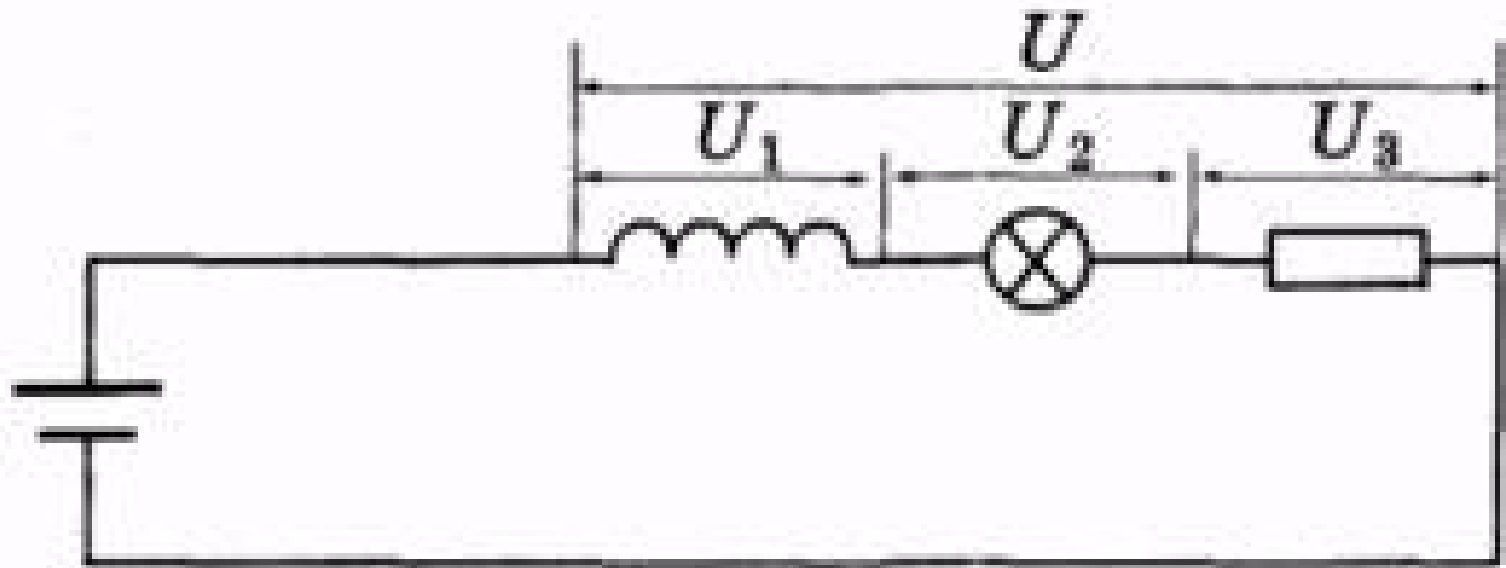
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13

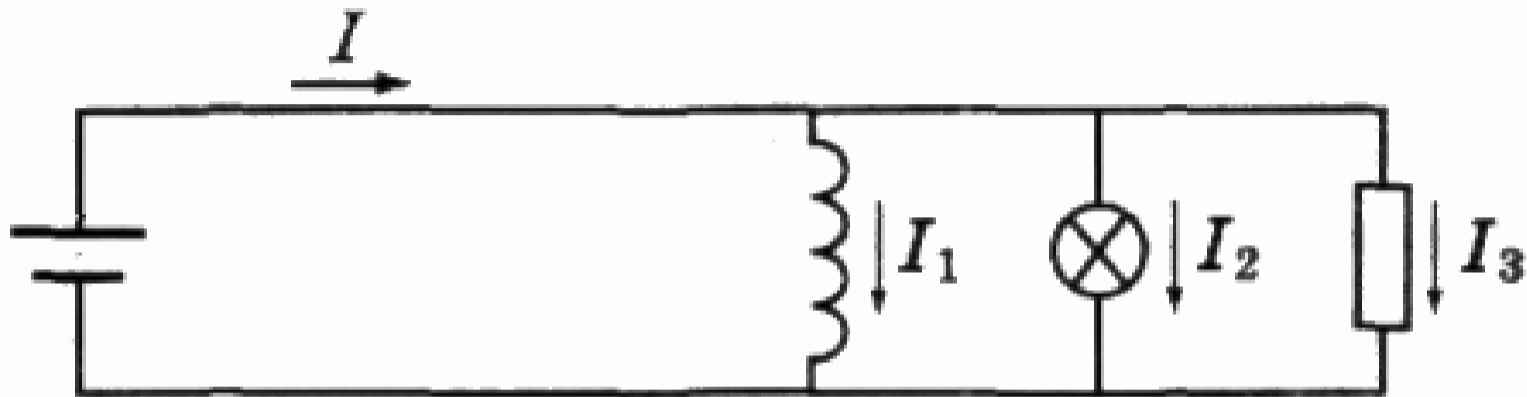
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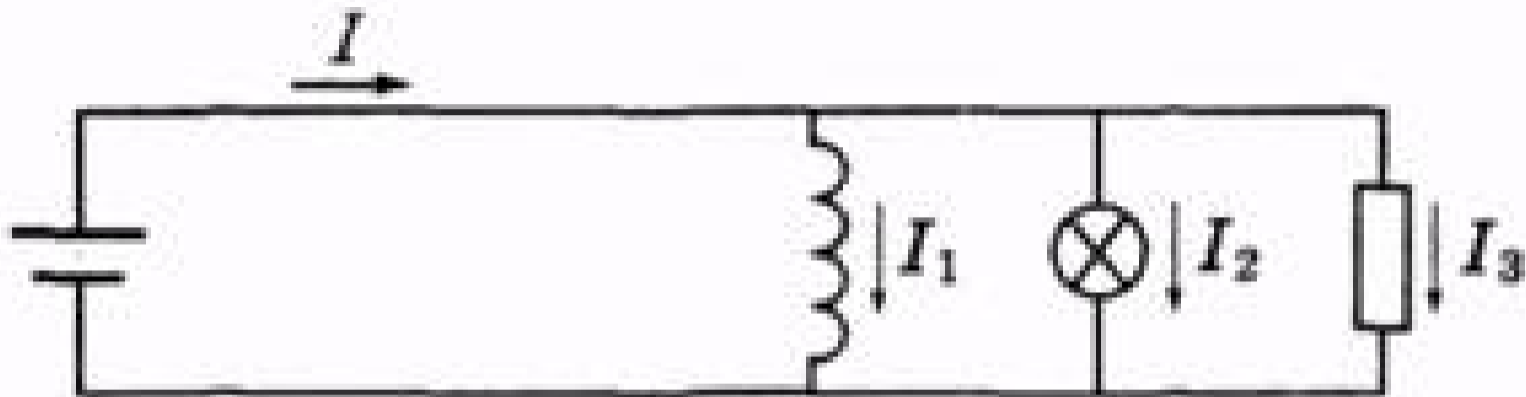
Мал. 2.119



Мал. 2.119

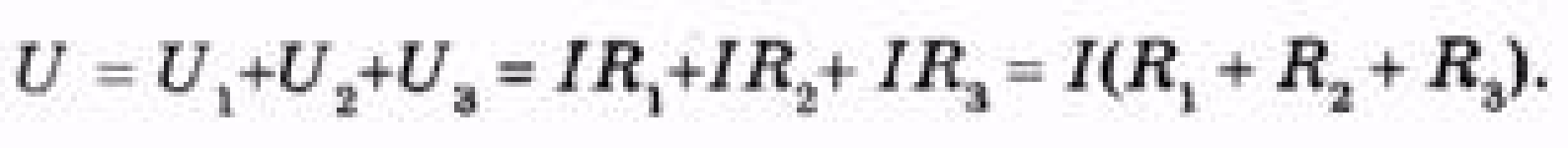


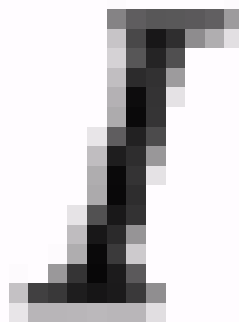
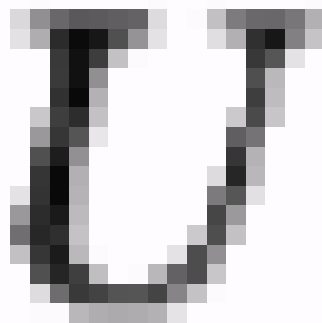
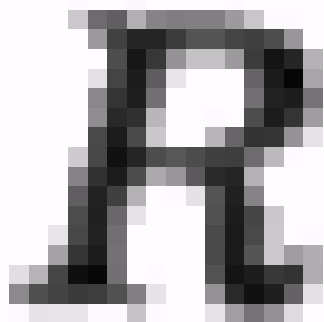
Мал. 2.120



Мал. 2.120

$$V = V_1 + V_2 + V_3 = IR_1 + IR_2 + IR_3 = I(R_1 + R_2 + R_3).$$





17

18

19

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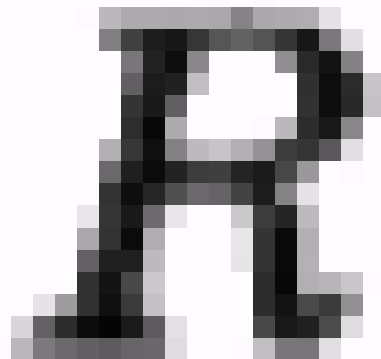
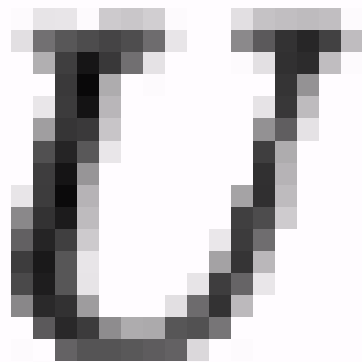
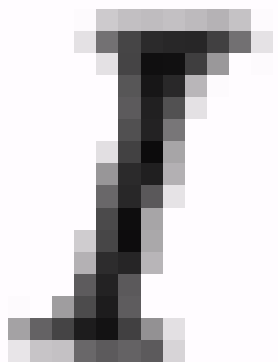
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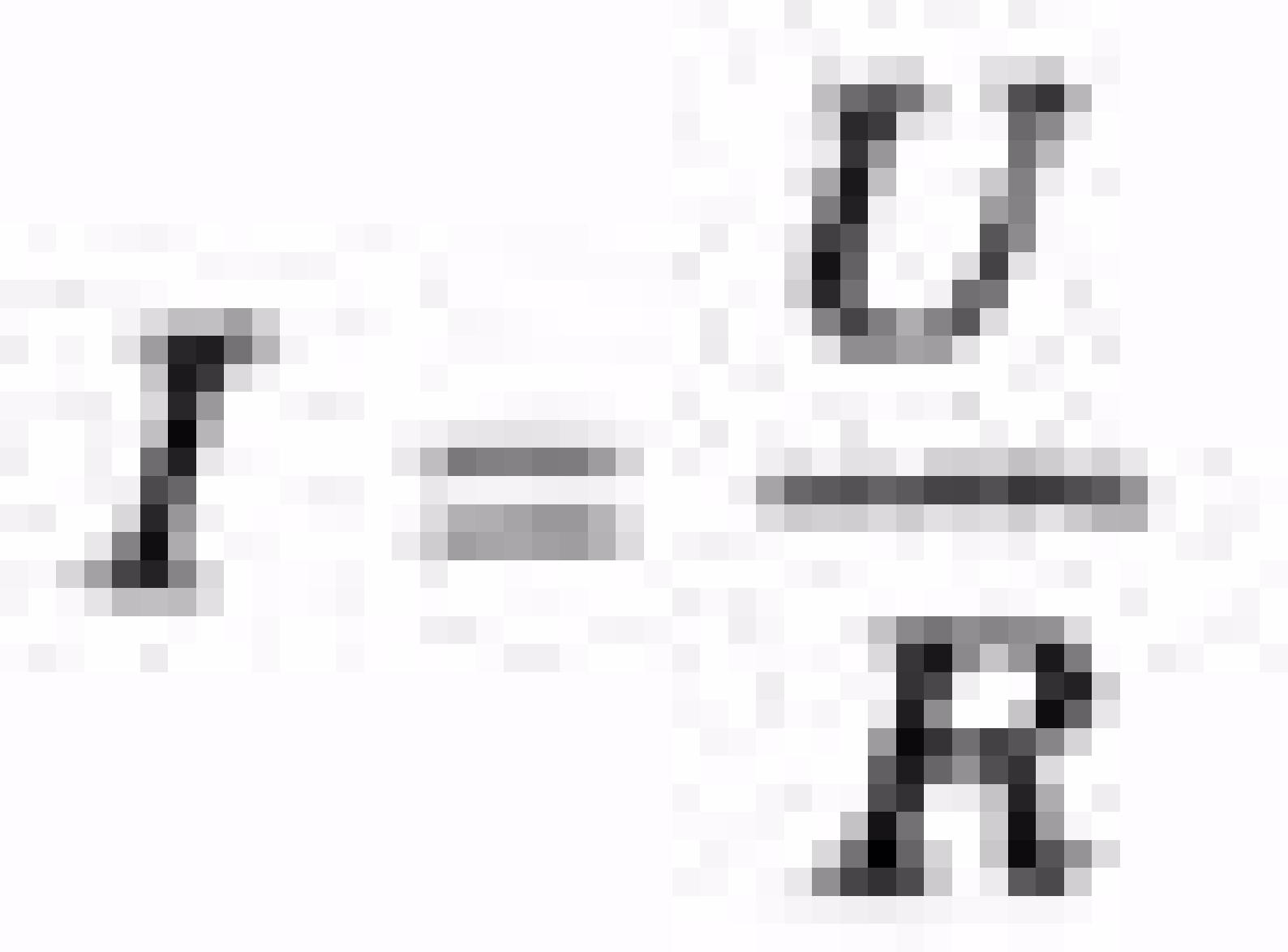
$R = R_1 + R_2 + R_3$
 (37.5)

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LIBRARY

$$I = I_1 + I_2 + I_3 = \frac{U}{R_1} + \frac{U}{R_2} + \frac{U}{R_3} .$$

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. This is essential for ensuring the integrity of the financial statements and for providing a clear audit trail. The second part of the document outlines the various methods used to collect and analyze data, including interviews, surveys, and focus groups. The third part of the document describes the results of the research, highlighting the key findings and the implications for practice. The fourth part of the document discusses the limitations of the study and the need for further research. The fifth part of the document provides a conclusion and a list of references.

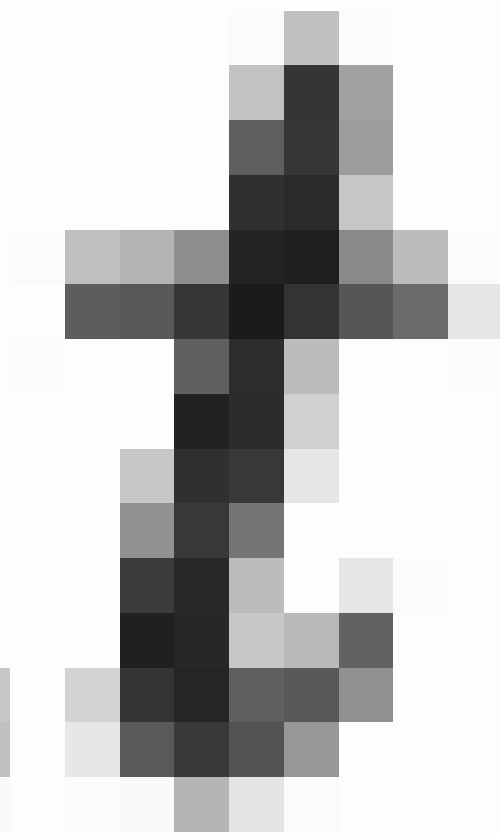
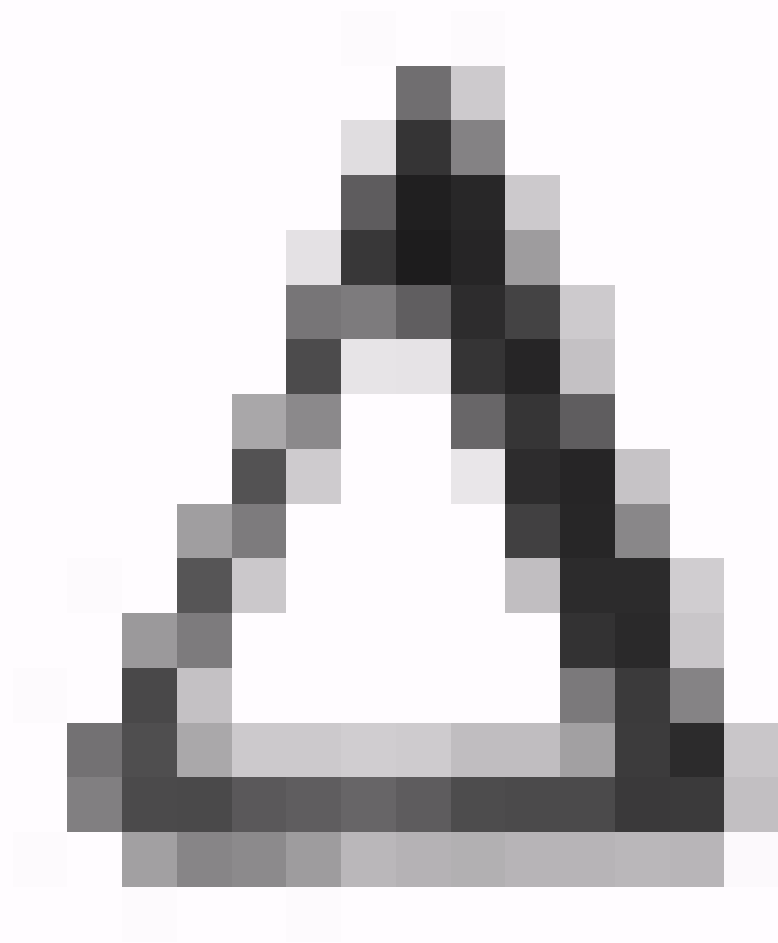


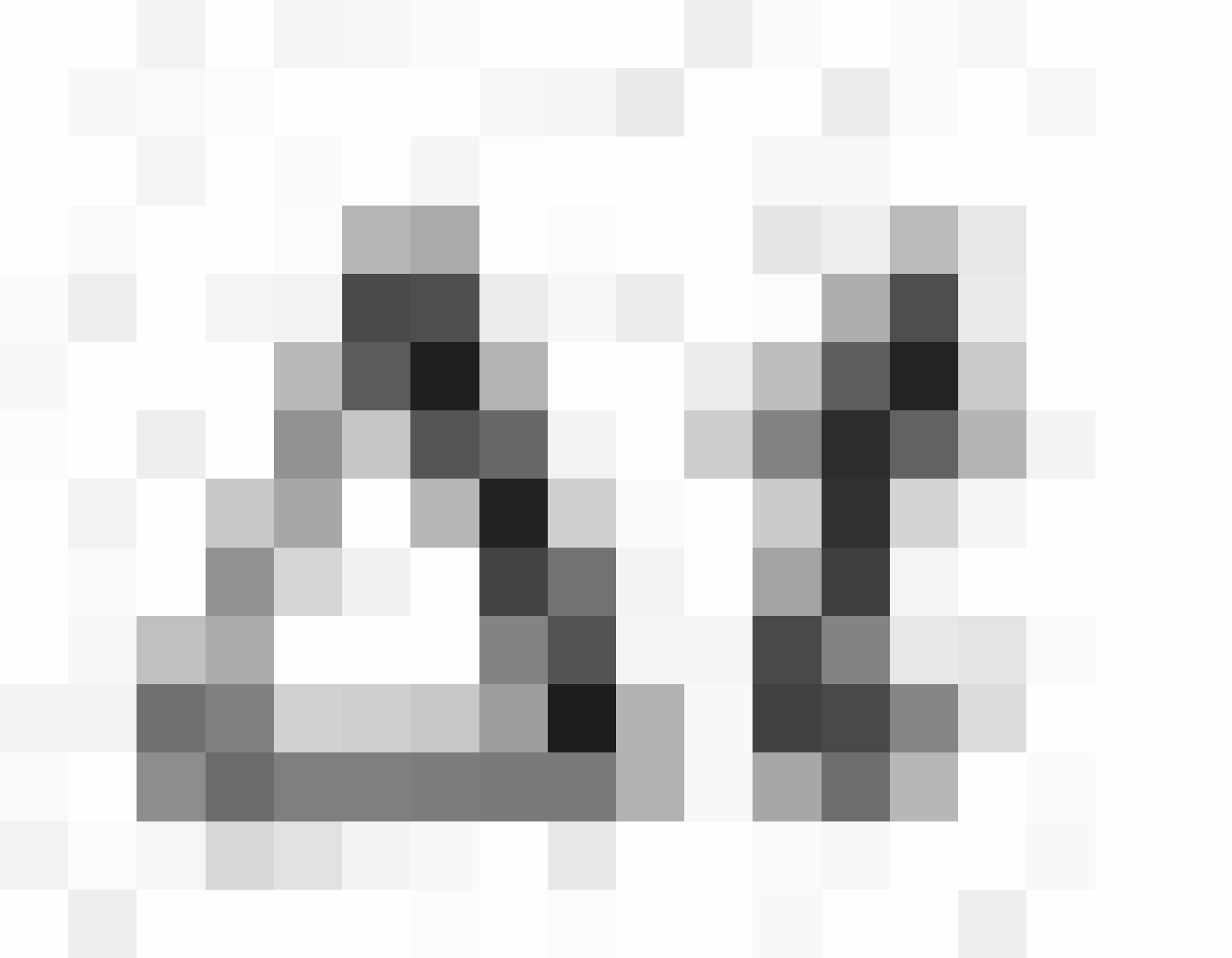


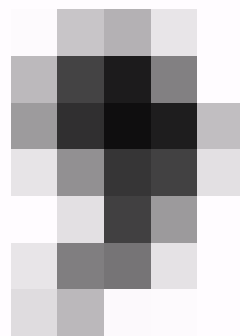
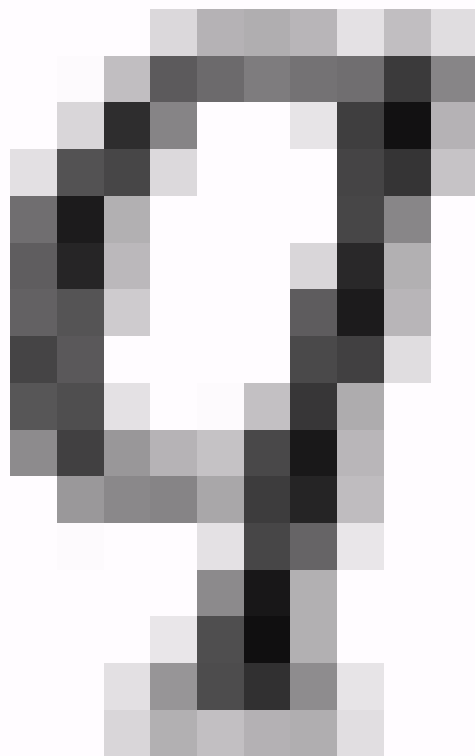
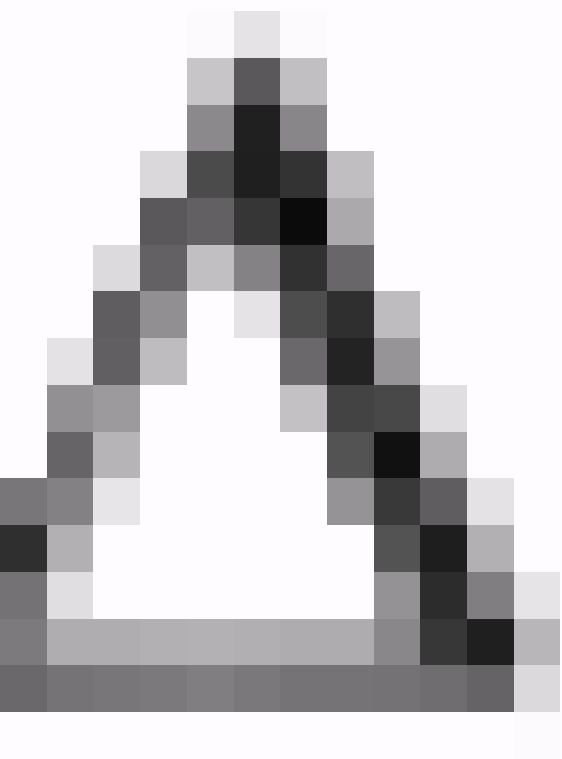
$$\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} \quad (37.6)$$

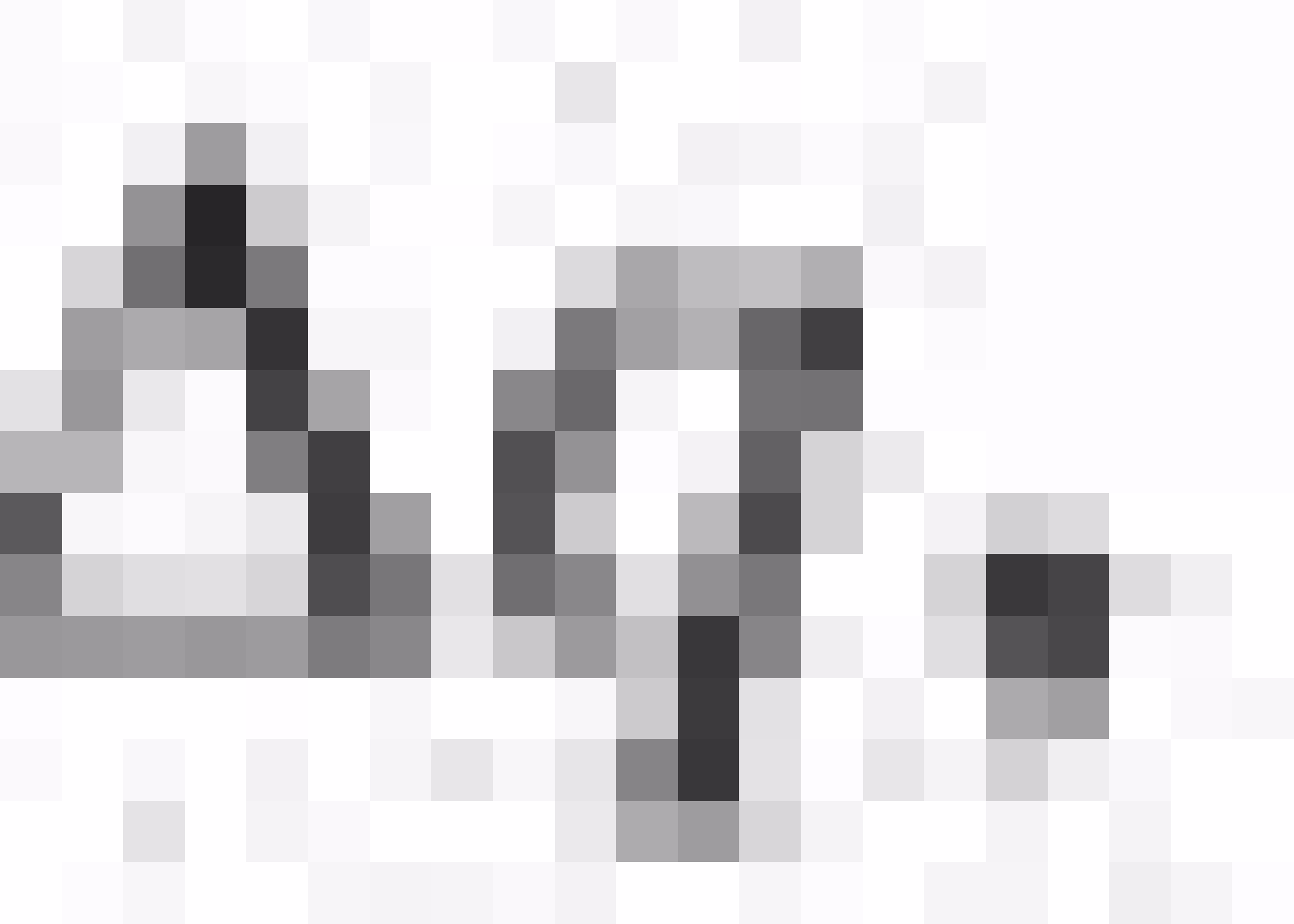
$$\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \frac{1}{R_4}$$

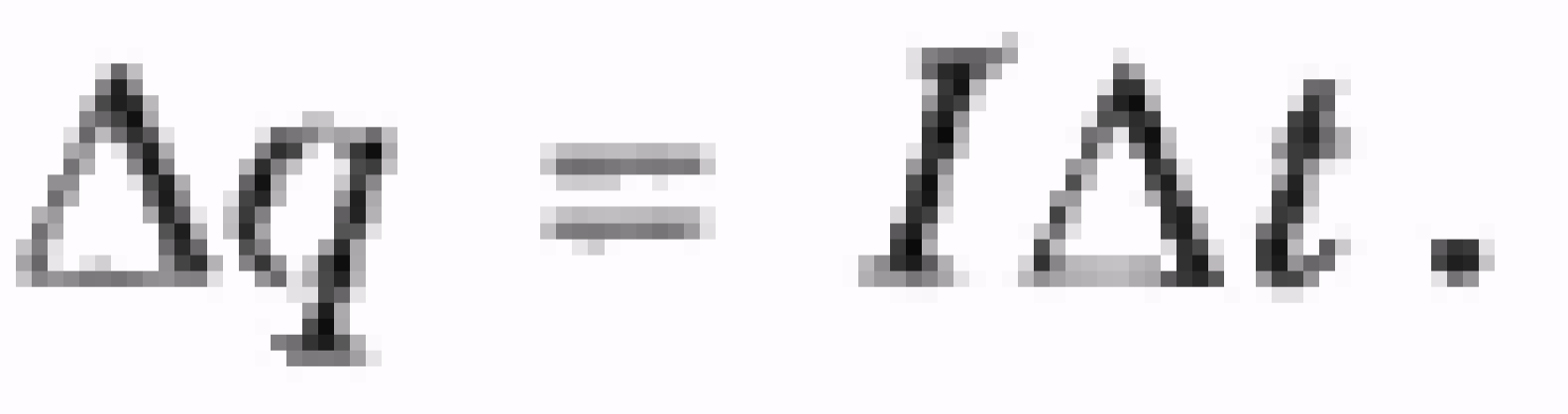
0370

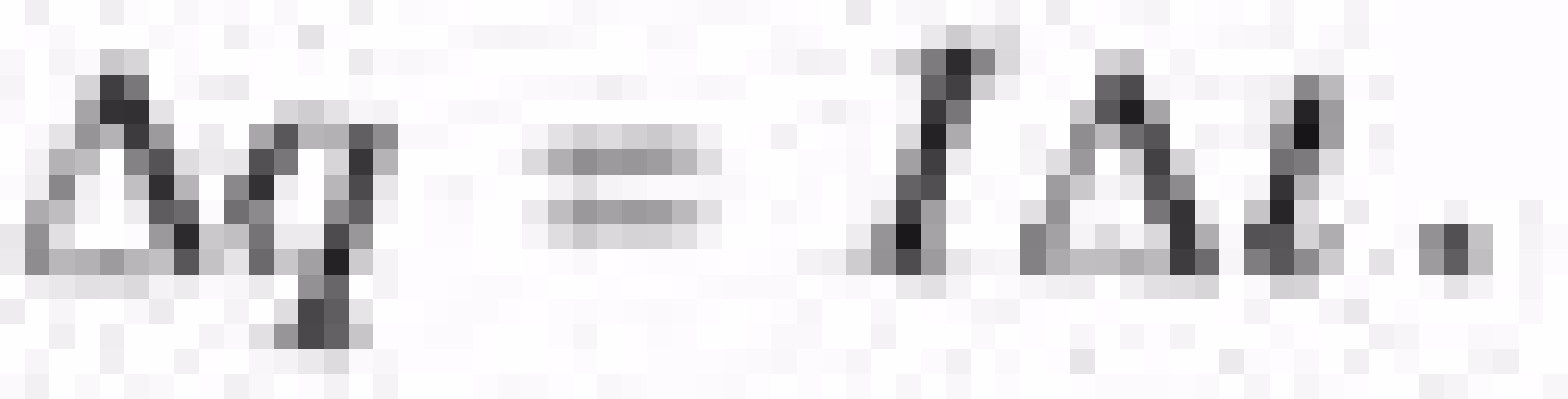












$$A = \Delta q U = I U \Delta t = \frac{U^2 \Delta t}{R} = I^2 R \Delta t \quad (37.7)$$

A

=

Q

=

I²

R₁R₂

Q₁Q₂

ALWAYS BE
SAFE

DRINK
WATER

$$P = \frac{A}{\Delta t} = I V = \frac{V^2}{R} = I^2 R \quad (37.9)$$

1. **Introduction**

The purpose of this report is to analyze the impact of the new policy on the company's performance. The data shows a significant increase in revenue and a decrease in costs, leading to a higher profit margin.

2. **Methodology**

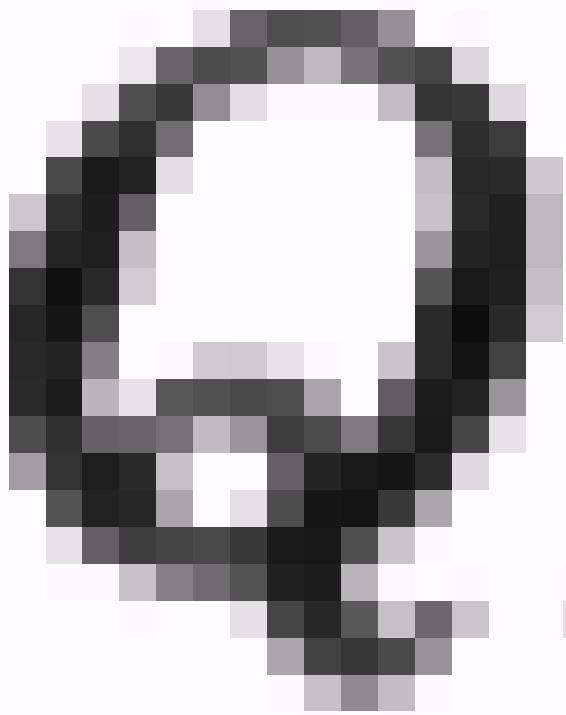
The data was collected from the company's financial statements and analyzed using statistical methods. The results are presented in the following sections.

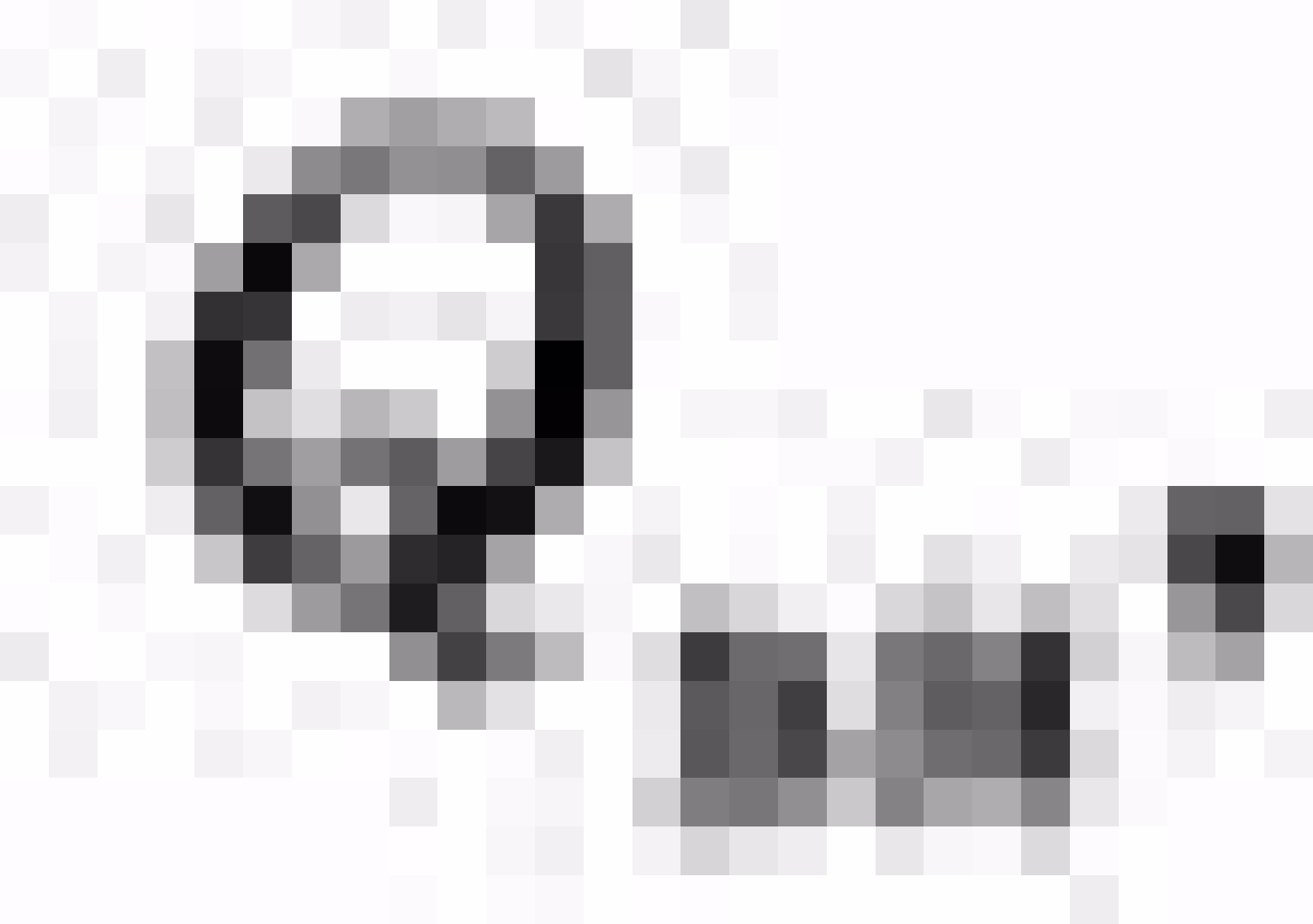
3. **Results**

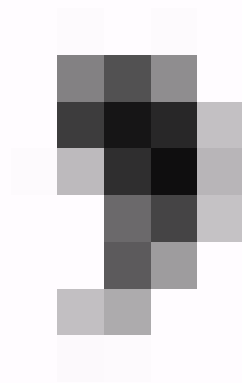
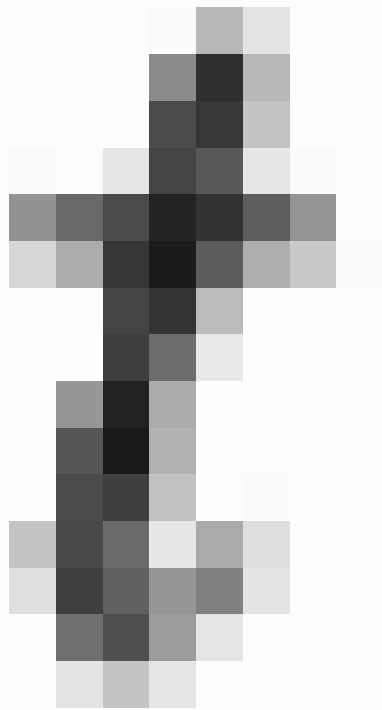
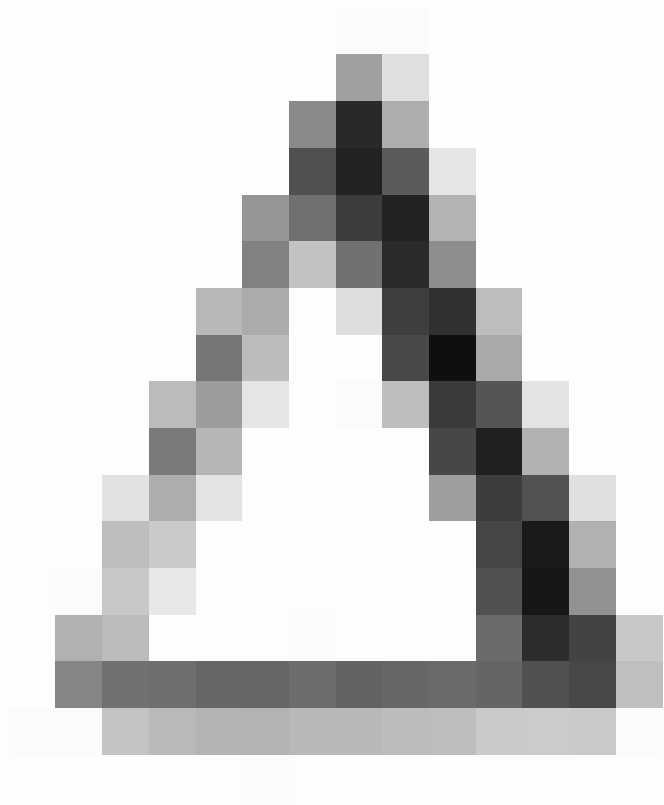
The results show that the new policy has had a positive impact on the company's performance. The revenue has increased by 15% and the costs have decreased by 10%, resulting in a 25% increase in profit.

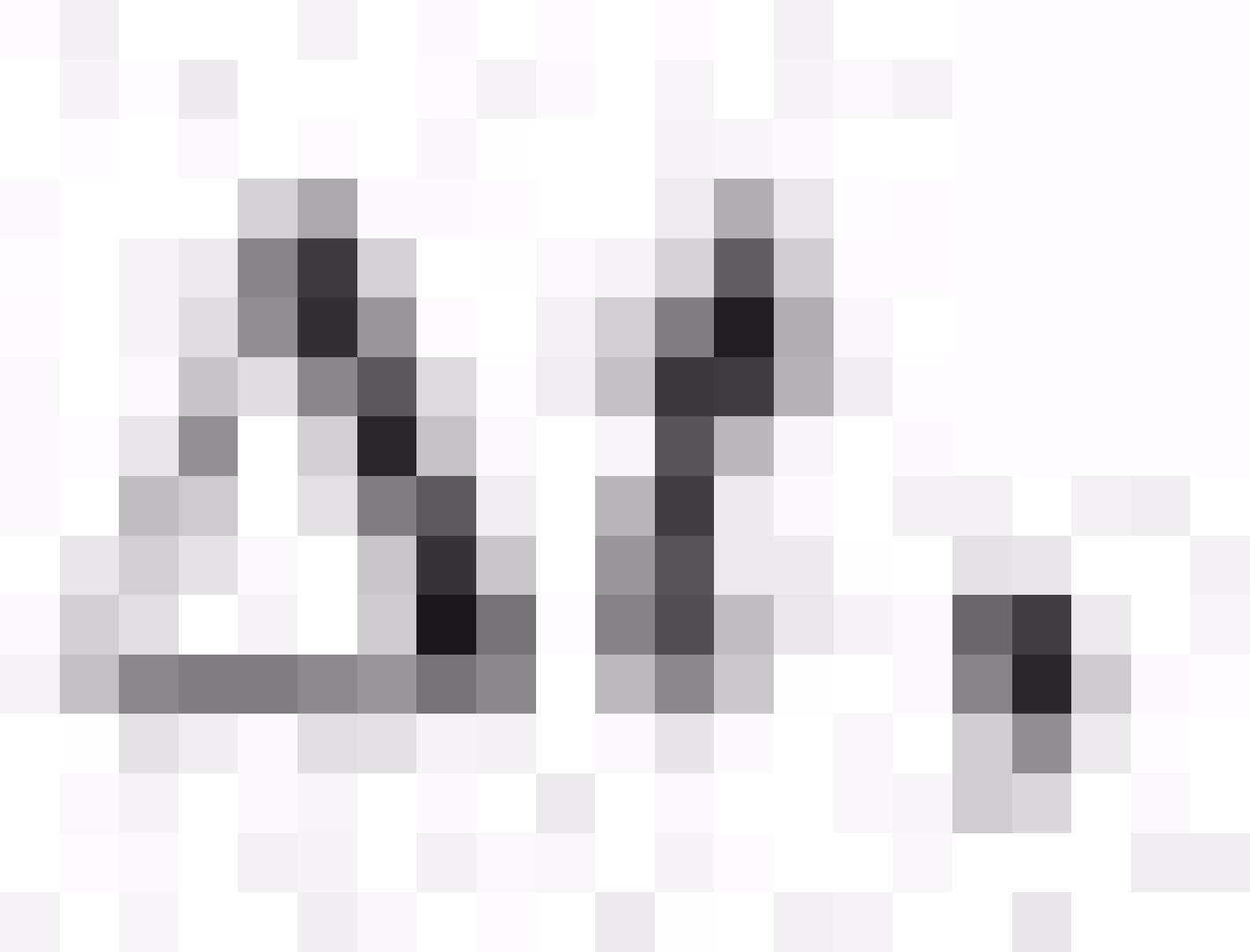
4. **Conclusion**

The new policy has been successful in improving the company's performance. It is recommended that the company continue to implement similar policies in the future.





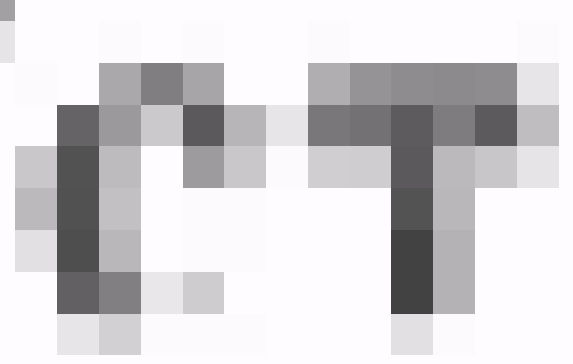
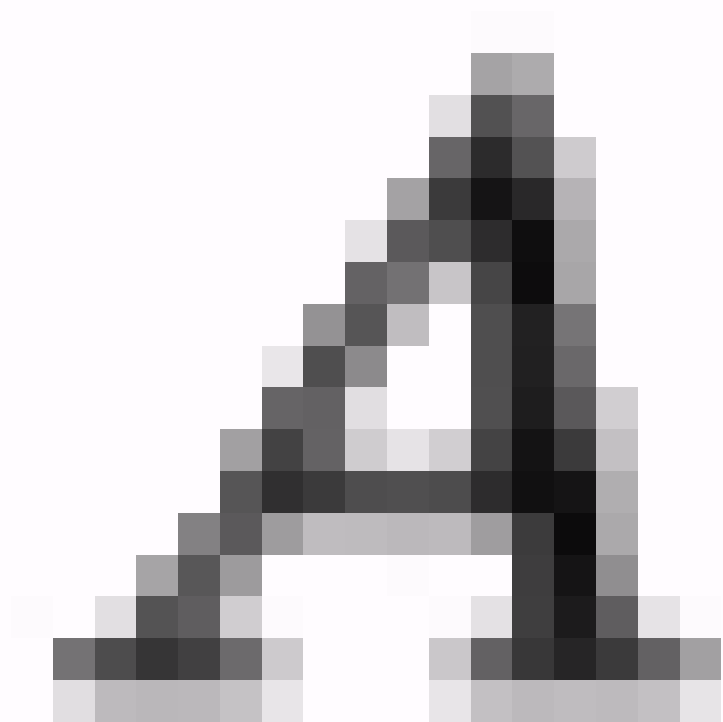


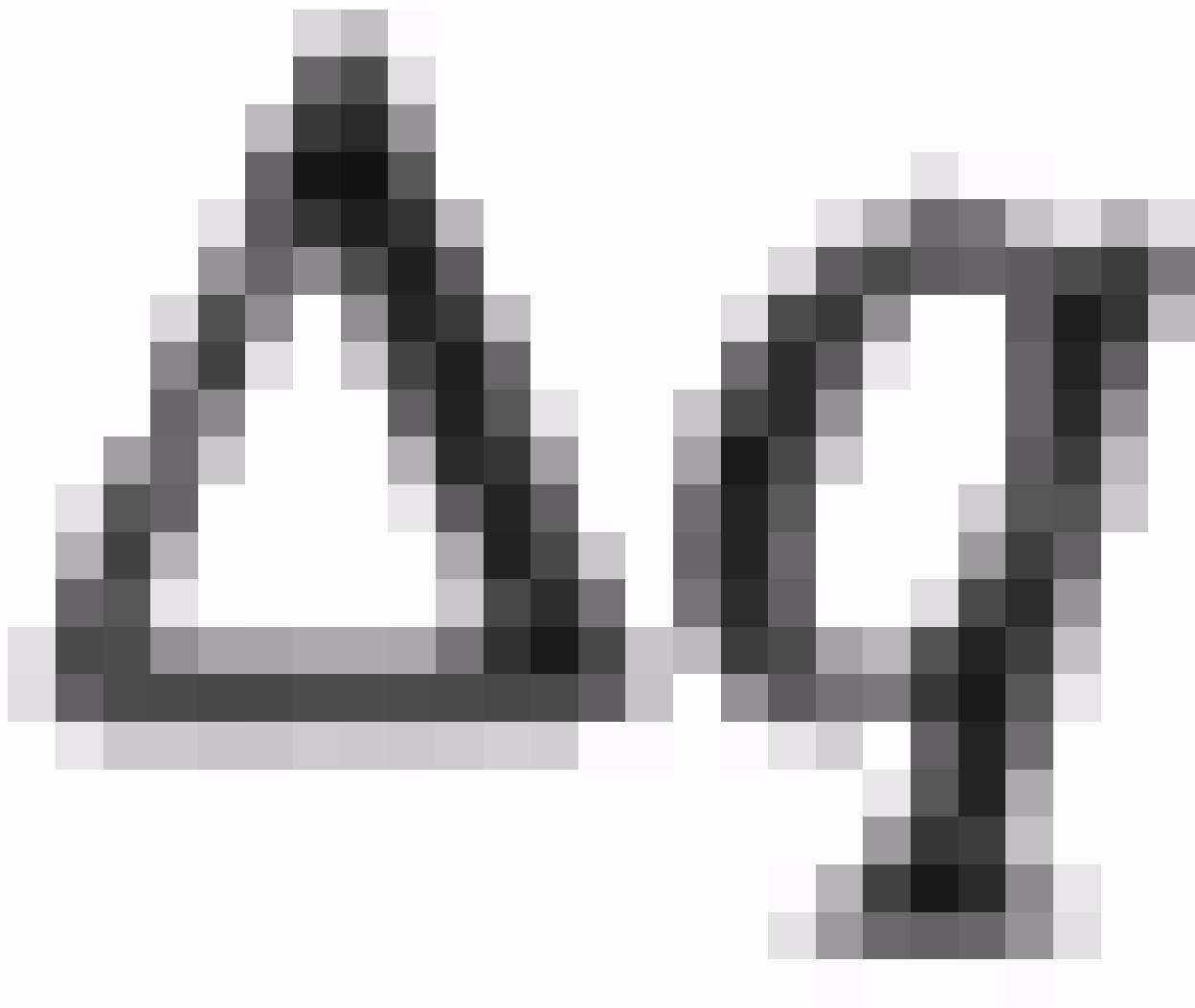


Q. A.

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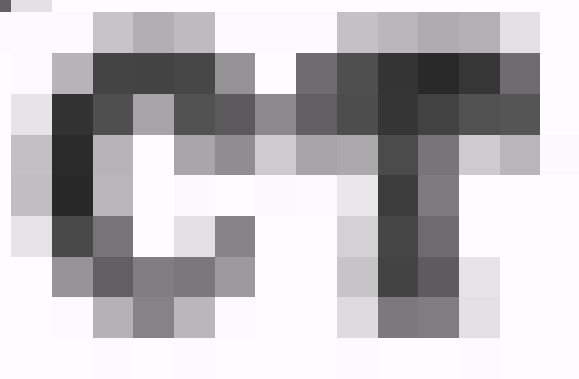
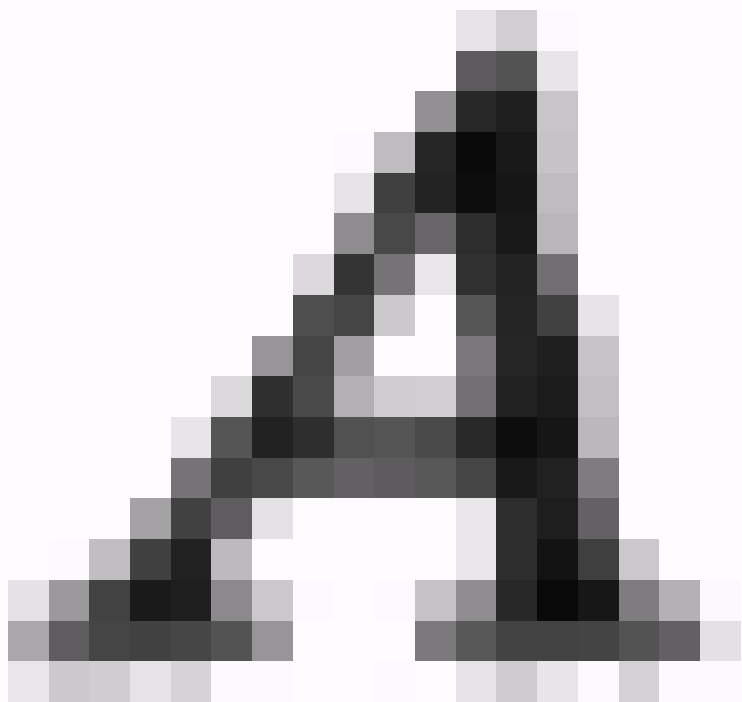
(37.10)

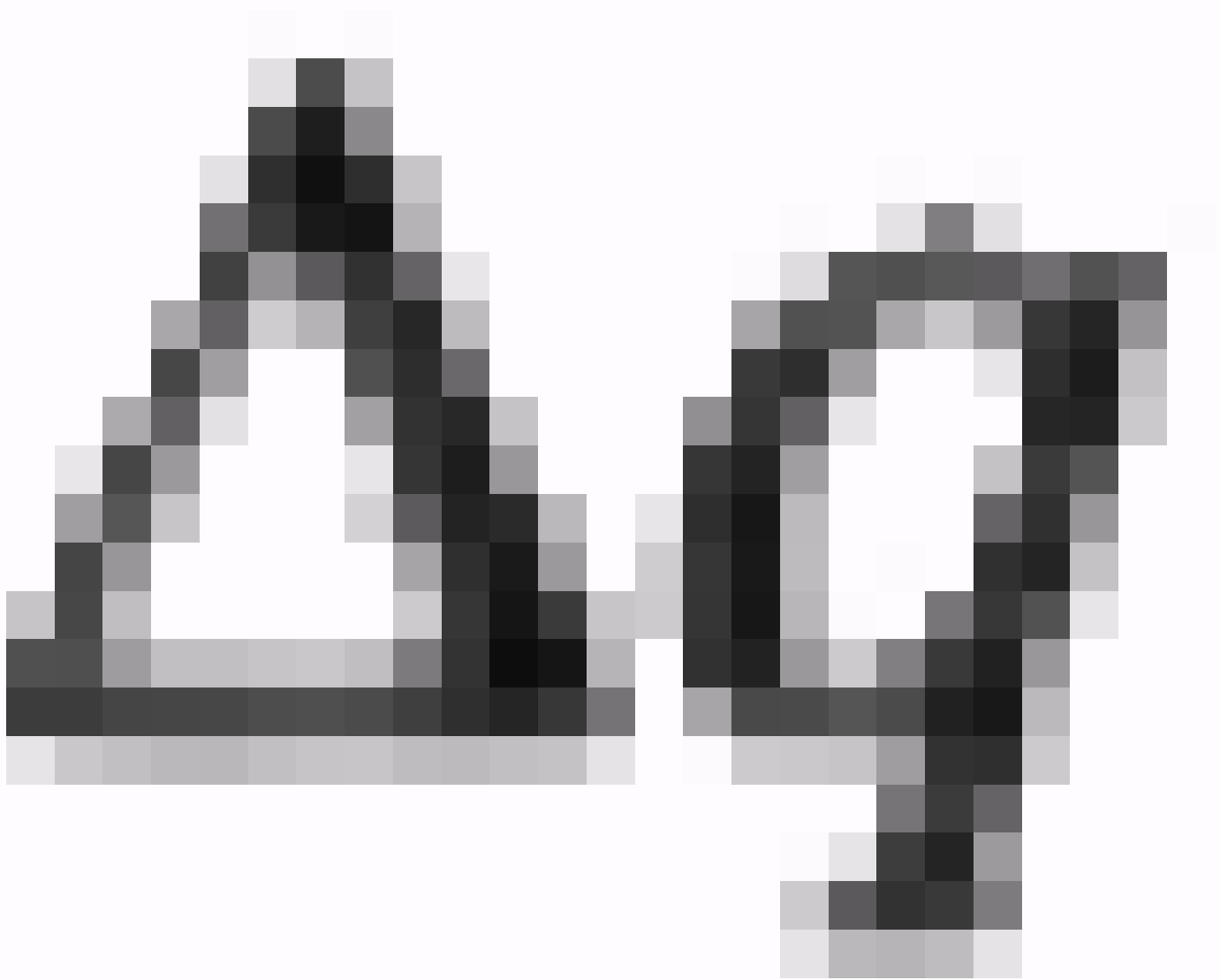




$$E = \frac{A_{\text{CT}}}{A_{\text{M}}}$$

(37.11)



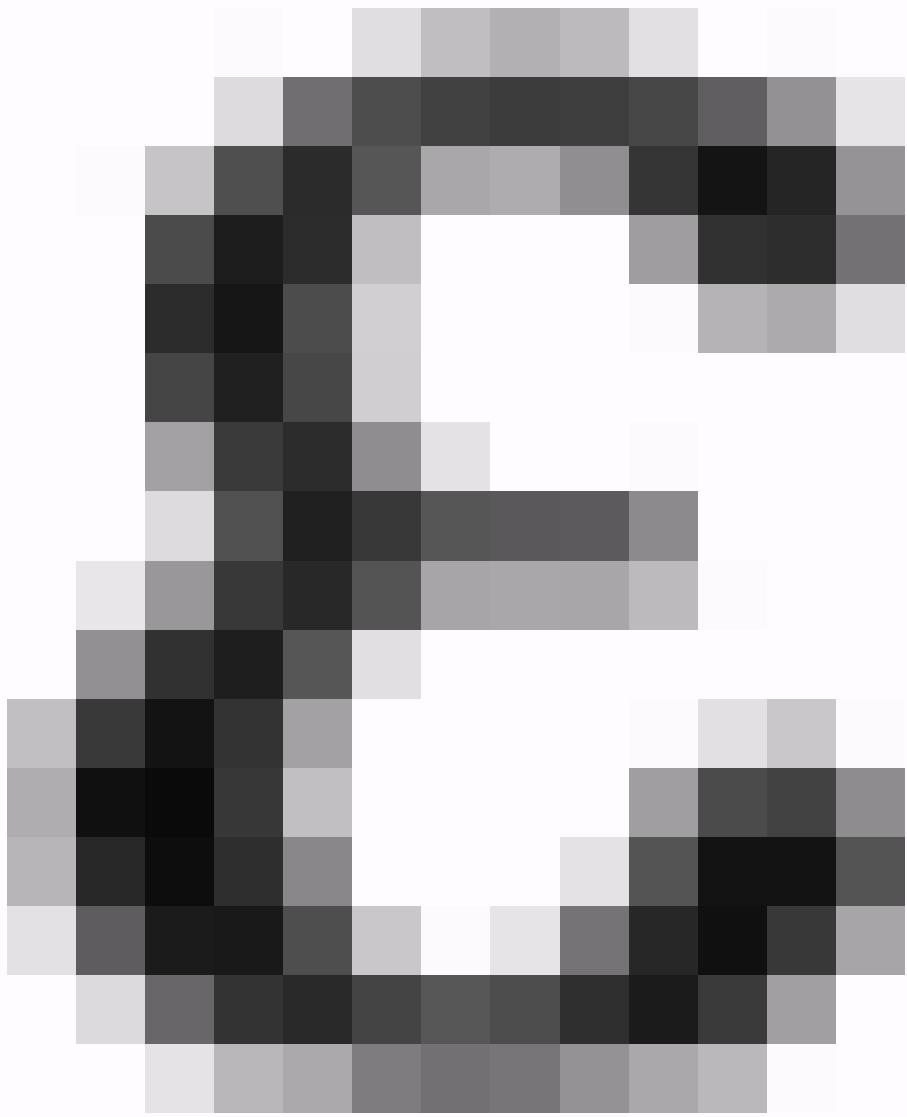


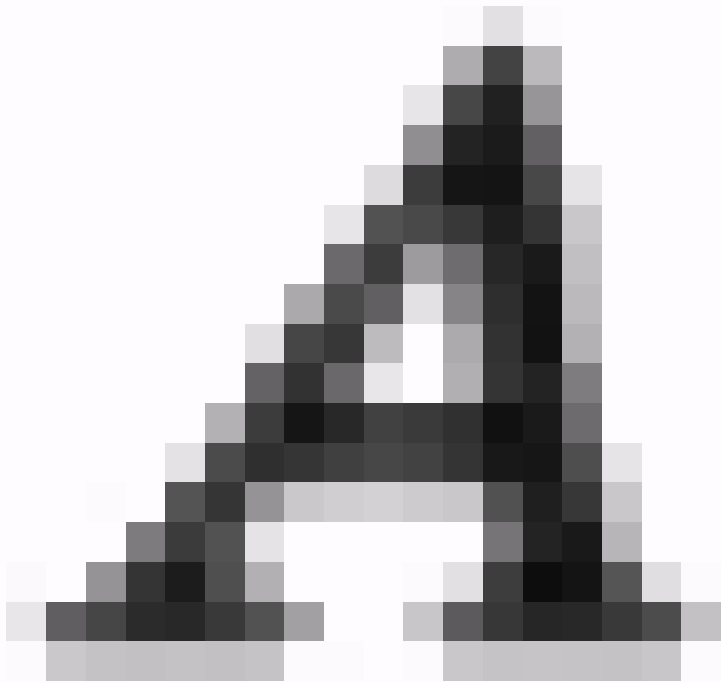
1997

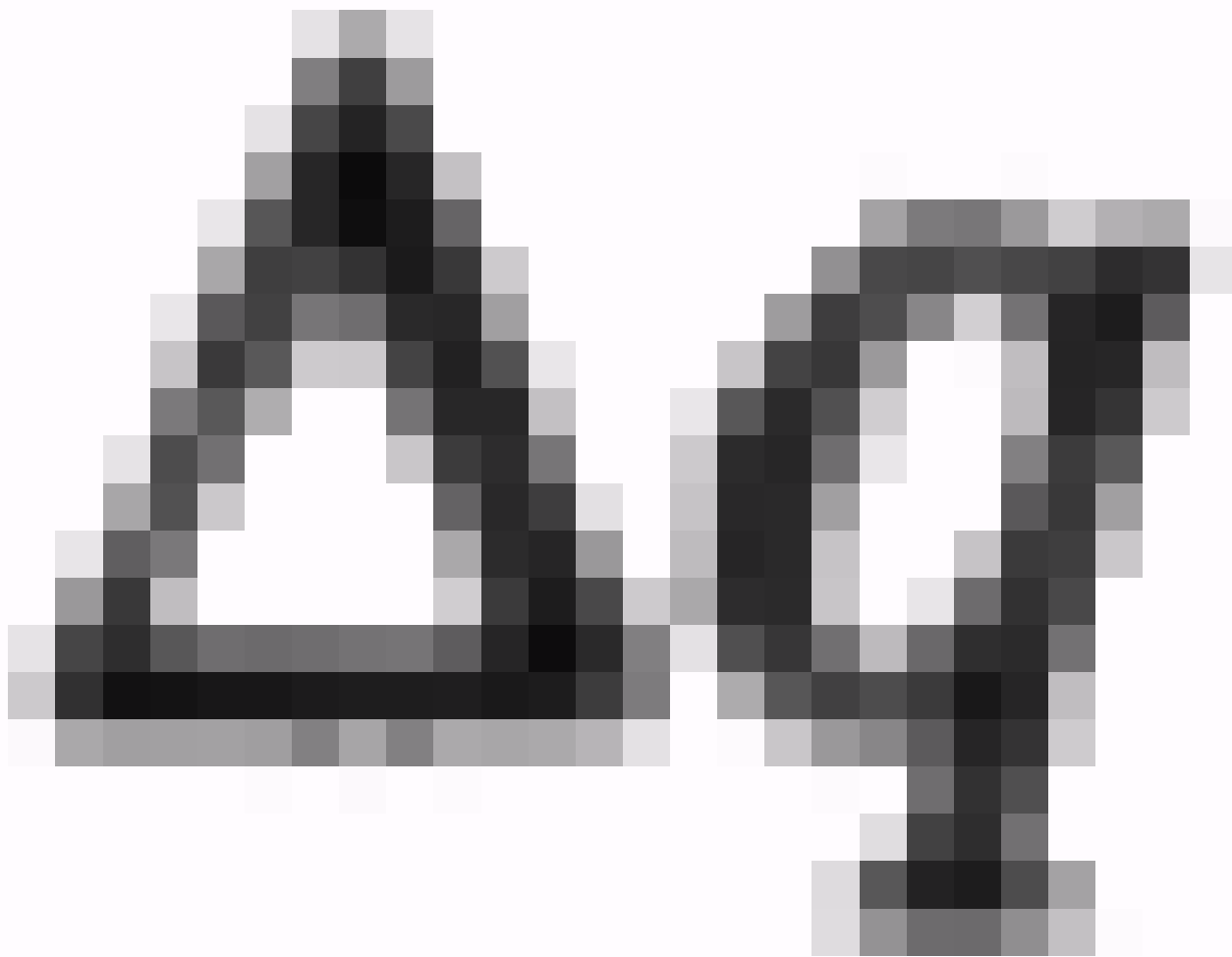
April

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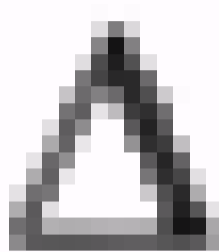
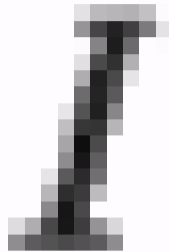
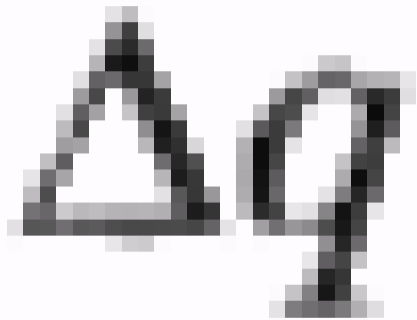


$$A_{CT} = A_{BH} + A_{JORN}$$

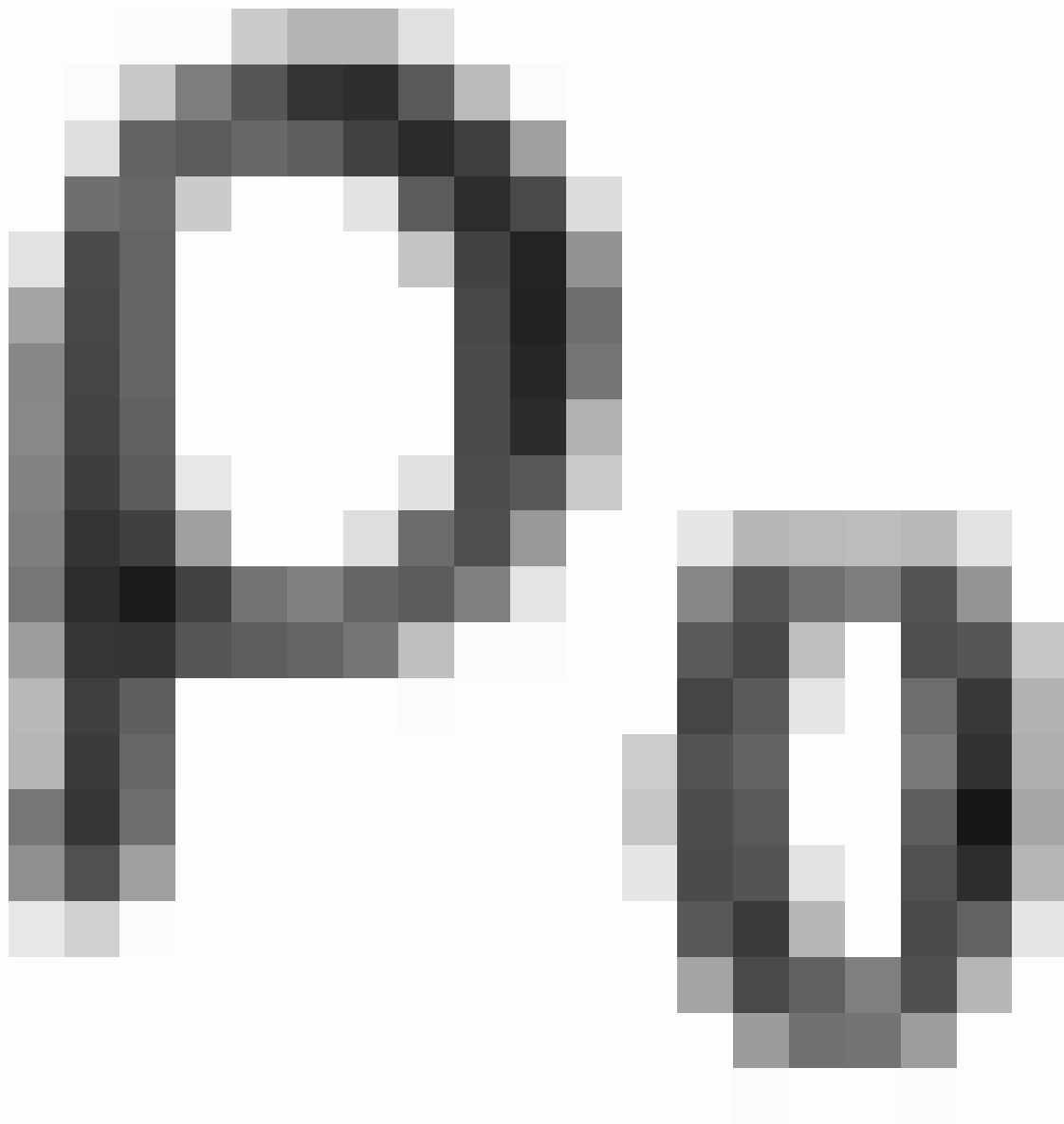
$$E \Delta Q = I^2 r \Delta t + I^2 R \Delta t \quad (27.13)$$

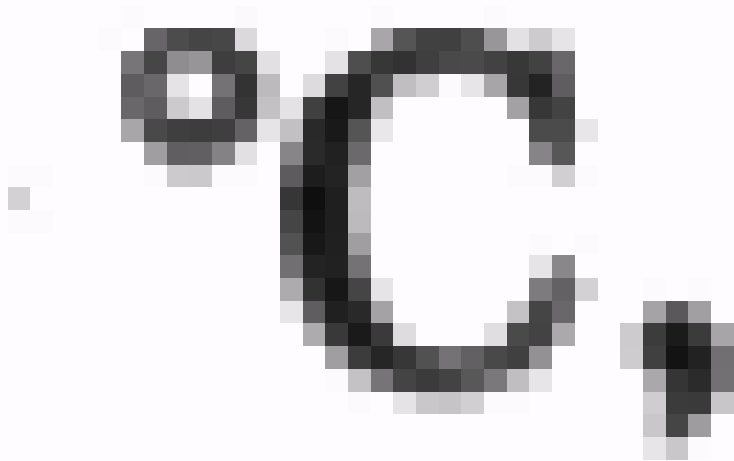
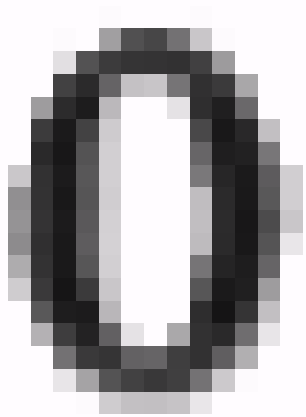
ERPR + PR (37.14)

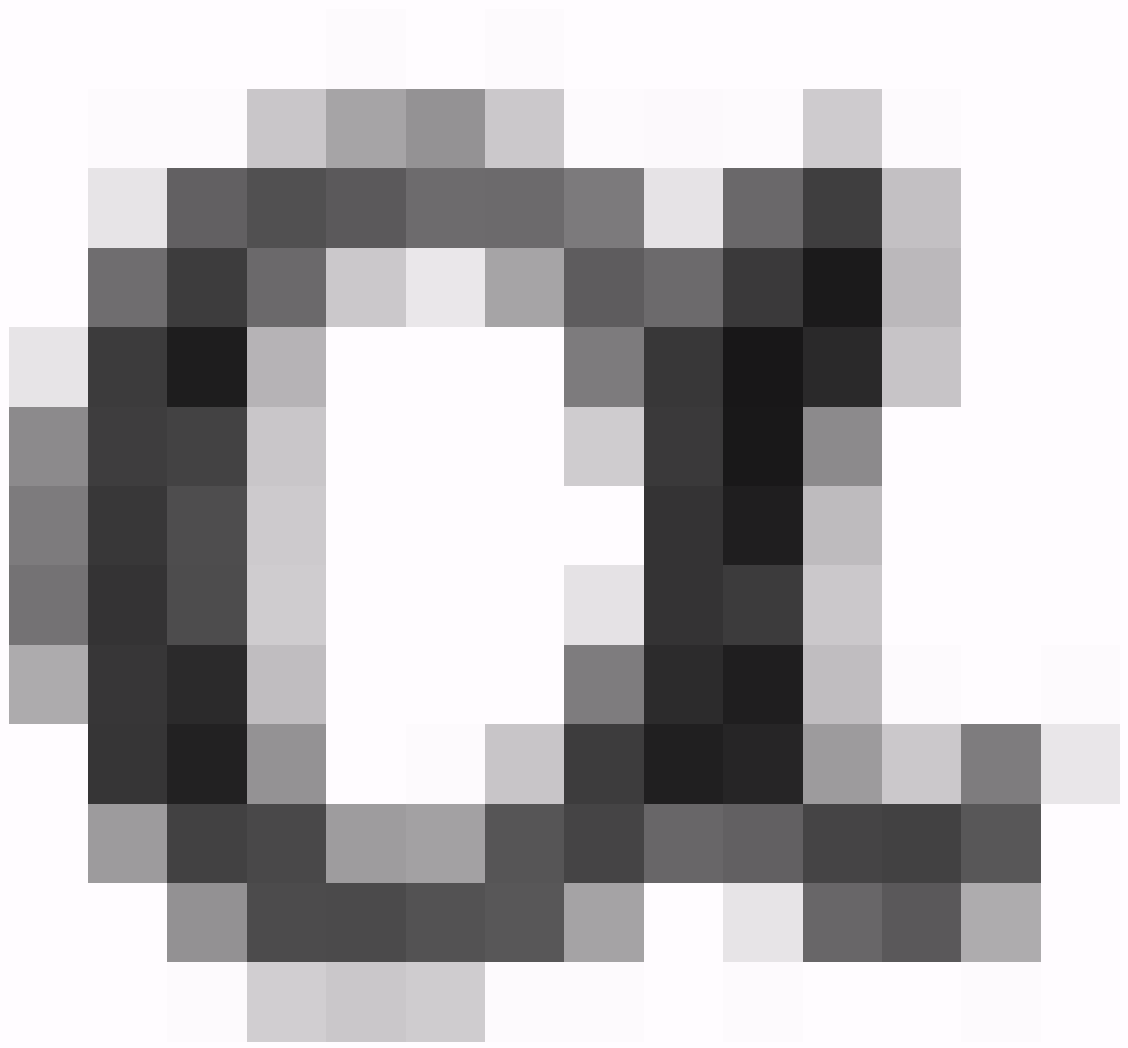
$$i \cdot I = \frac{\varepsilon}{R + r} \quad (37.15)$$

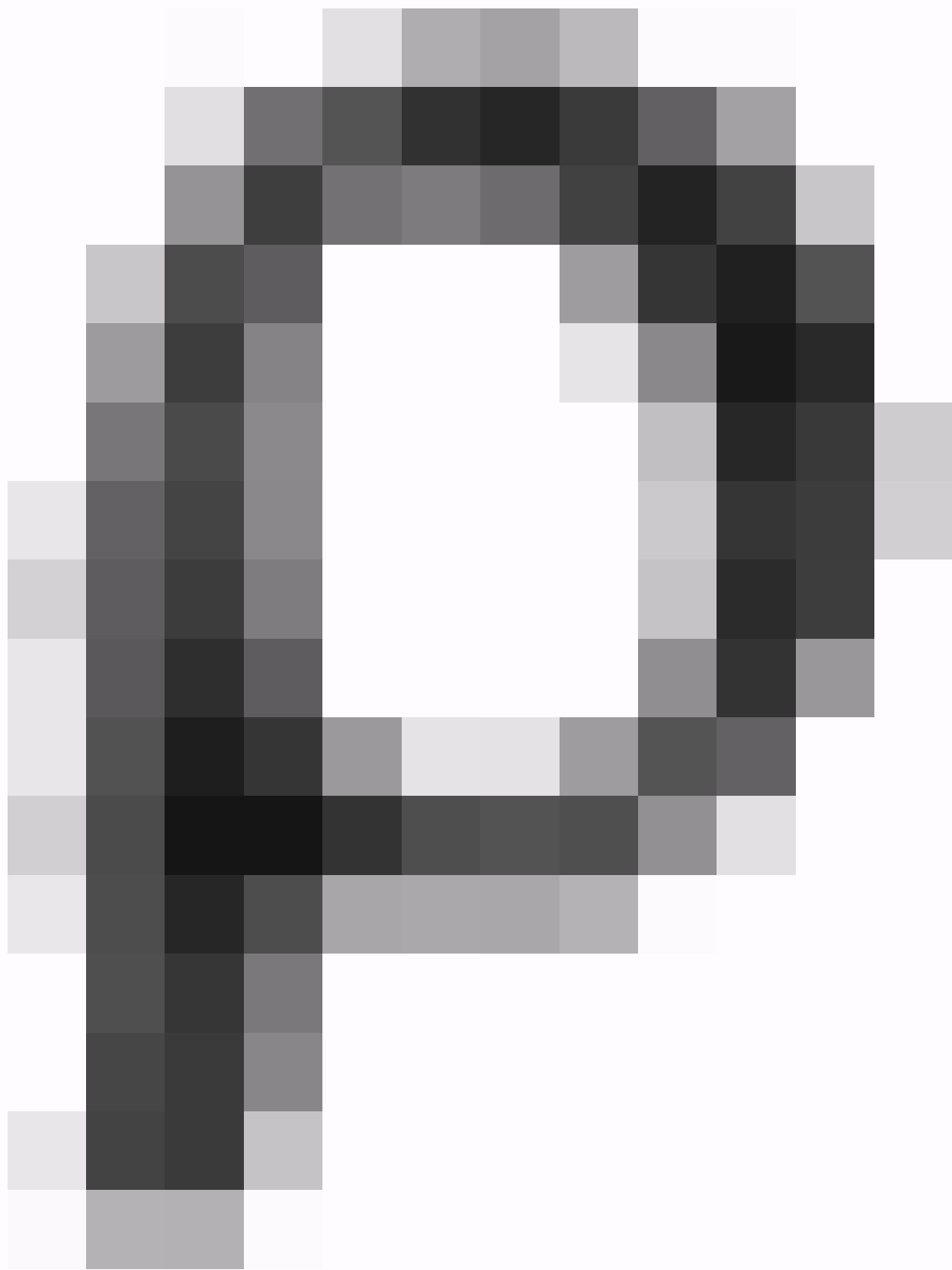


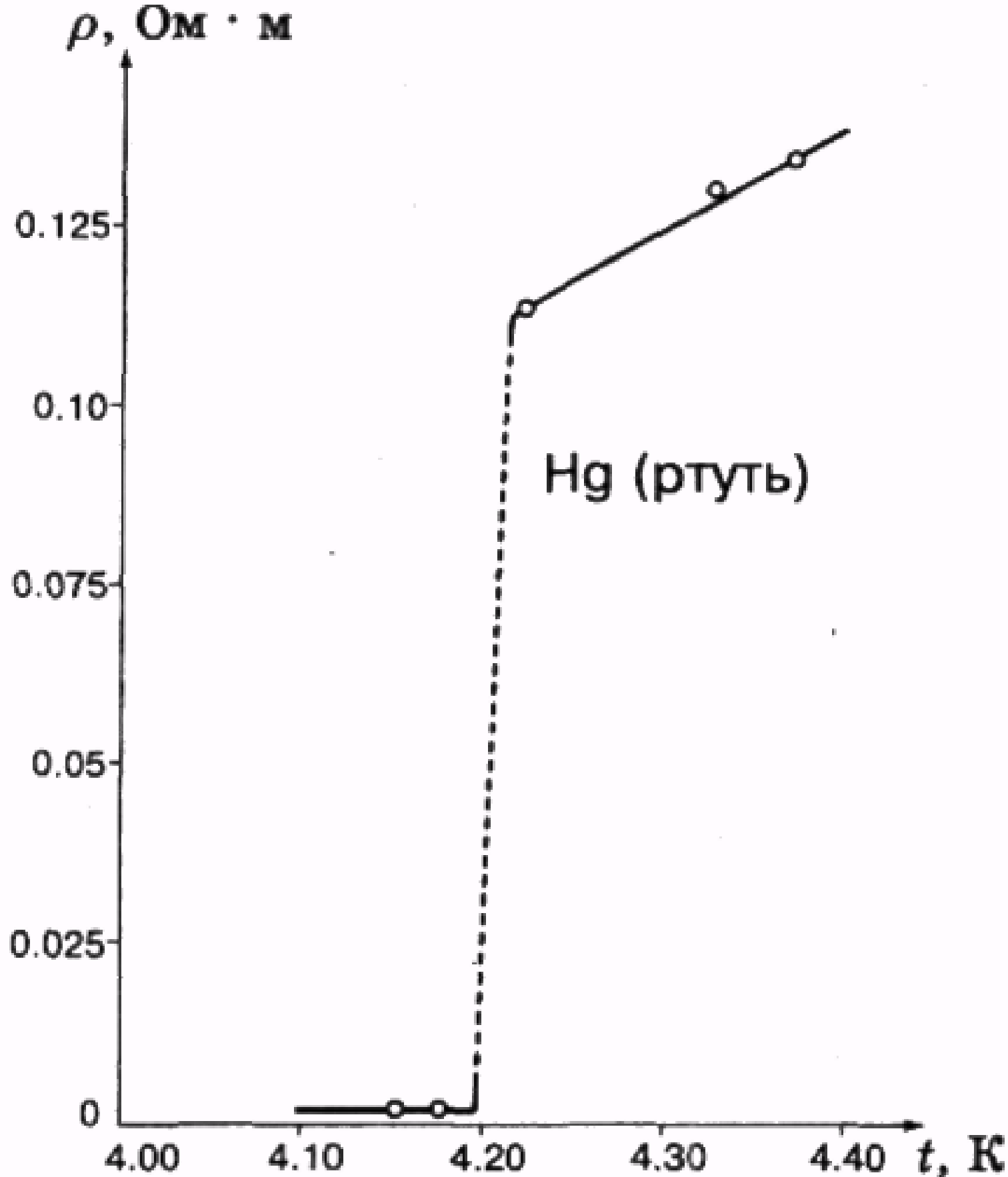
$$p = p_0(1 + \alpha \Delta T)$$





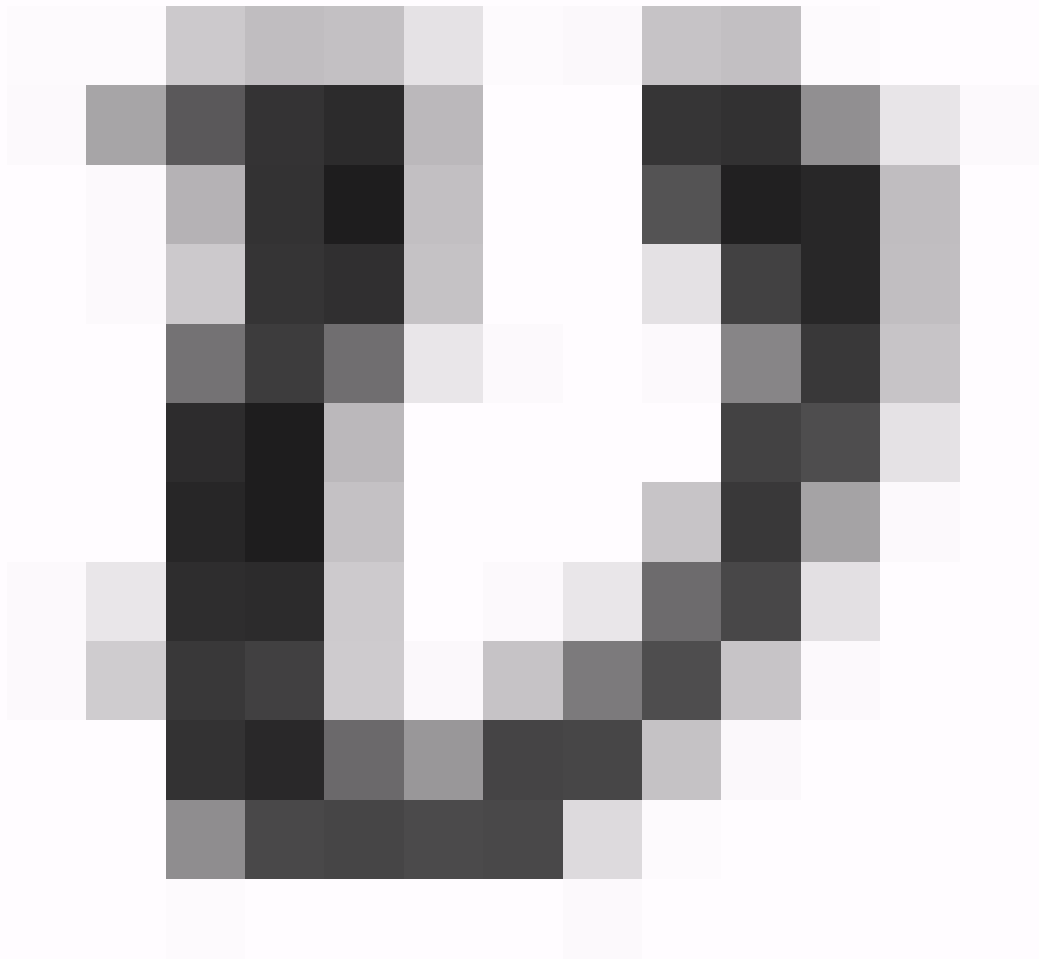


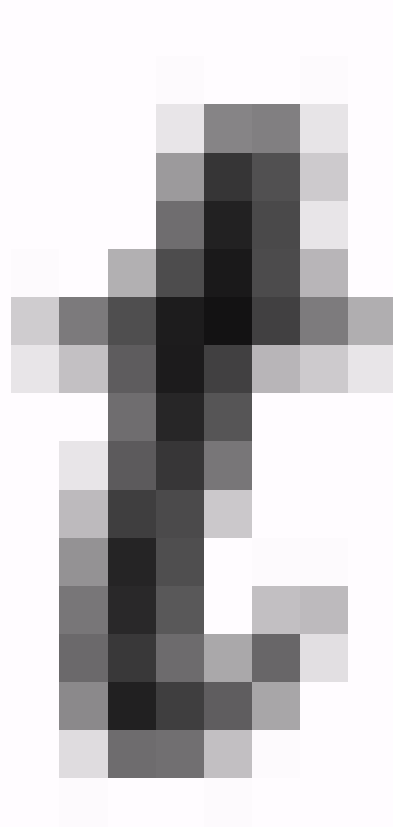
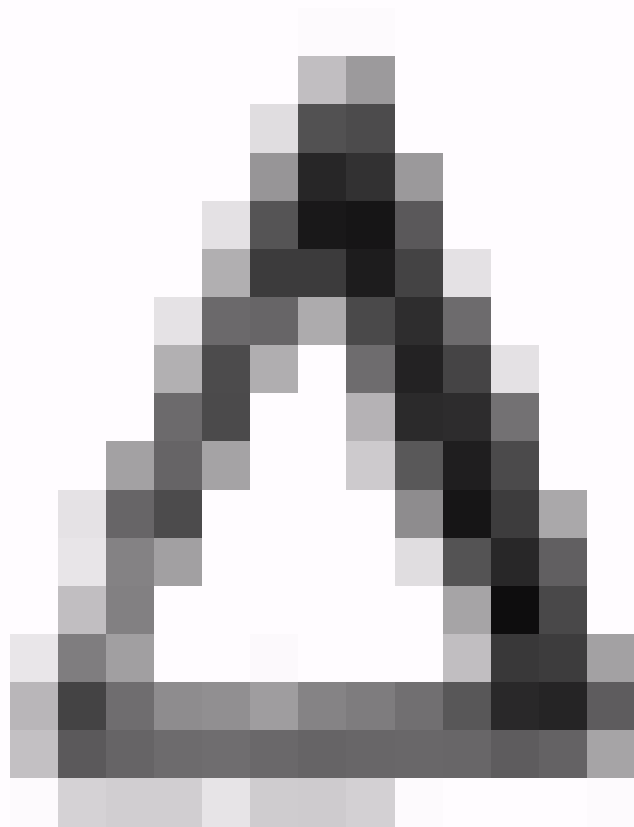


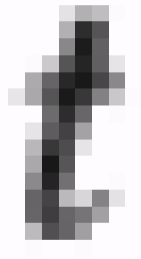
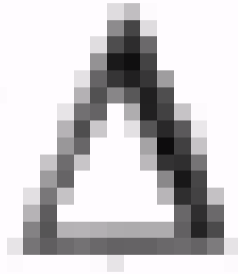
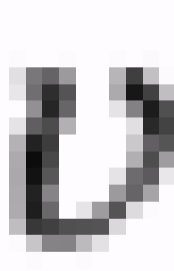
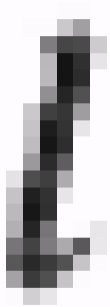


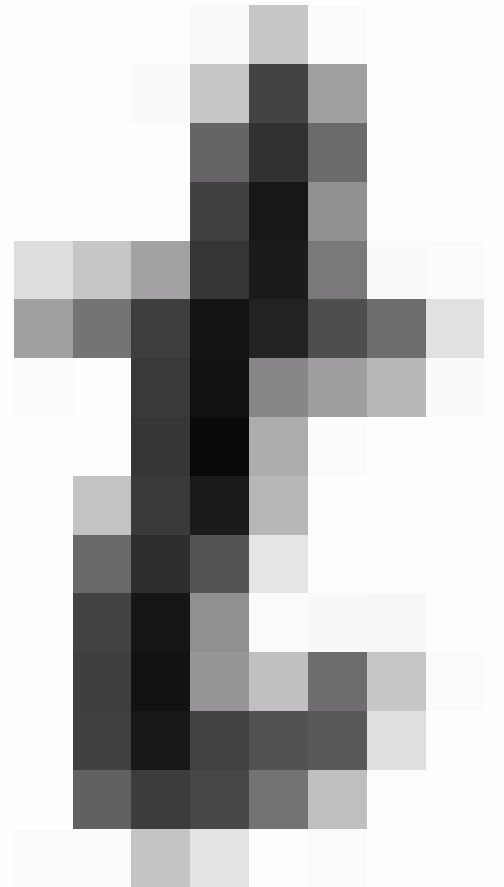
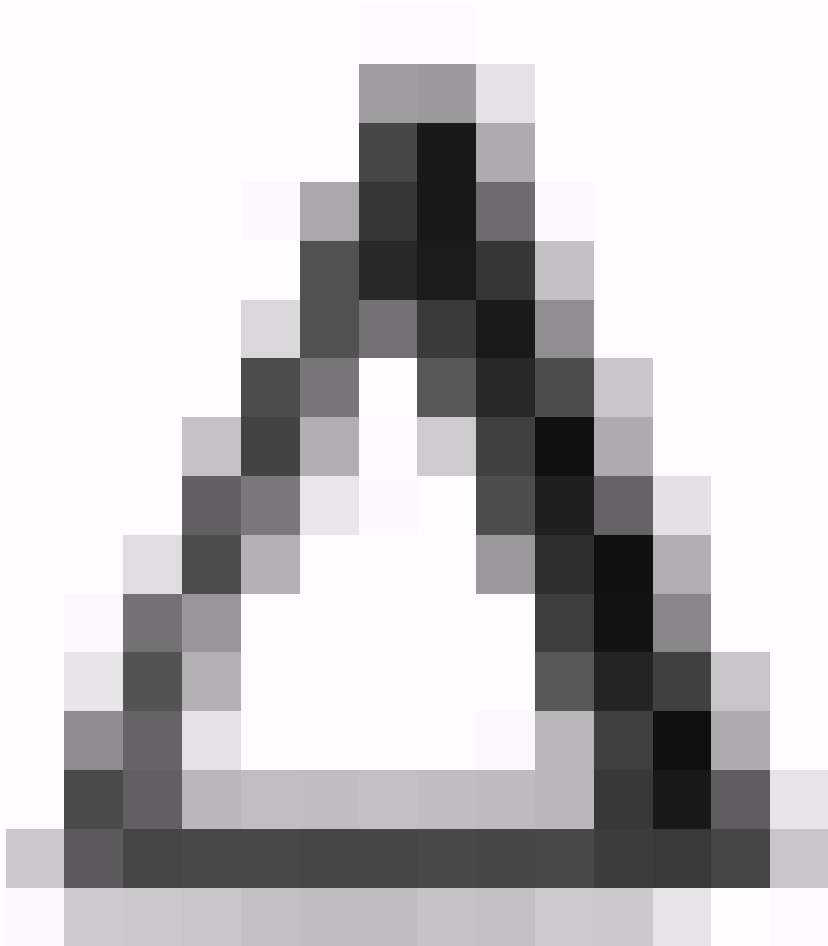
Мал. 2.121

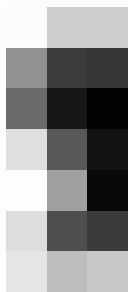
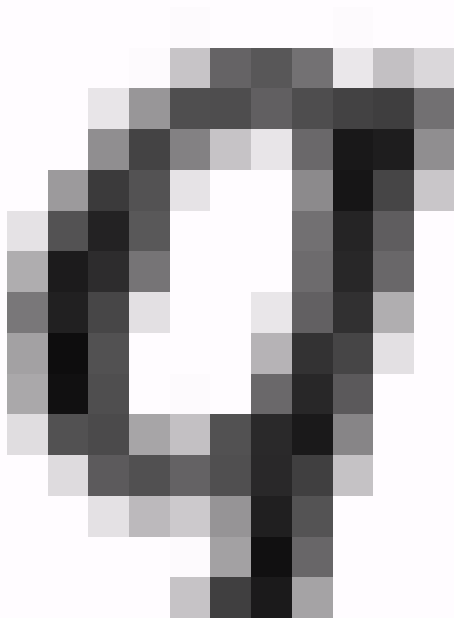
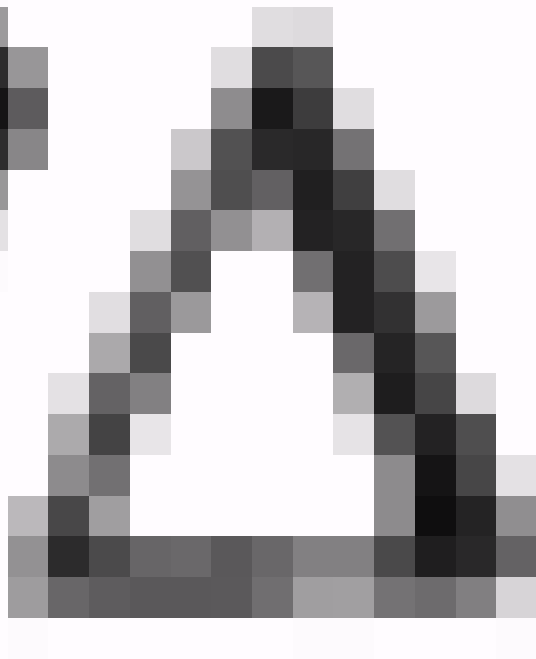
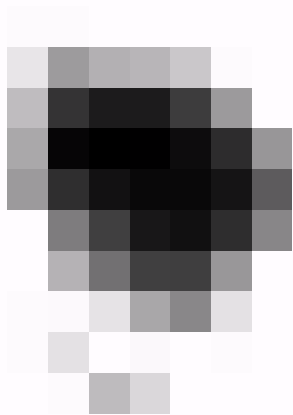
1970-1971





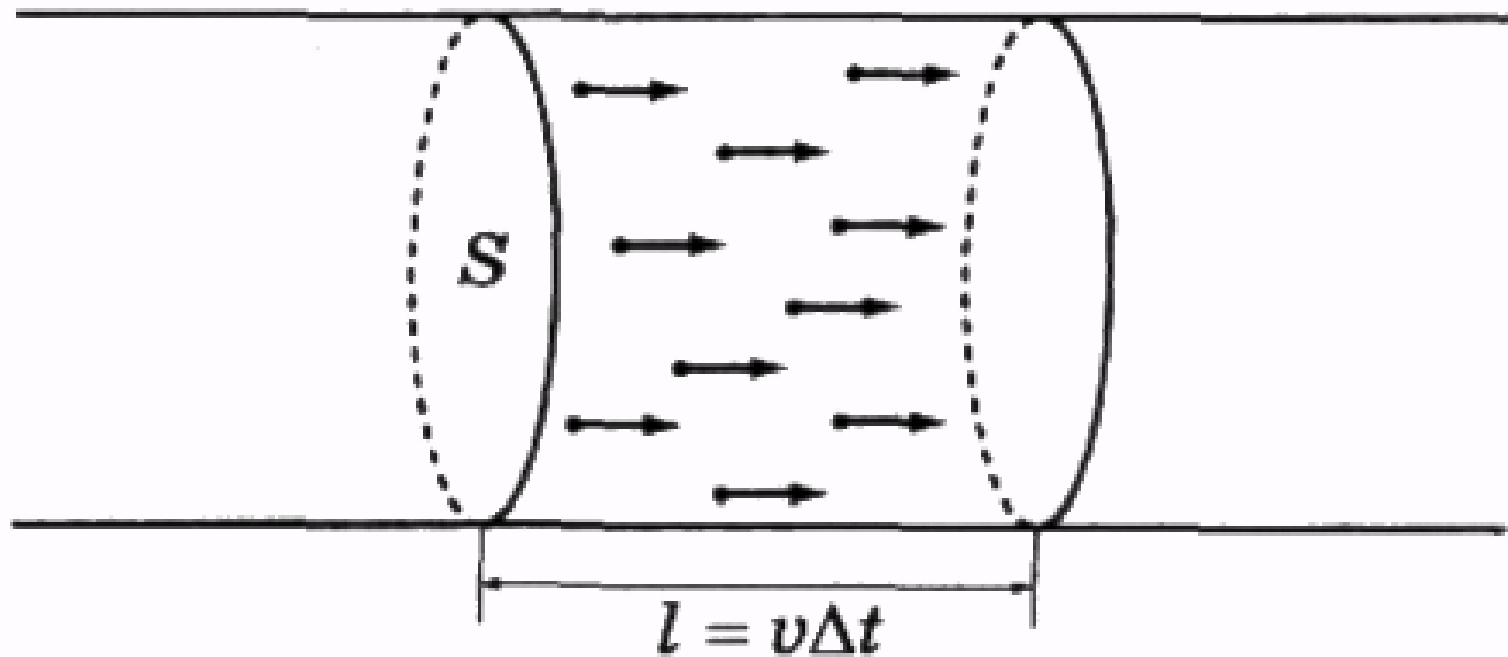






$\Delta Q = eV = e\mathcal{E}L$ (33.2)

$$I = \frac{\Delta Q}{\Delta t} = \text{emf} \quad (28.3)$$



Мал. 2.122

$$v = \frac{I}{e n S}$$

(38.4)

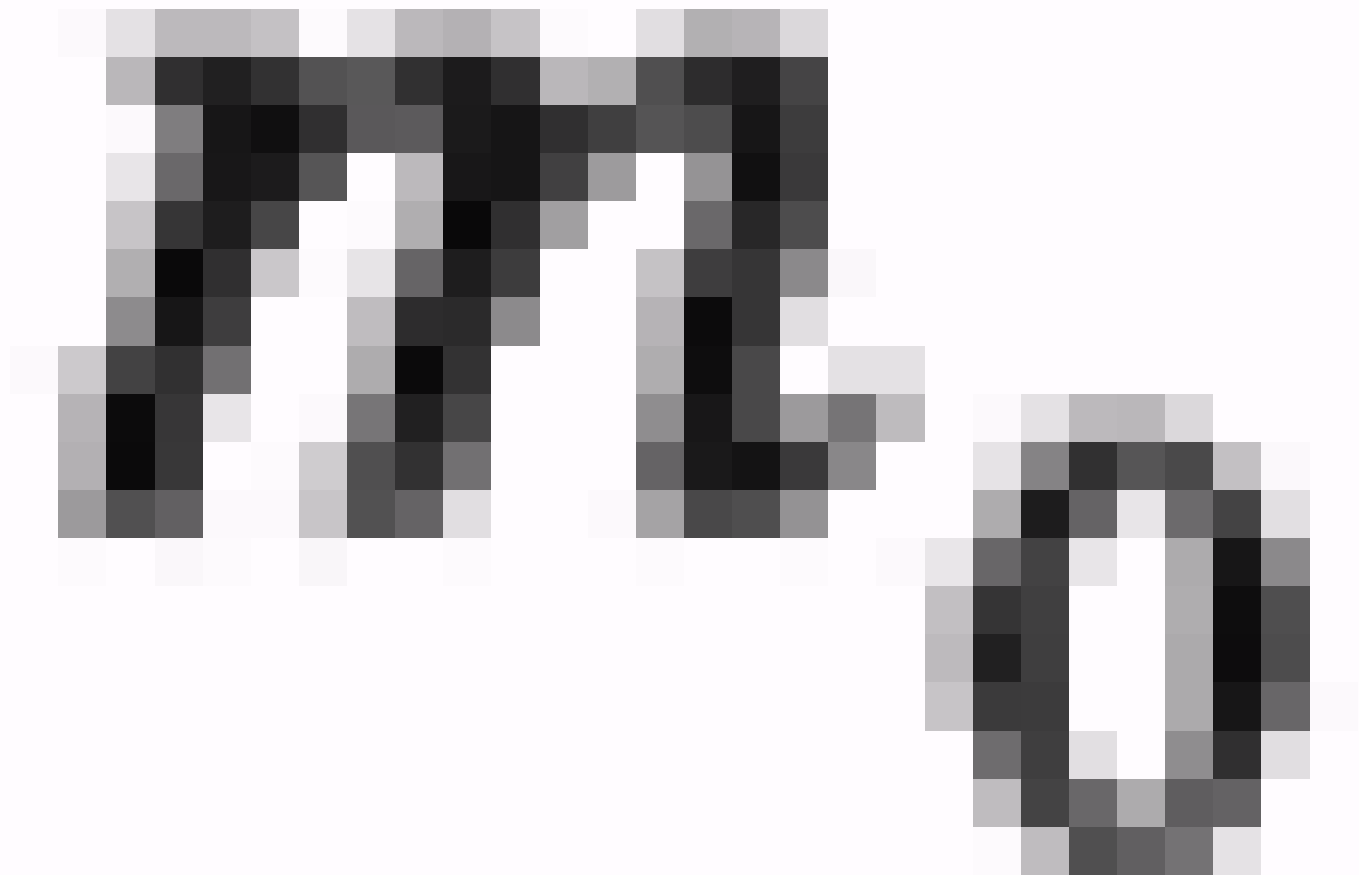
1

2

3

4

5



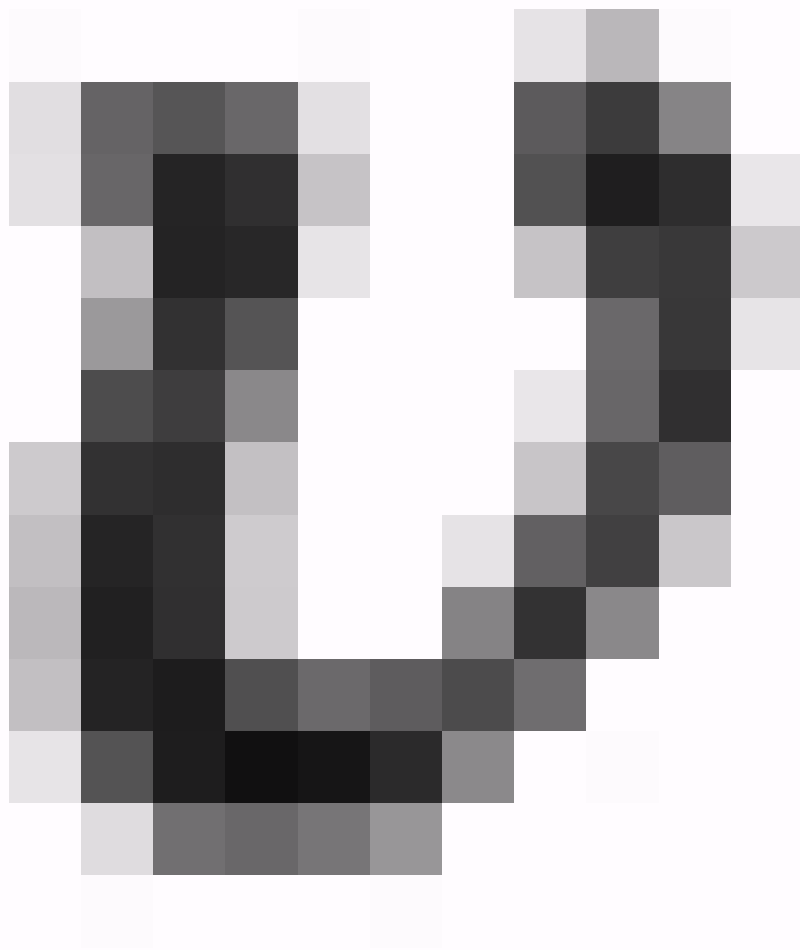
$$n = \frac{m}{V m_0} = \frac{\rho}{m_0} = \frac{2,7 \cdot 10^3 \text{ кг} / \text{м}^3}{4,5 \cdot 10^{-26} \text{ кг}} \approx 6 \cdot 10^{28} \text{ м}^{-3}$$

$$n = 6 \cdot 10^{28} \text{ м}^{-3}$$

$$e = 1,6 \cdot 10^{-19} \text{ Кл},$$

$$I = 1 \text{ А}, S = 10^{-6} \text{ м}^2$$

і значення



$$n = \frac{1A}{1,6 \cdot 10^{-19} \text{ Кл} \cdot 6 \cdot 10^{23} \text{ М}^{-3} \cdot 10^{-6} \text{ М}^2} \approx 10^{-4} \text{ м/с}$$

1011-1012

11 aB
11
101010
110101
110101
110101
110101

7

EB

2

1

1

+

2

.

1

0

-

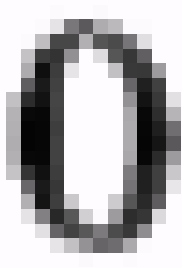
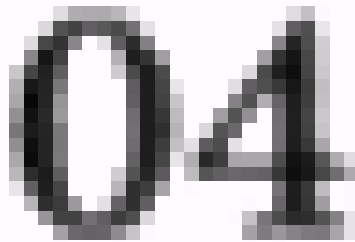
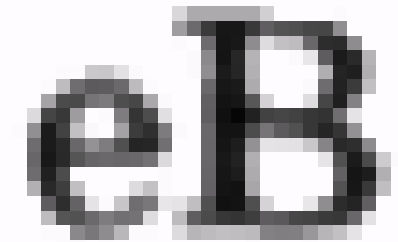
1

0

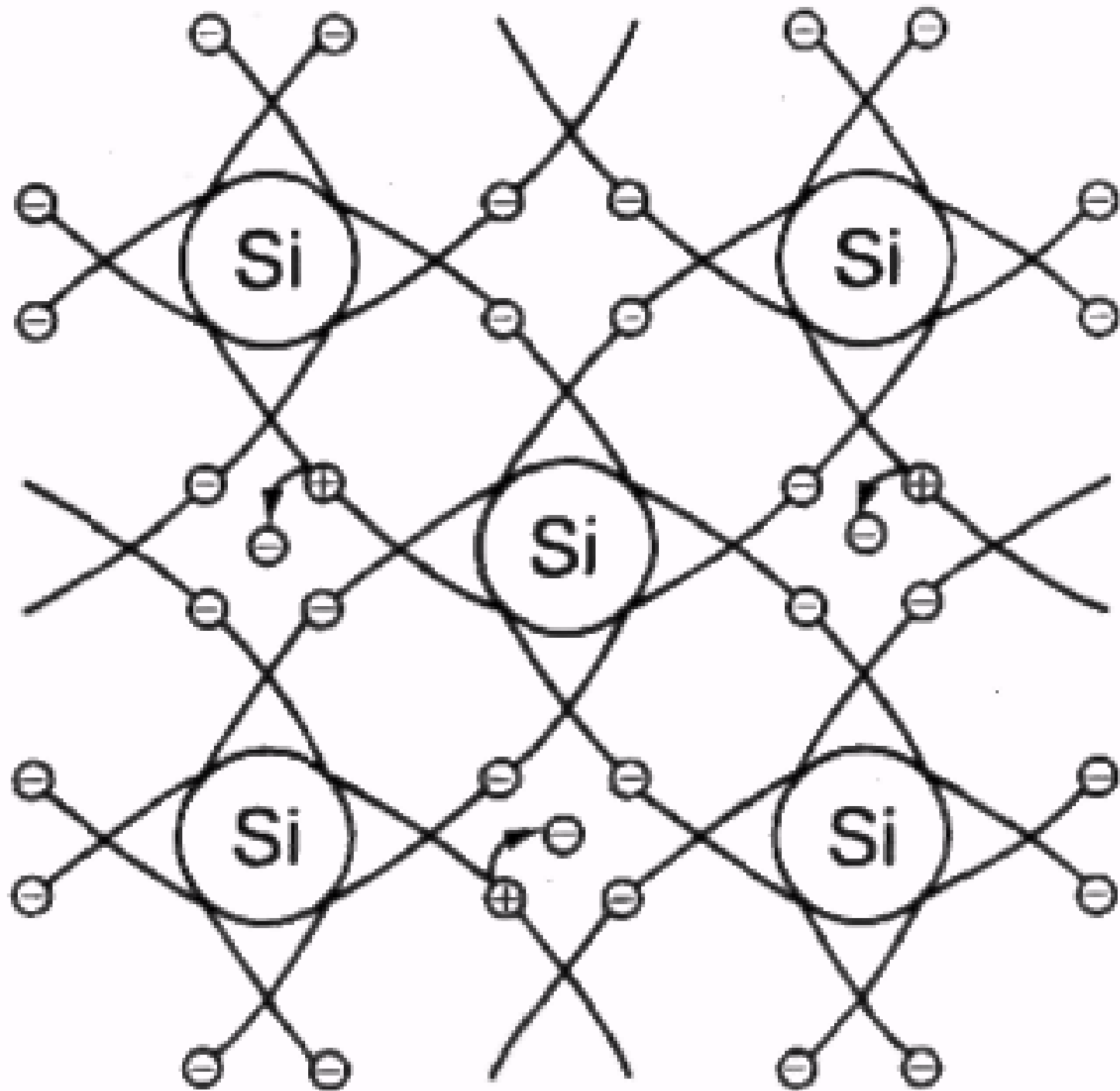
1

1

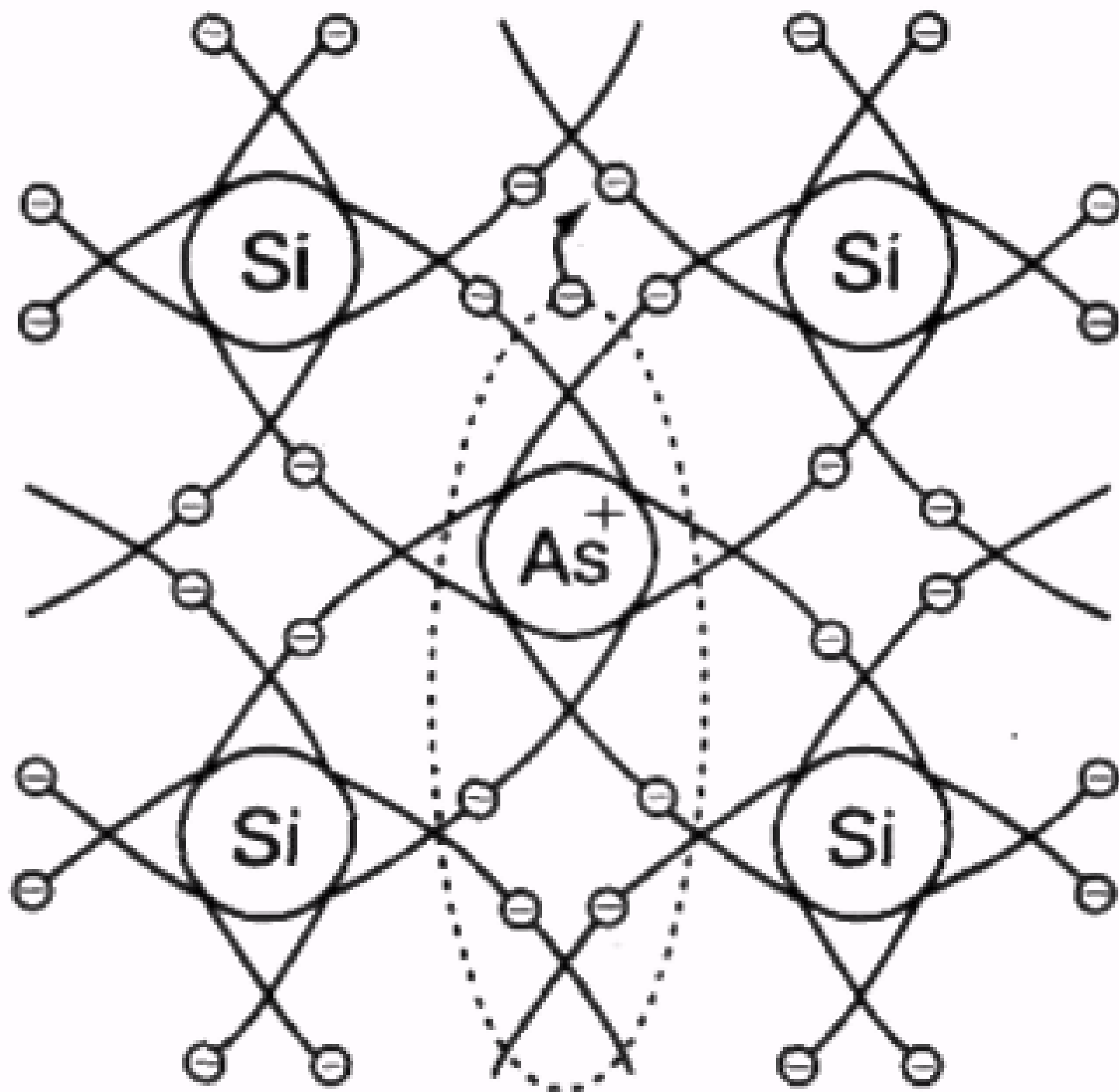
.

A pixelated, grayscale representation of the digit '0'. The digit is formed by a thick, dark gray outline with a white center. The edges are slightly blurred, giving it a soft, hand-drawn appearance.A pixelated, grayscale representation of the digit '1'. It is a simple vertical stroke with a small horizontal bar at the top, rendered in a dark gray color with a white background.A pixelated, grayscale representation of the digit '2'. The digit is formed by a thick, dark gray outline with a white center. The edges are slightly blurred, giving it a soft, hand-drawn appearance.A pixelated, grayscale representation of the digit '3'. The digit is formed by a thick, dark gray outline with a white center. The edges are slightly blurred, giving it a soft, hand-drawn appearance.A pixelated, grayscale representation of the digit '4'. The digit is formed by a thick, dark gray outline with a white center. The edges are slightly blurred, giving it a soft, hand-drawn appearance.

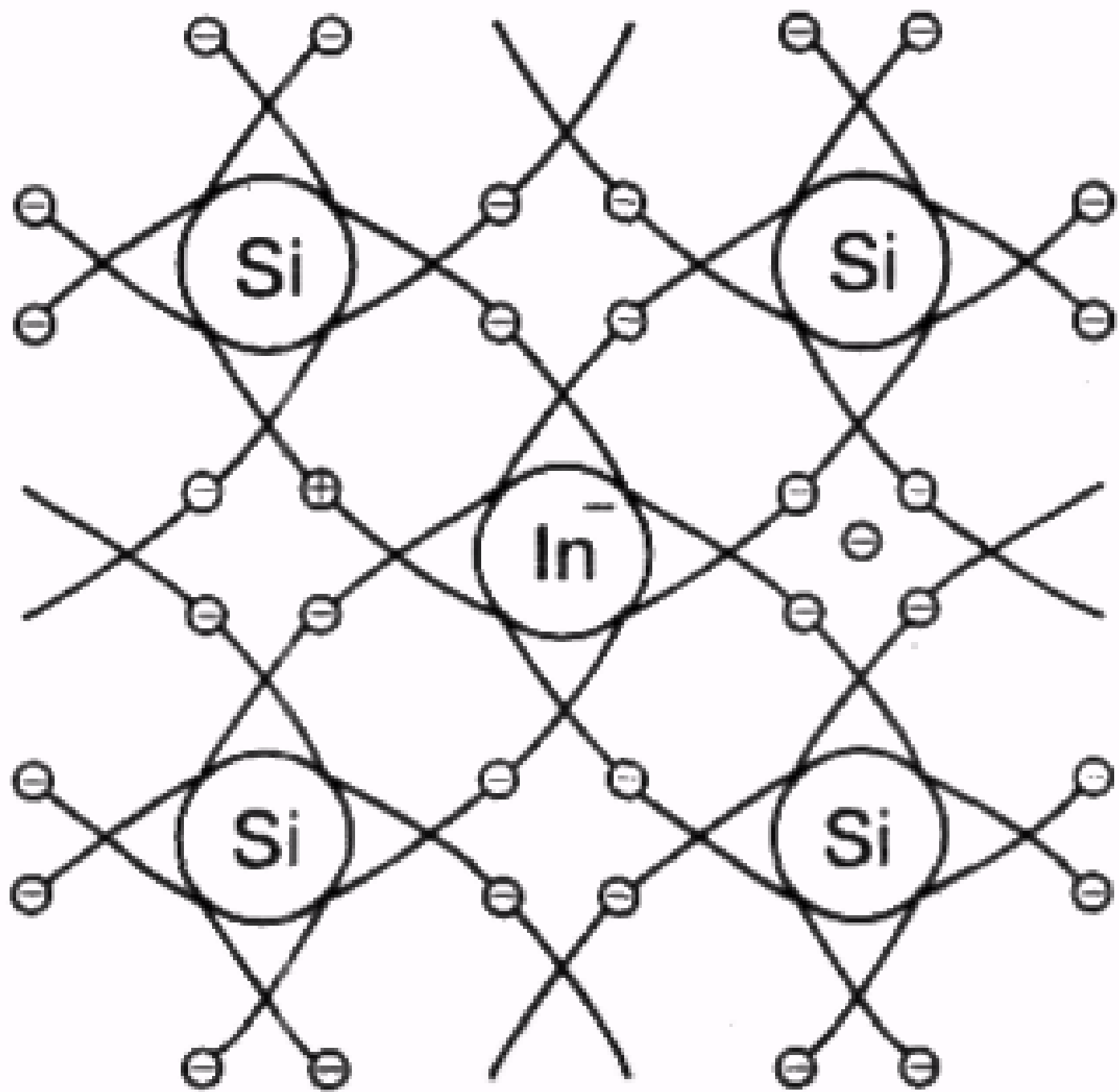
1004 1004 1004 1004 1004



Мал. 2.123



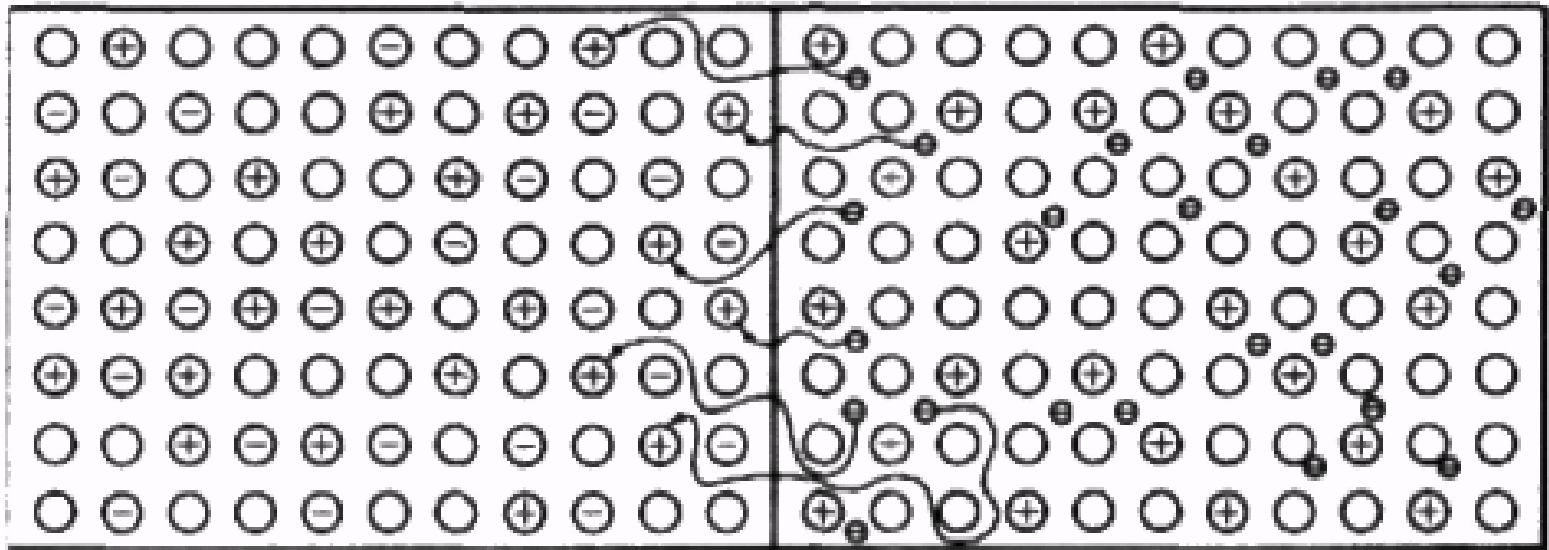
Мал. 2.124



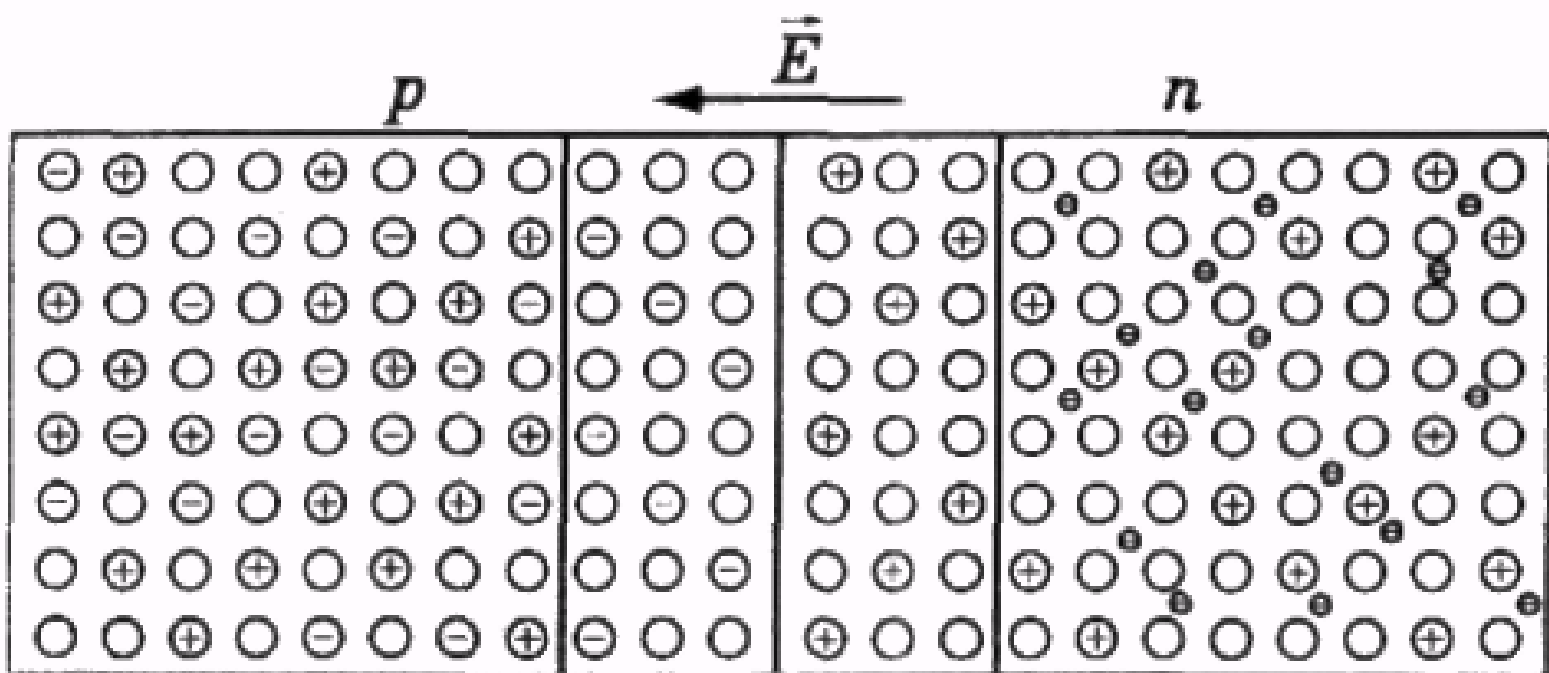
Мал. 2.125

p

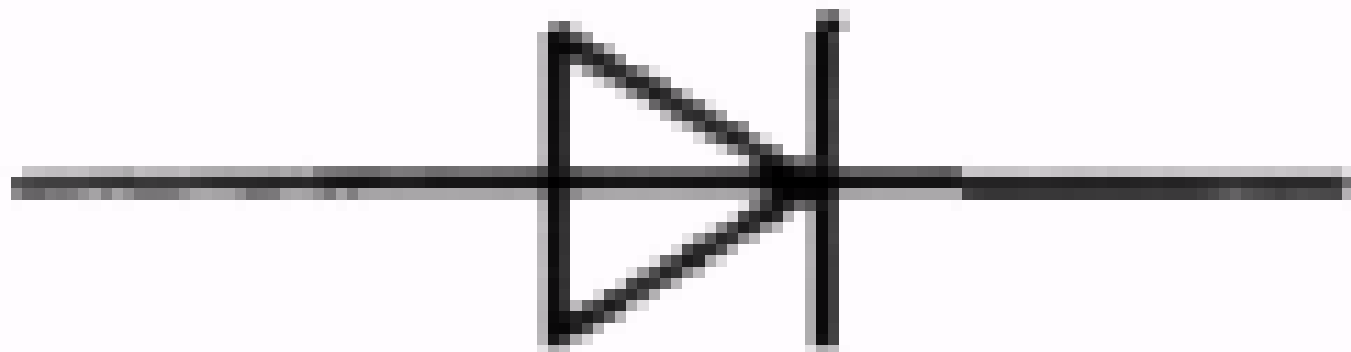
n



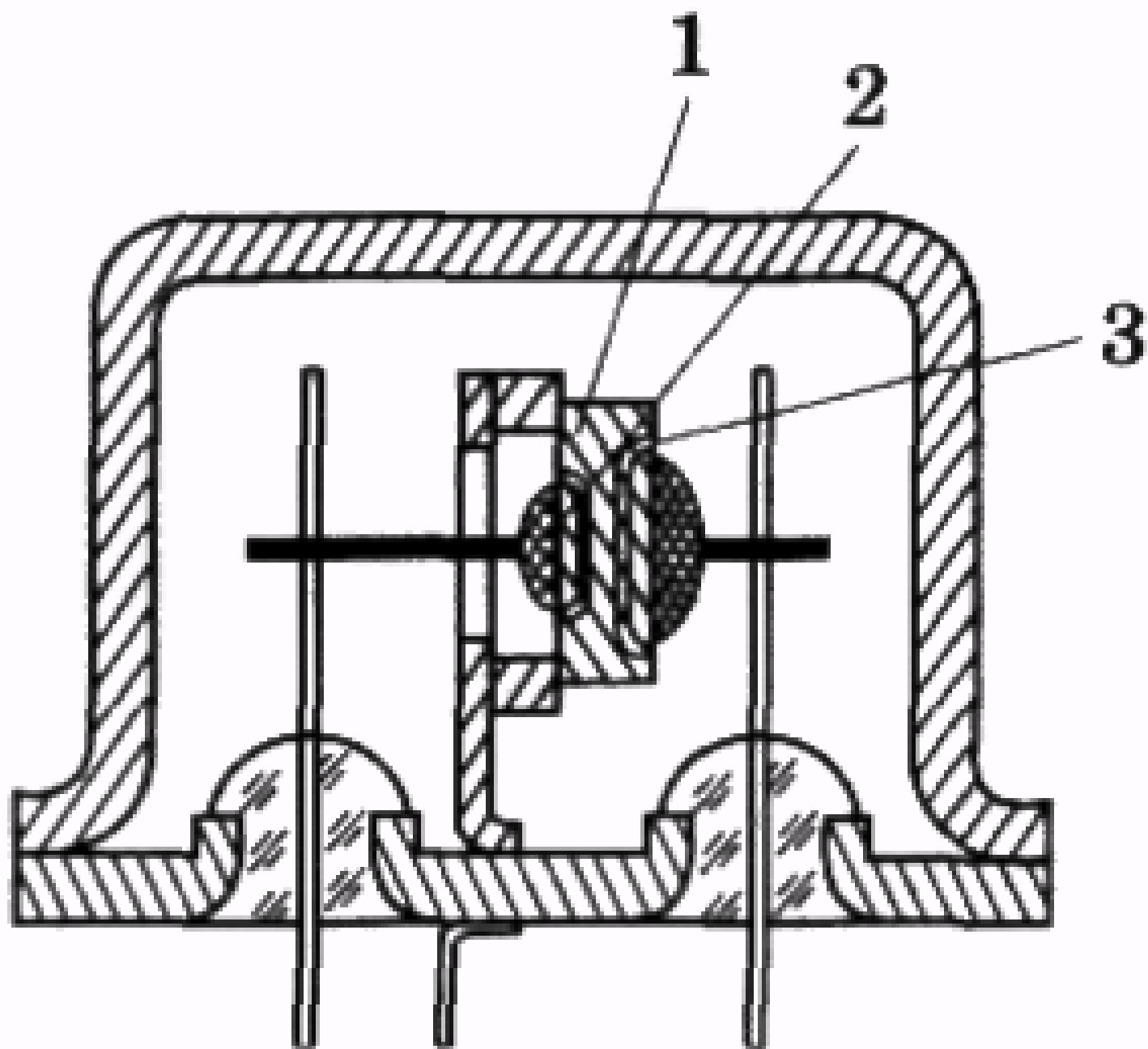
Мал. 2.126



Мал. 2.127

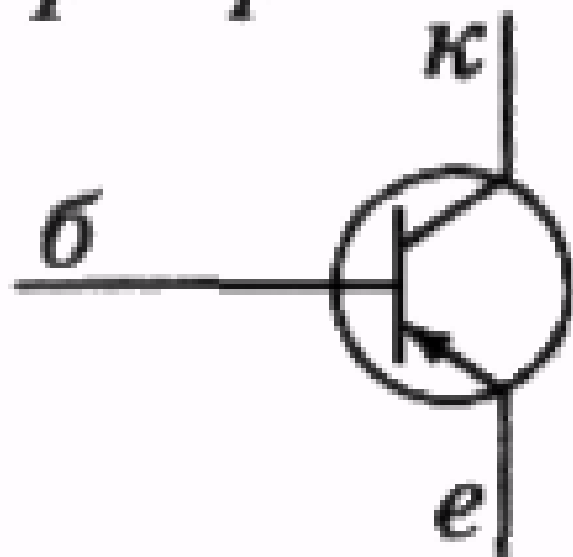


Мал. 2.128

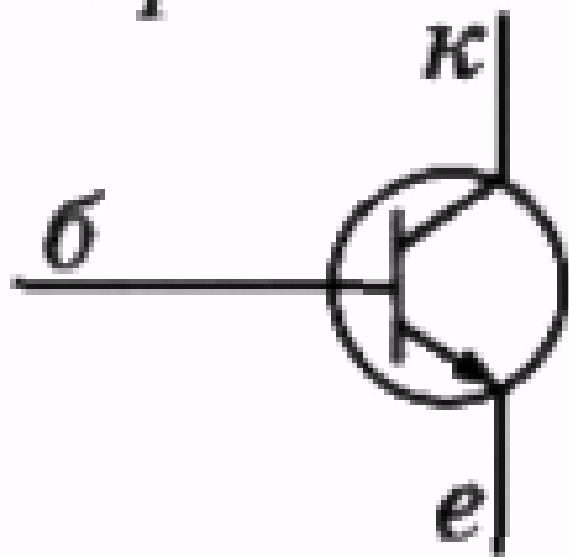


Мал. 2.129

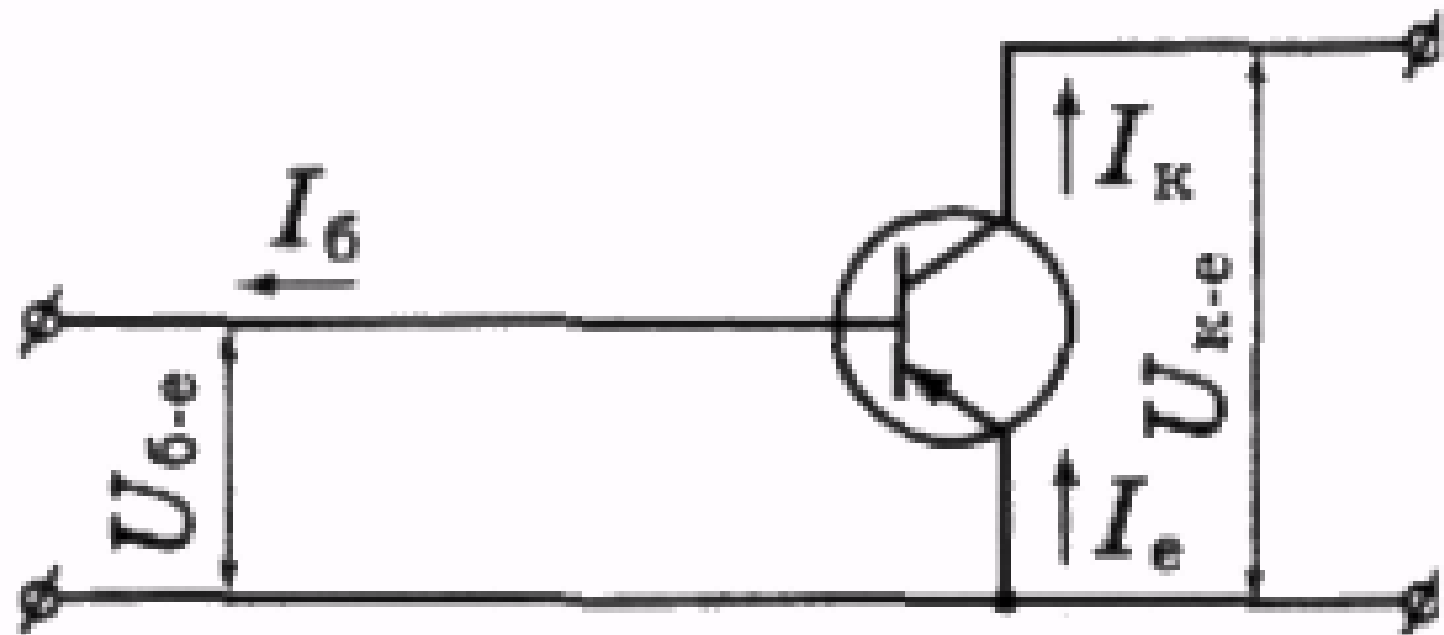
p-n-p



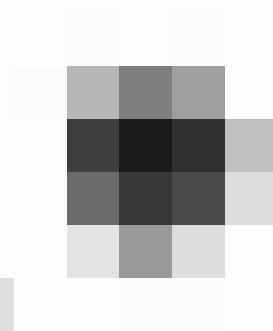
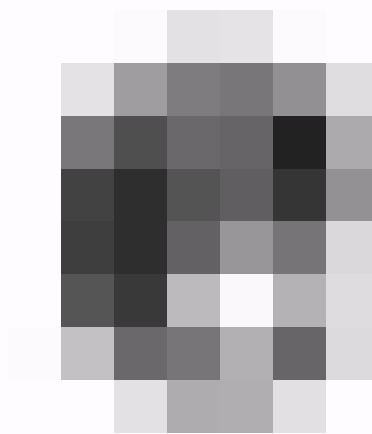
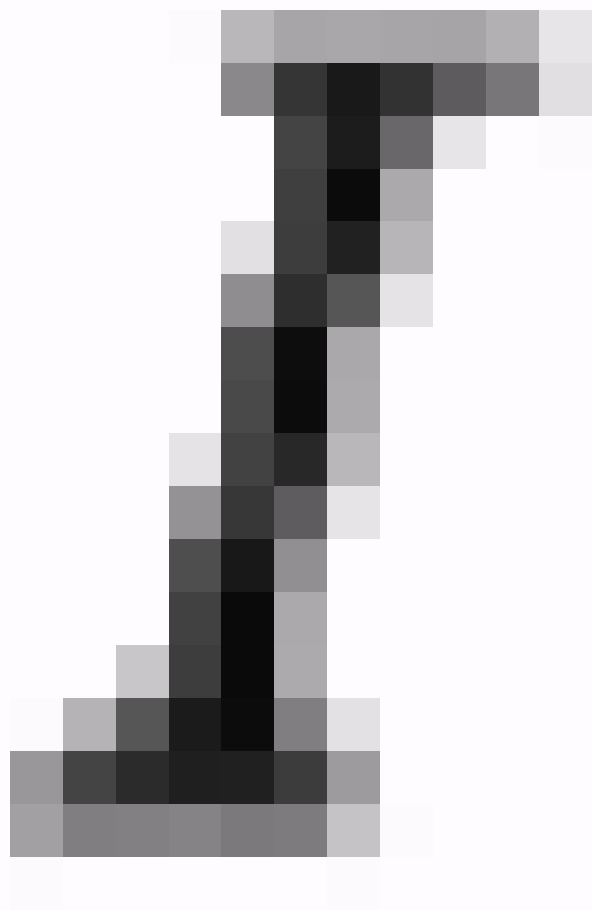
n-p-n

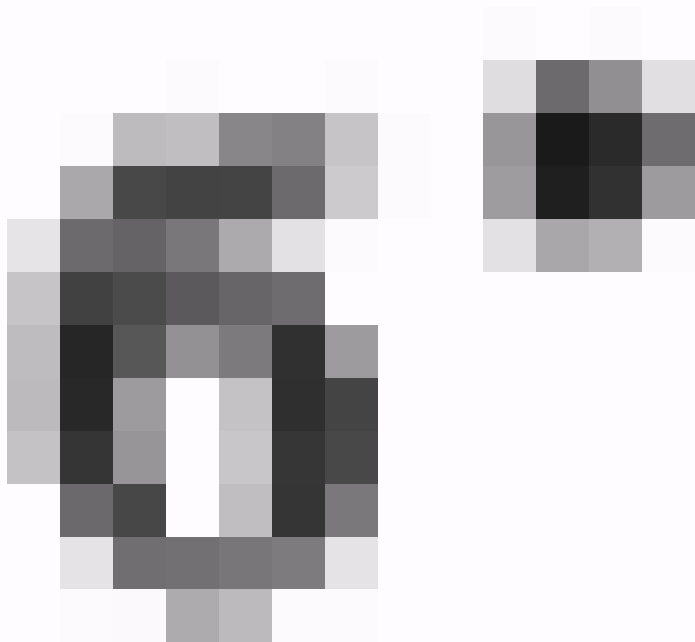
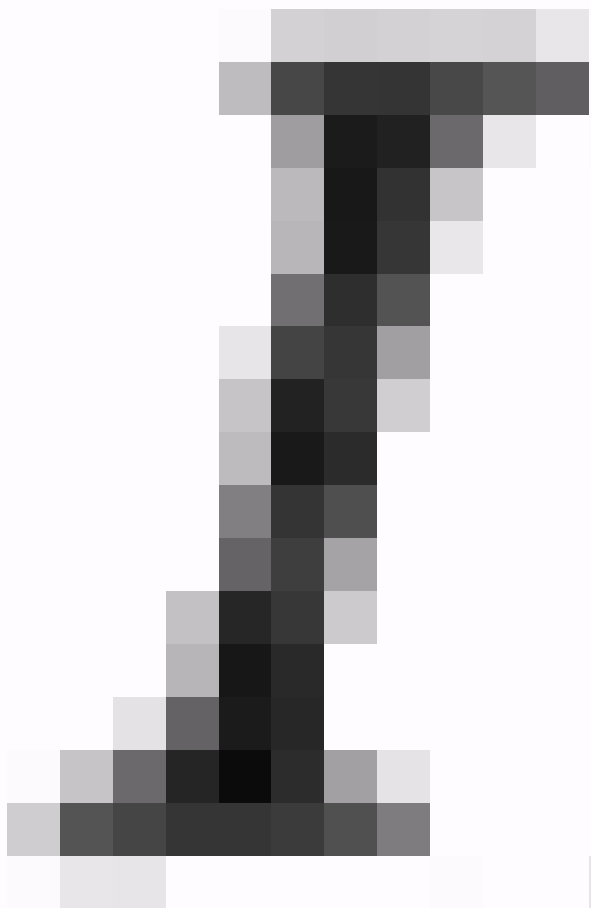


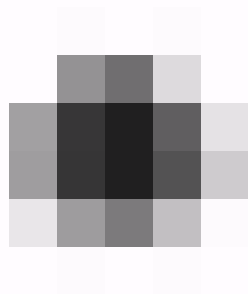
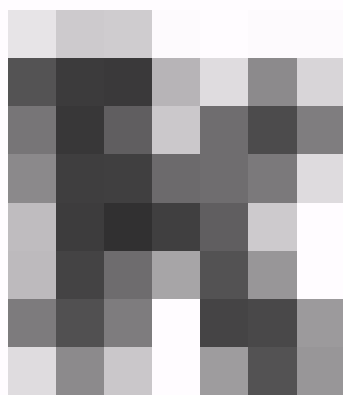
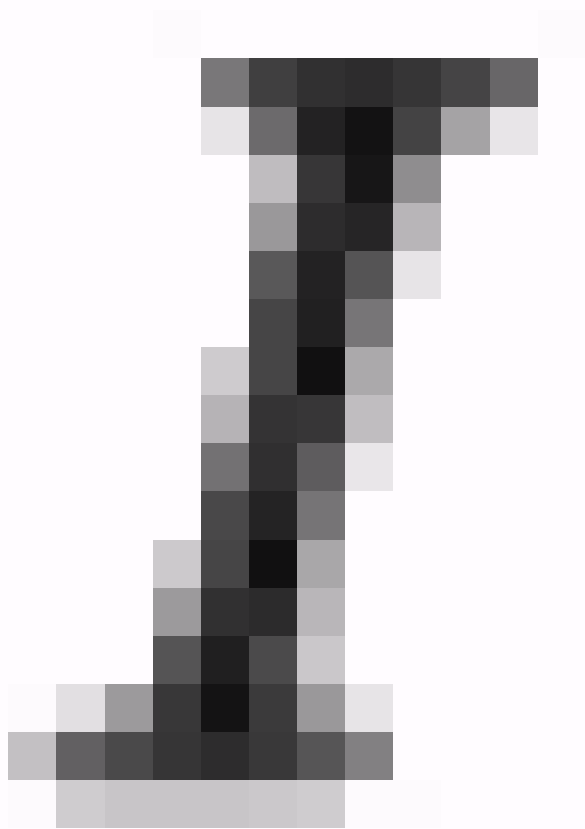
Мал. 2.130

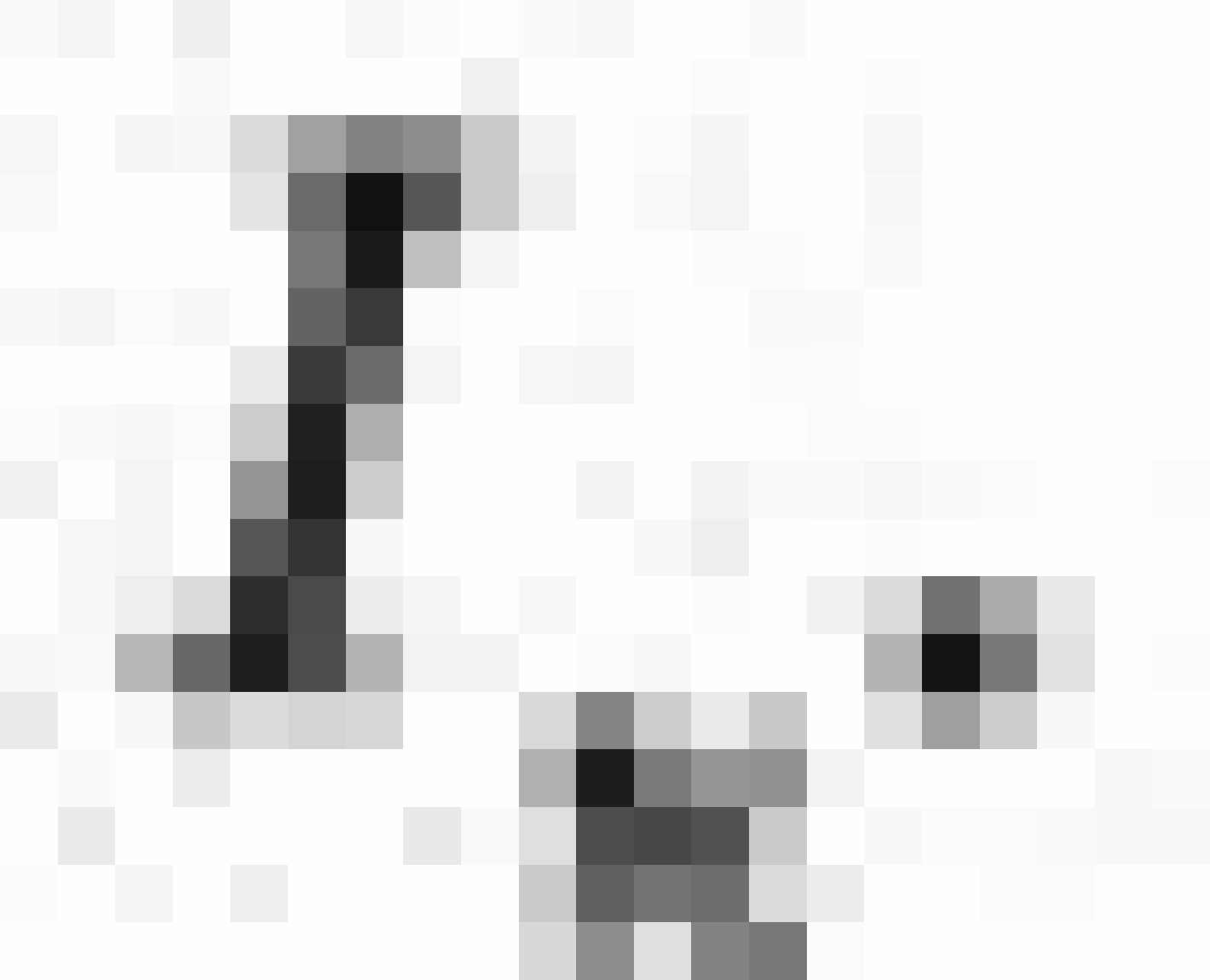


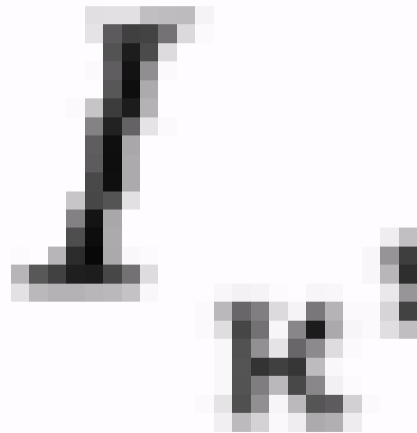
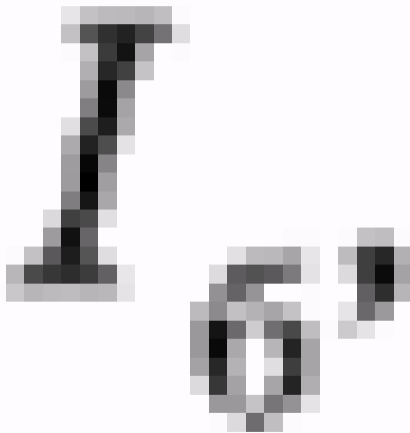
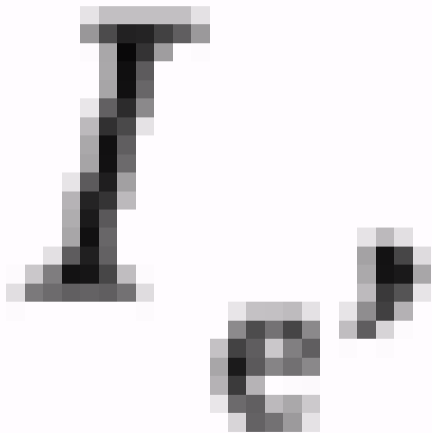
Мал. 2.131











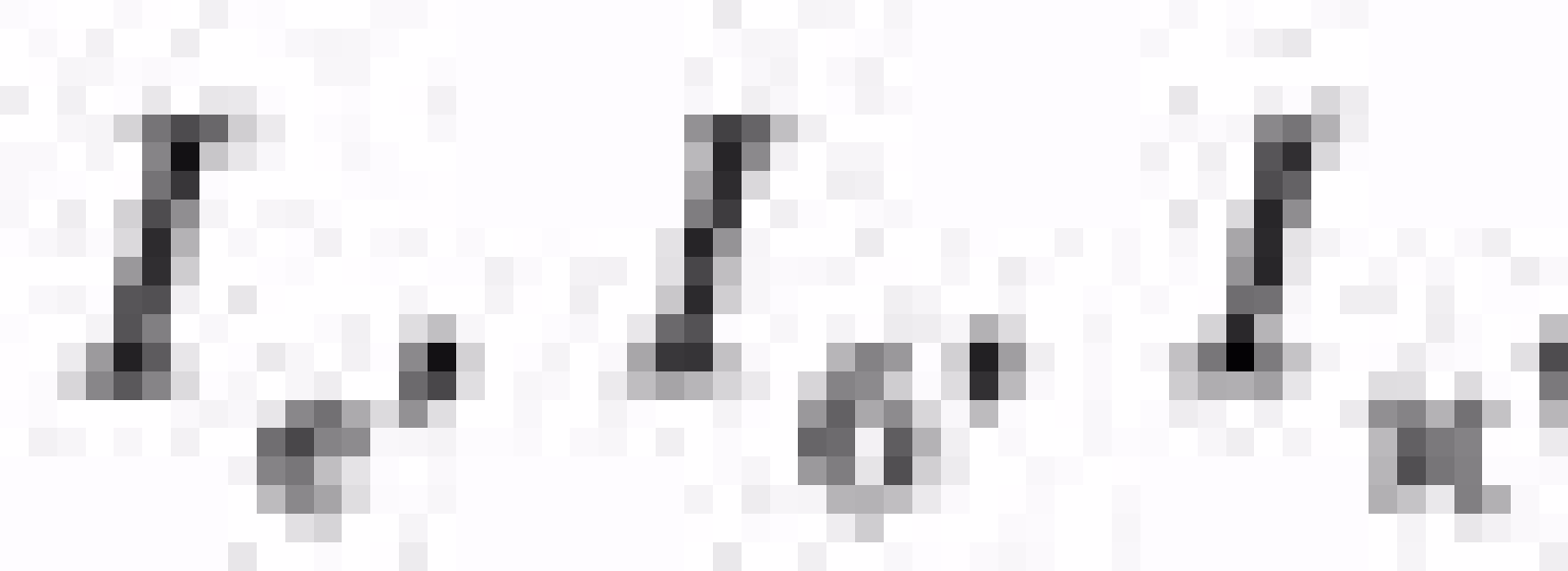
10

=

100

+

1000



10

=

100

+

1000

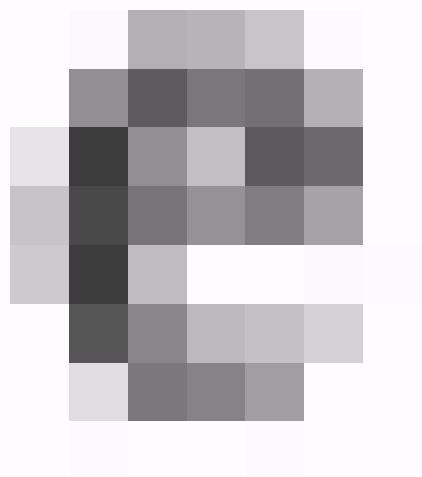
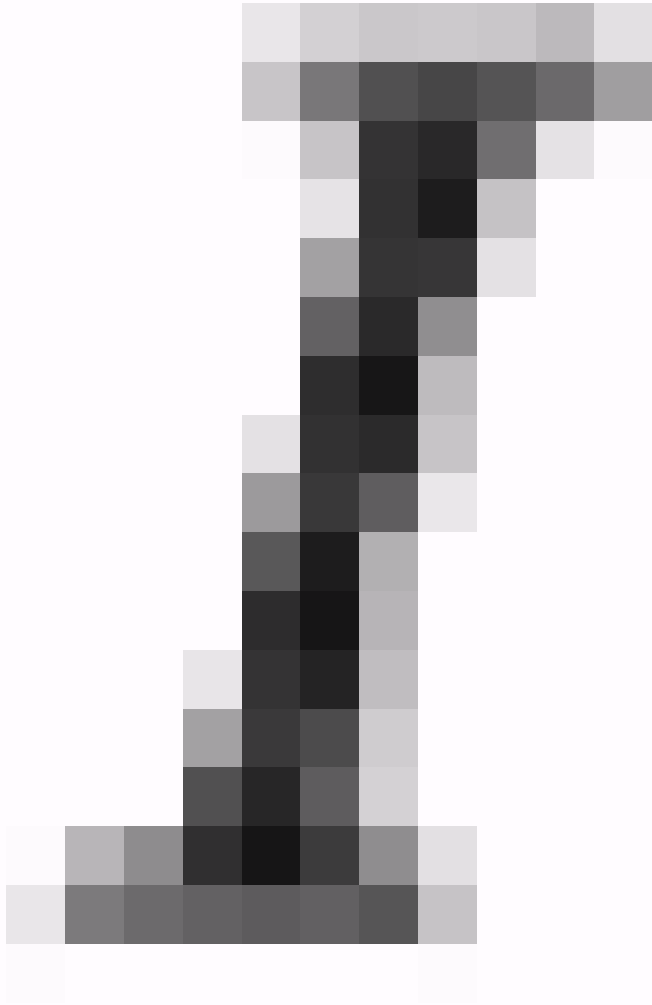
$$\frac{I_k}{I_0} = \text{const},$$

$$\frac{I_k}{I_c} = \text{const}.$$

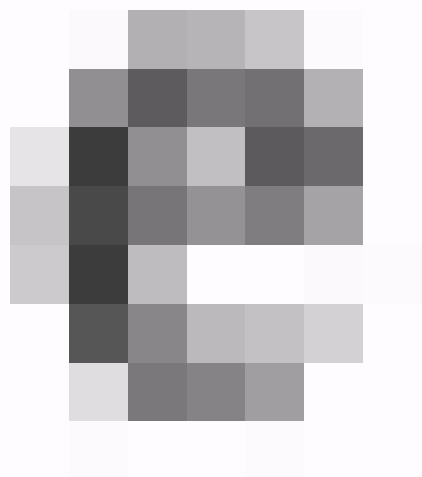
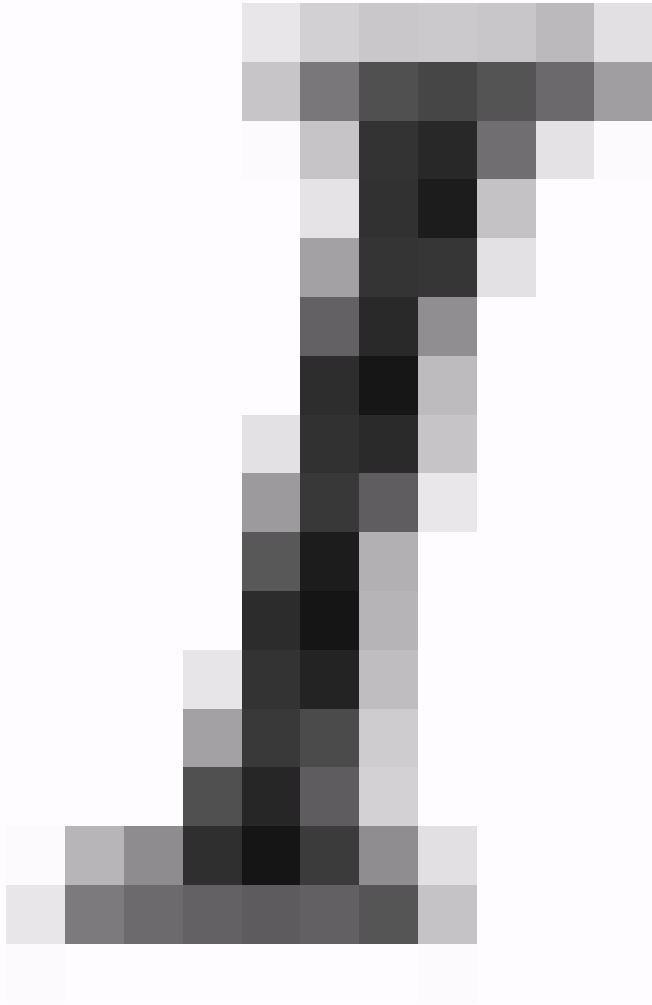


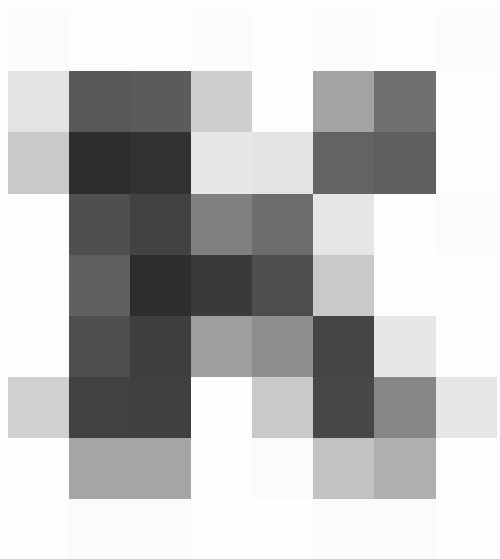
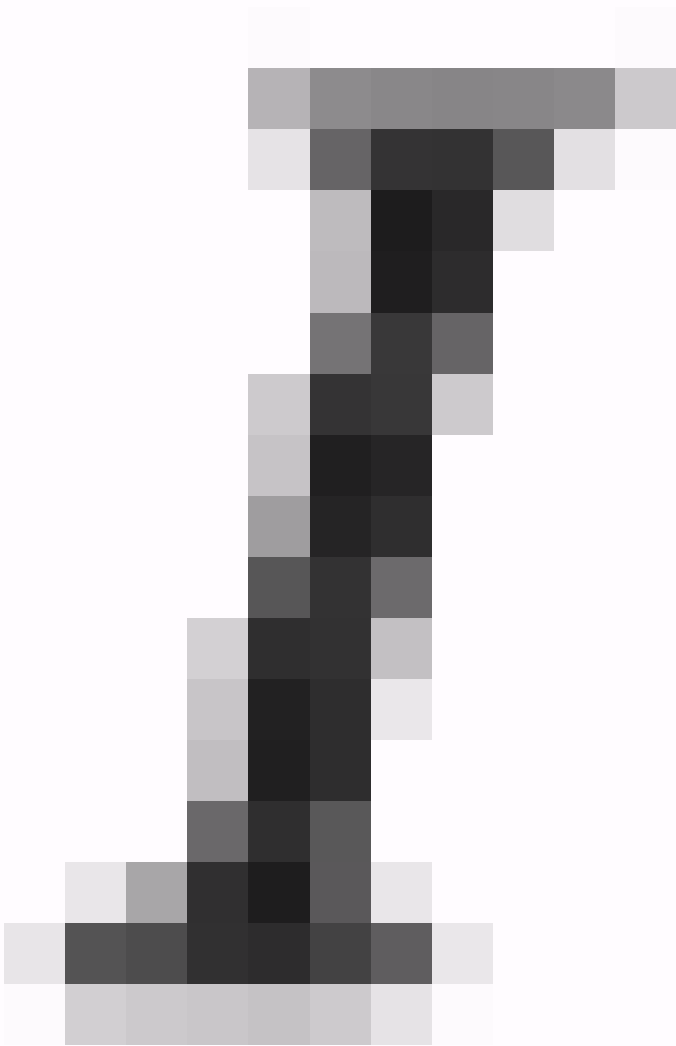
$$\frac{I_k}{I_0} = \text{const},$$

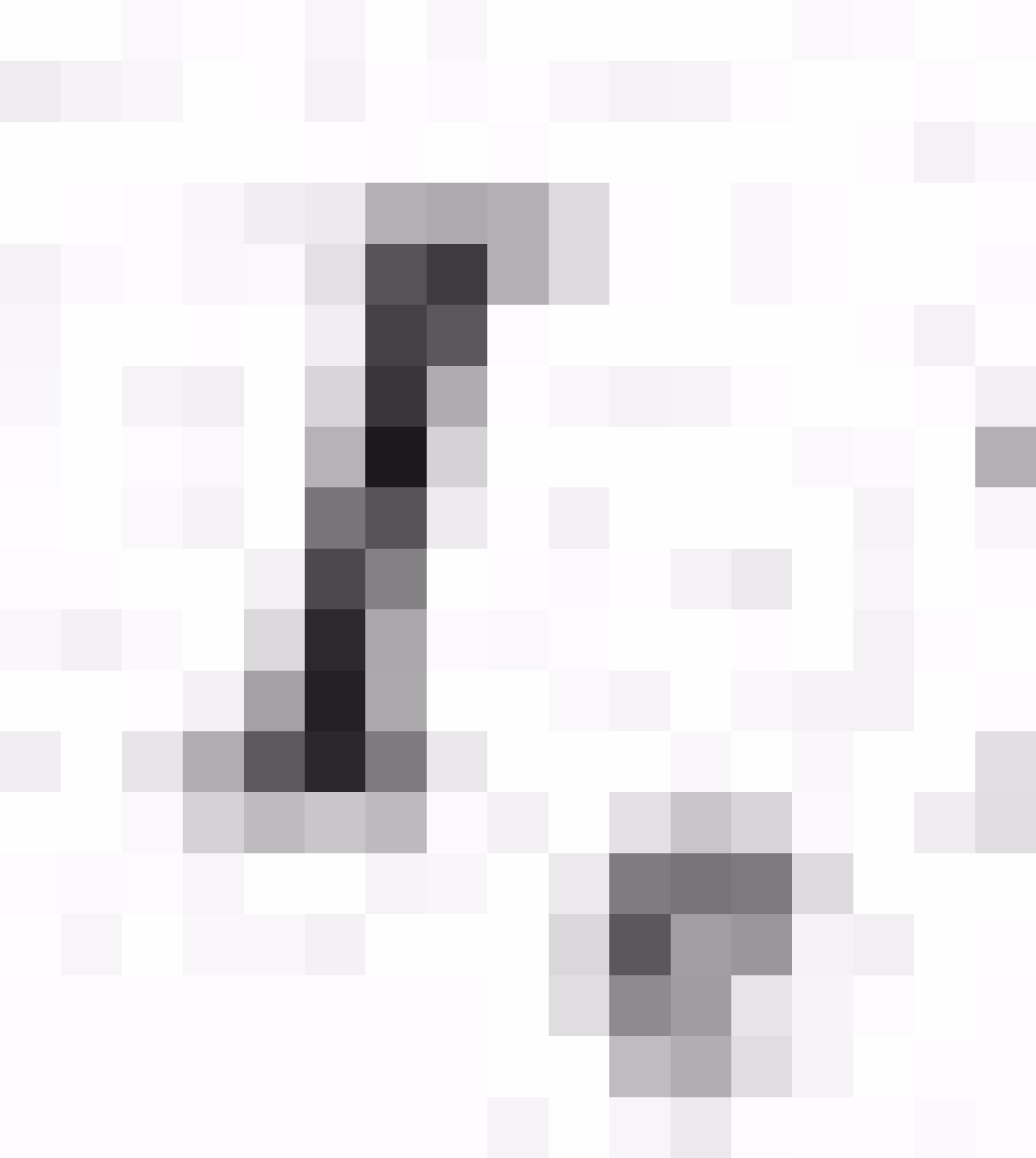
$$\frac{I_k}{I_c} = \text{const}.$$

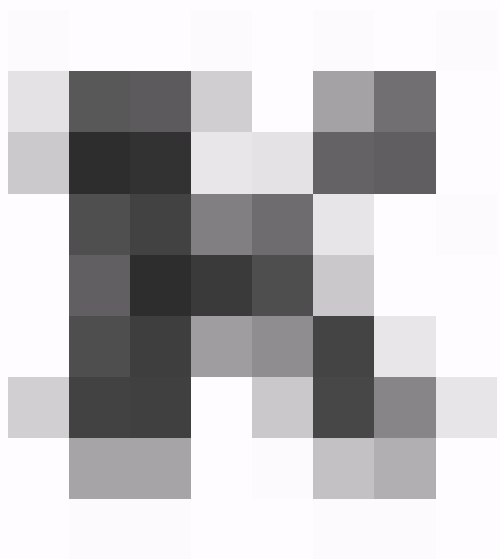
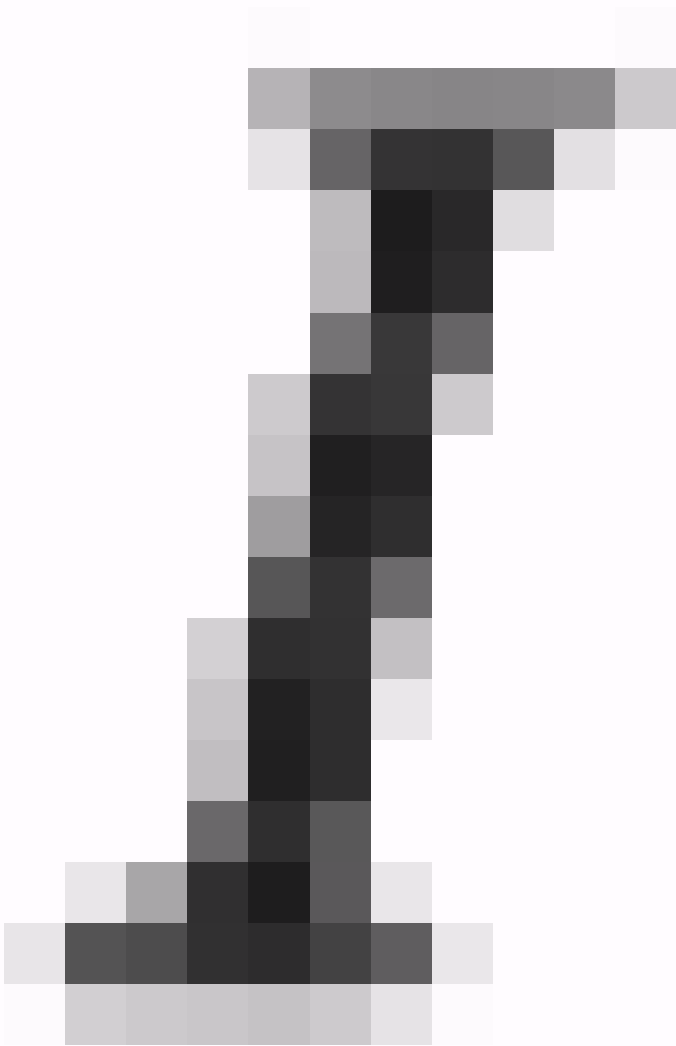


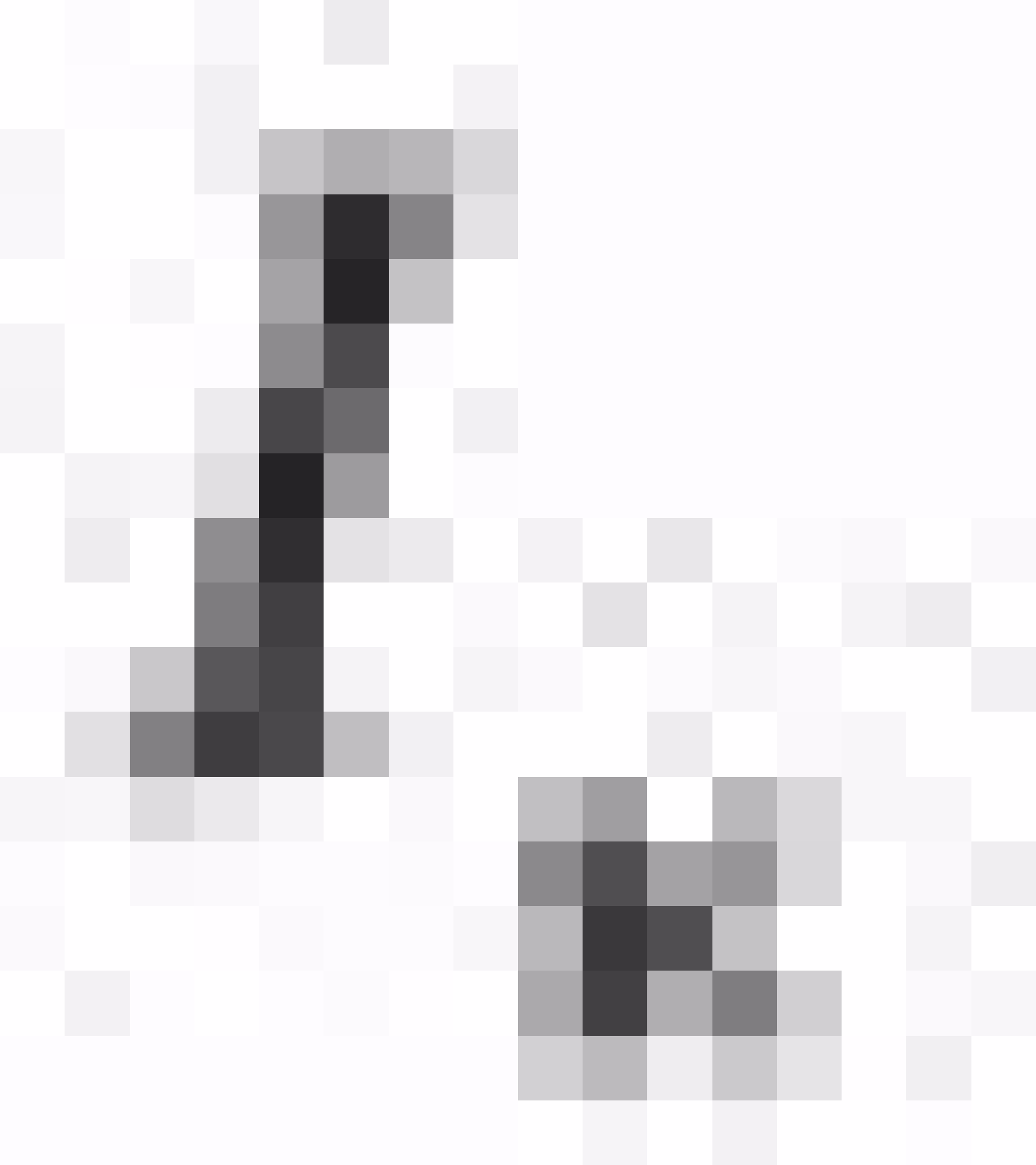


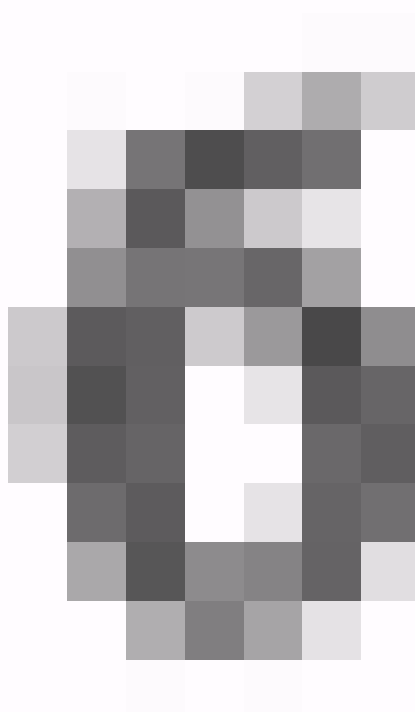
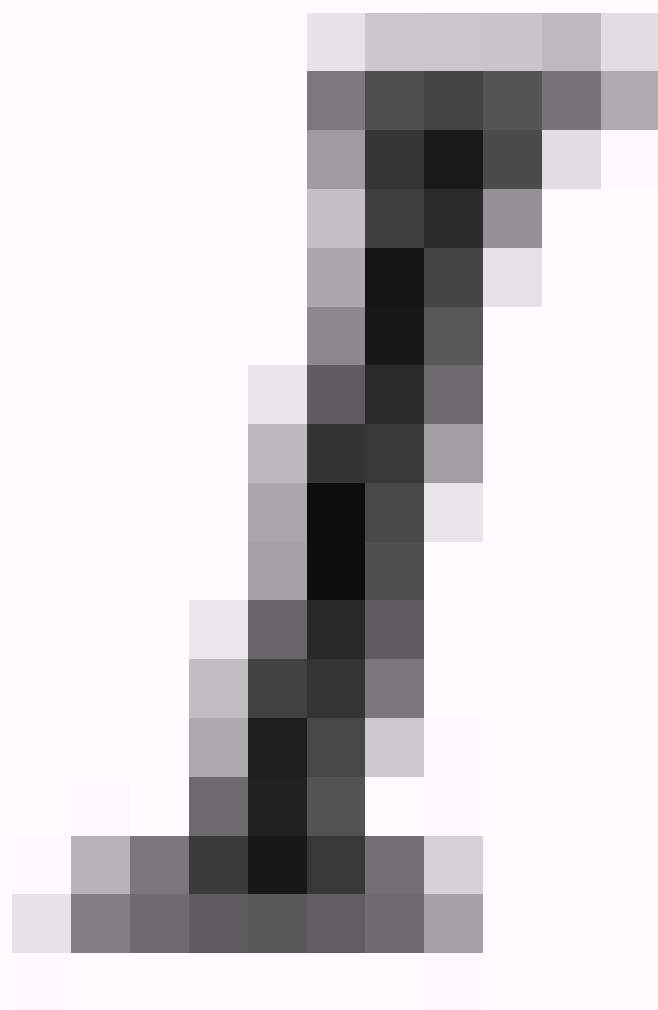


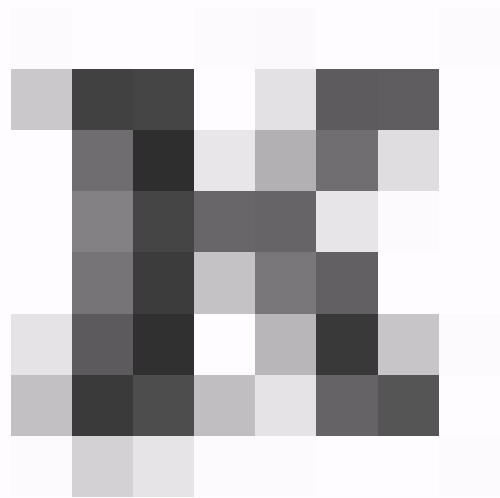
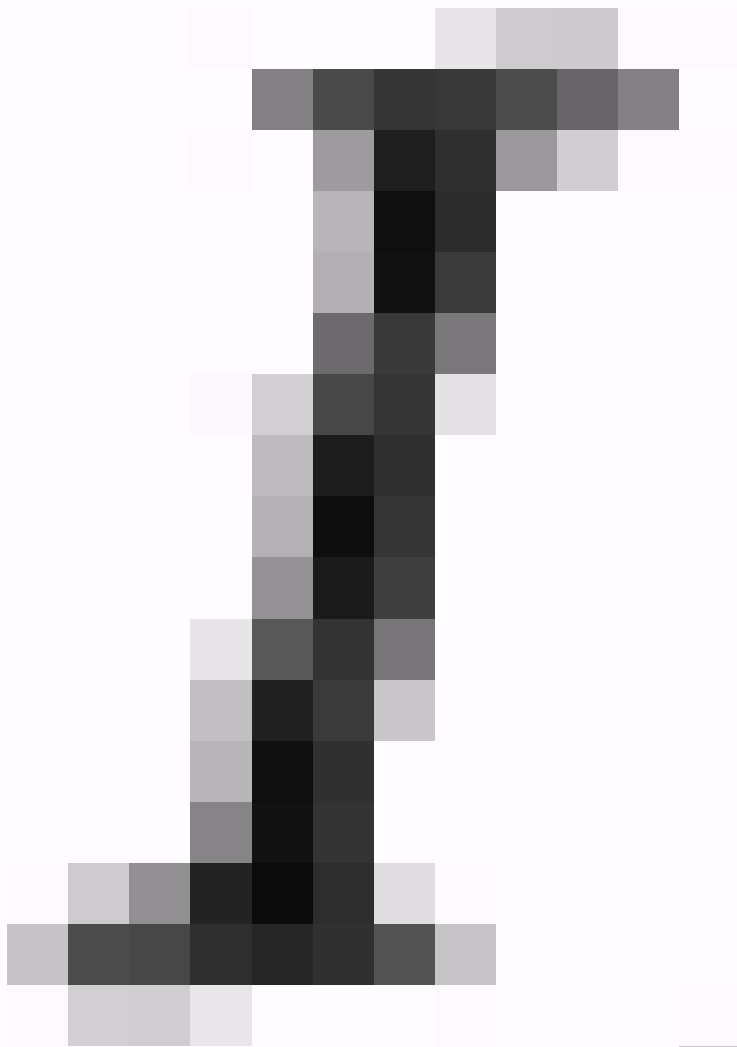


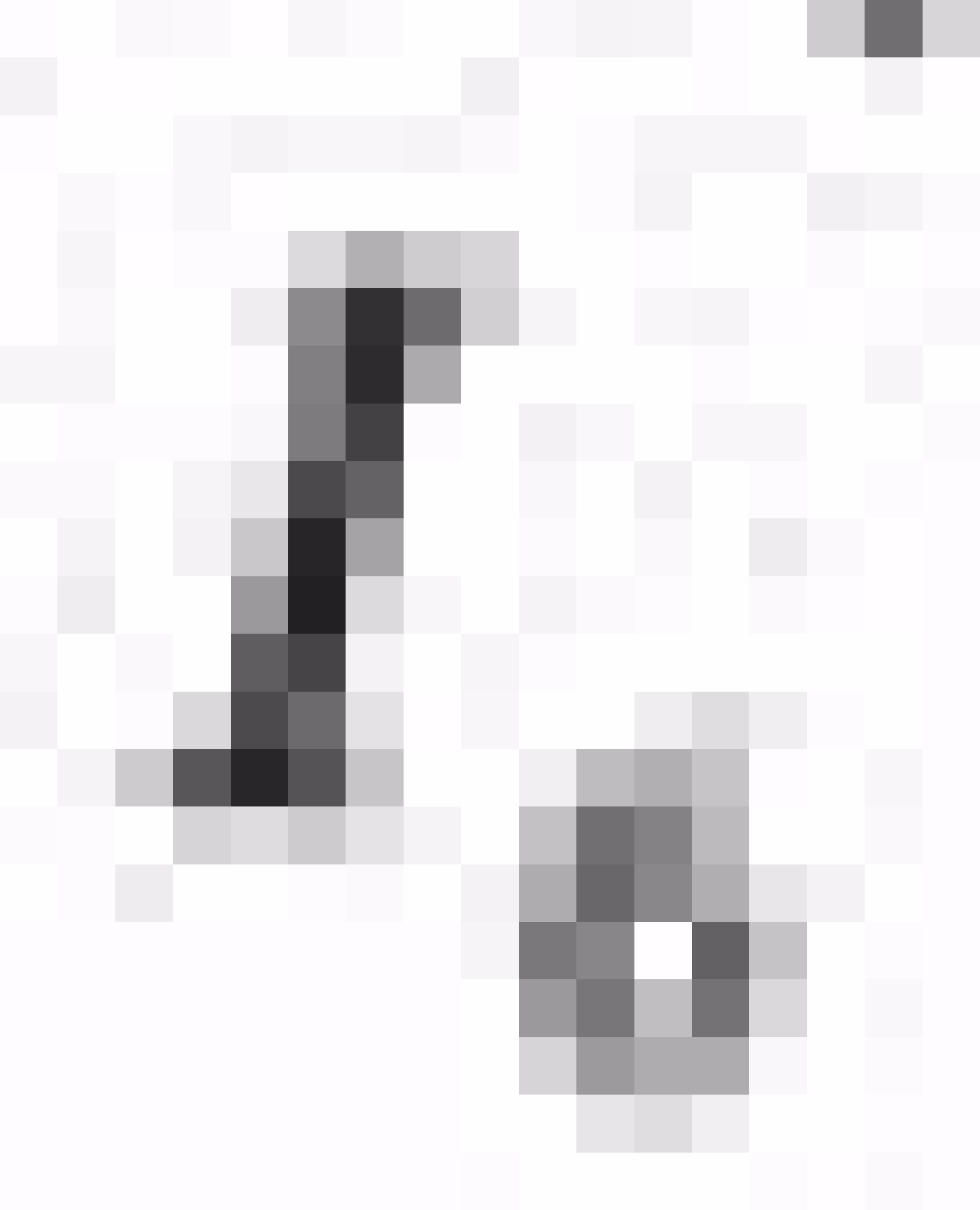


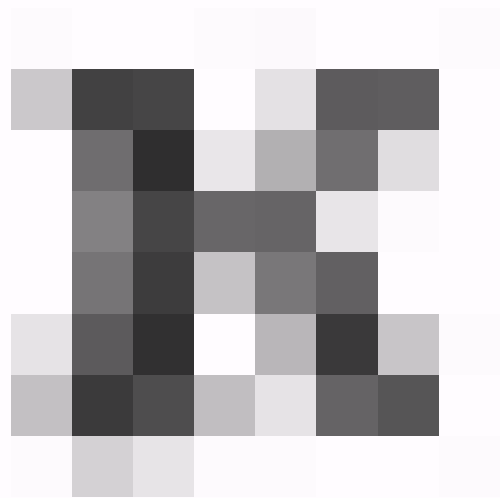
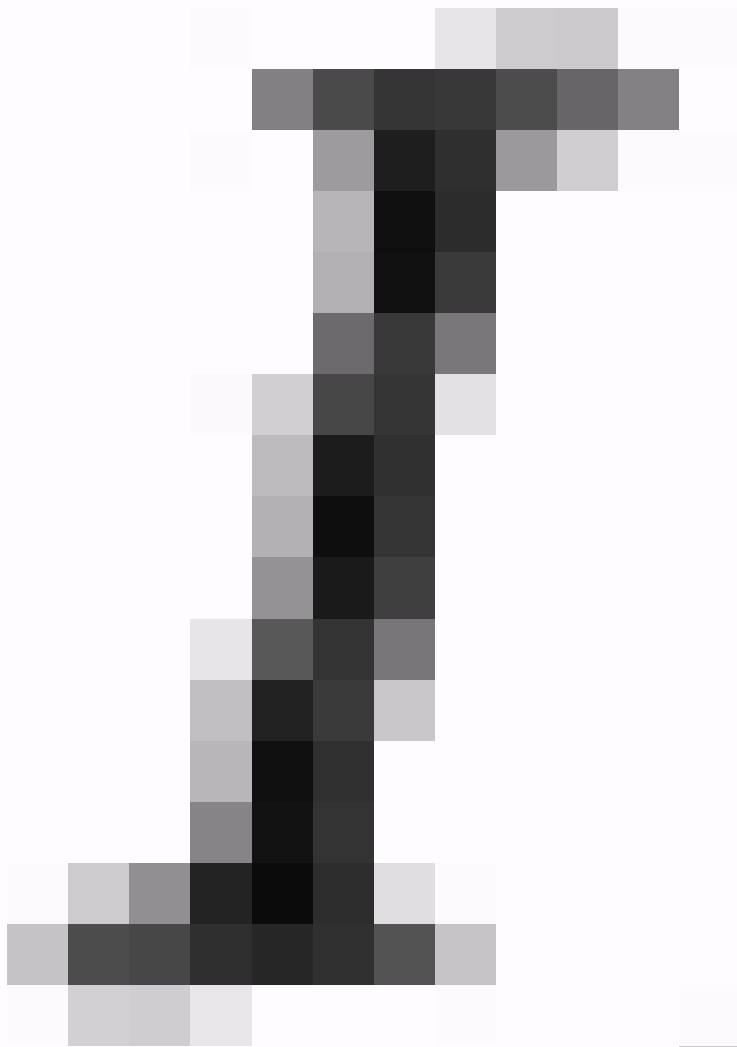


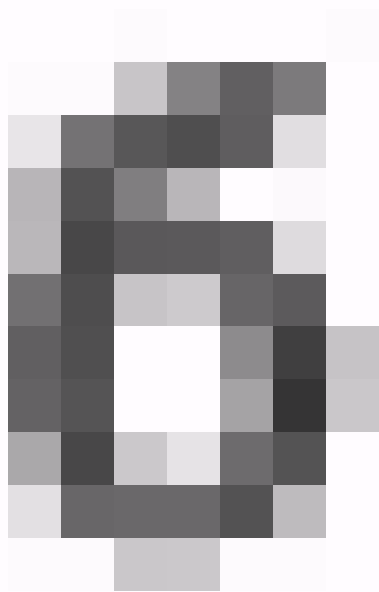
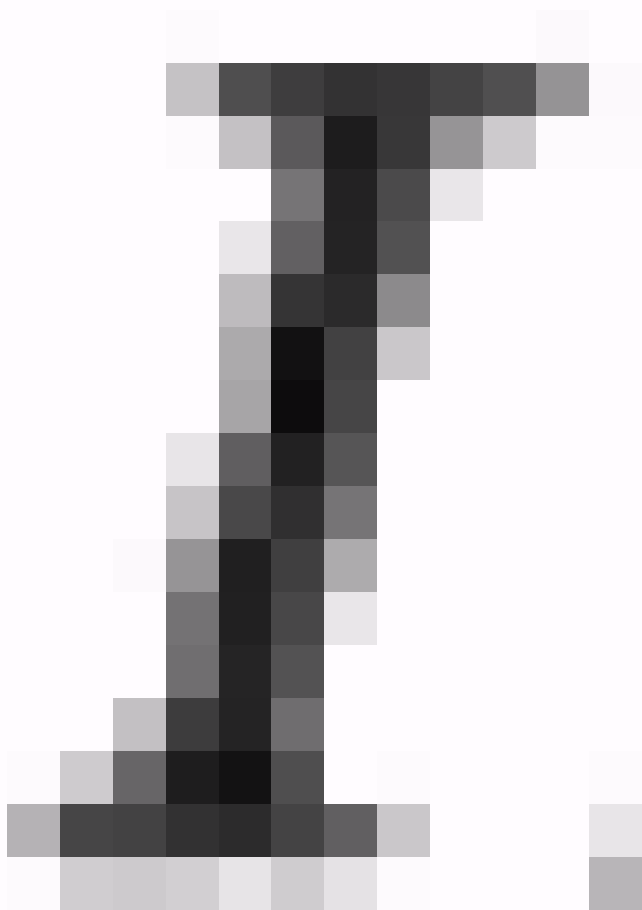


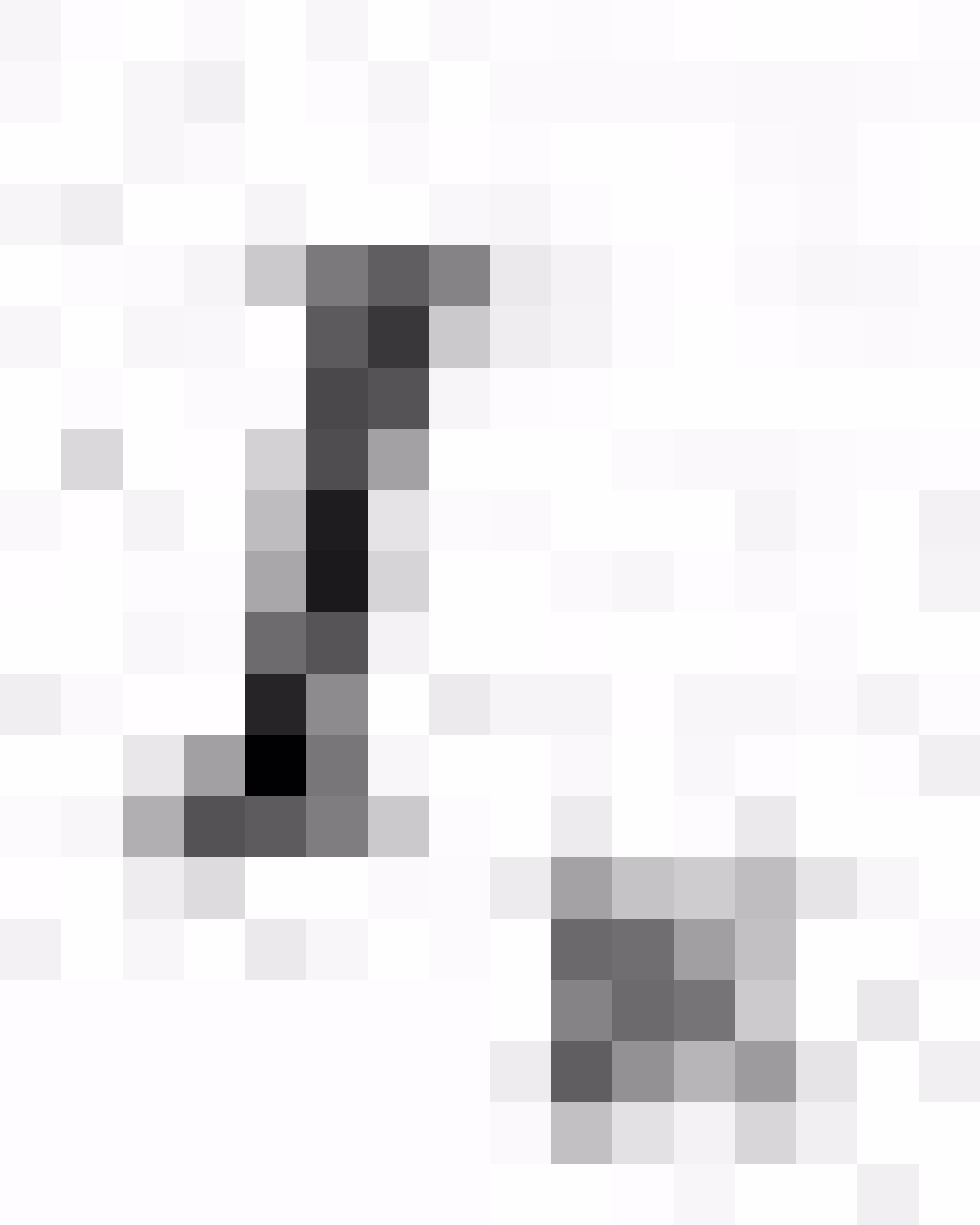


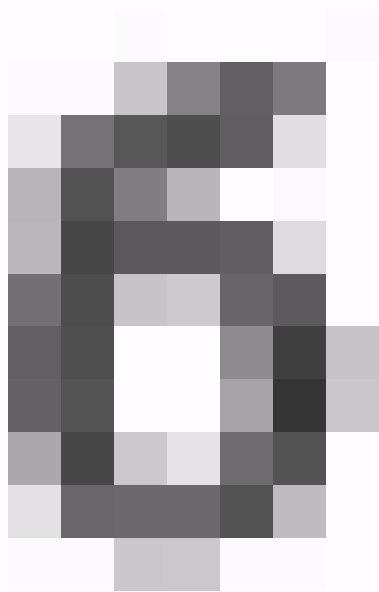
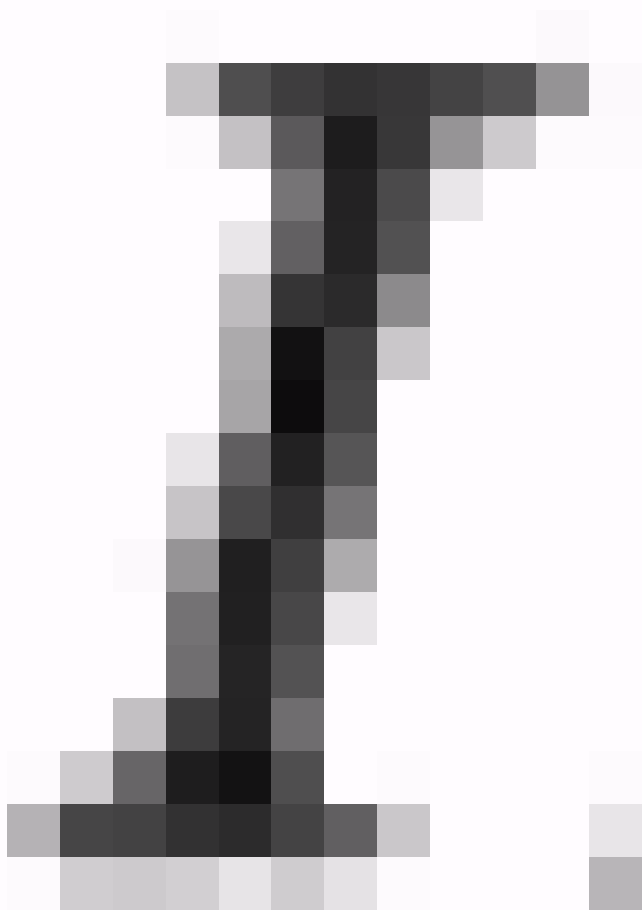








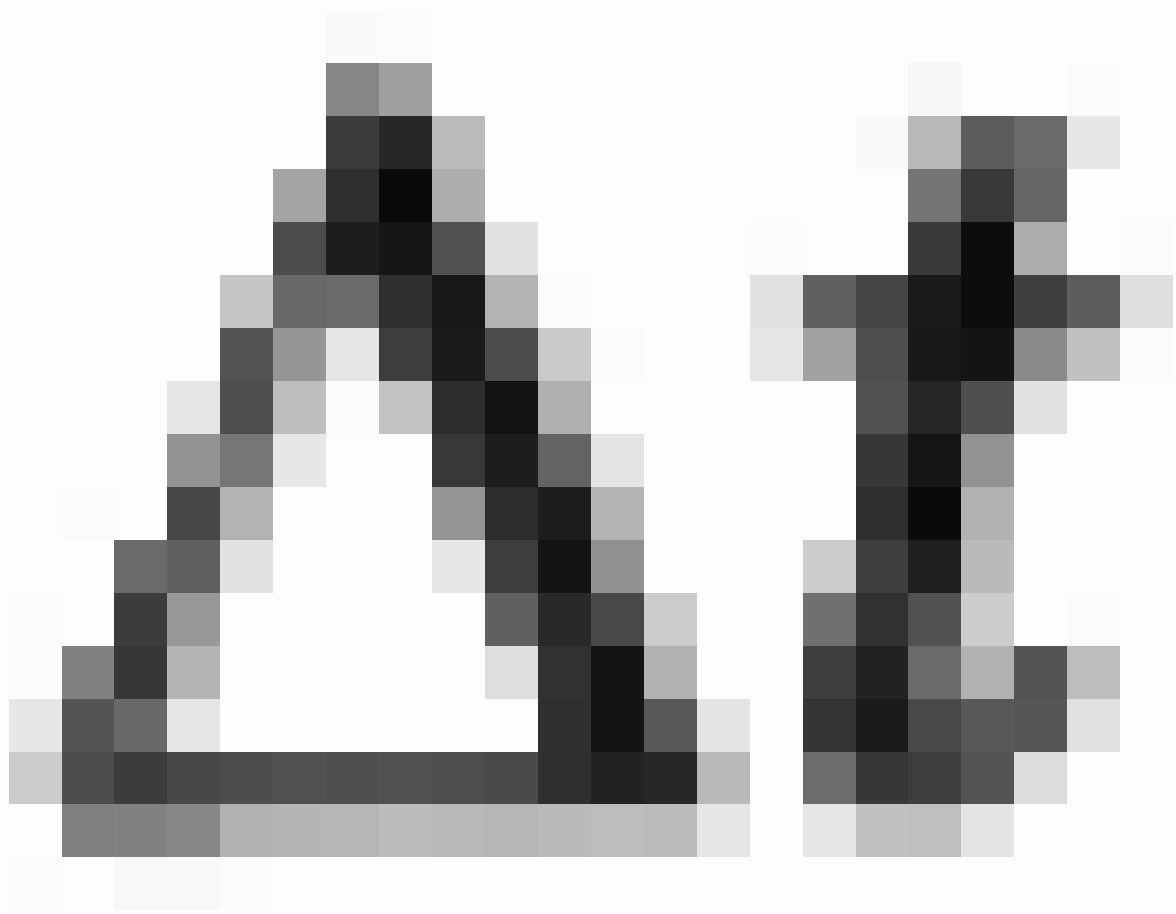


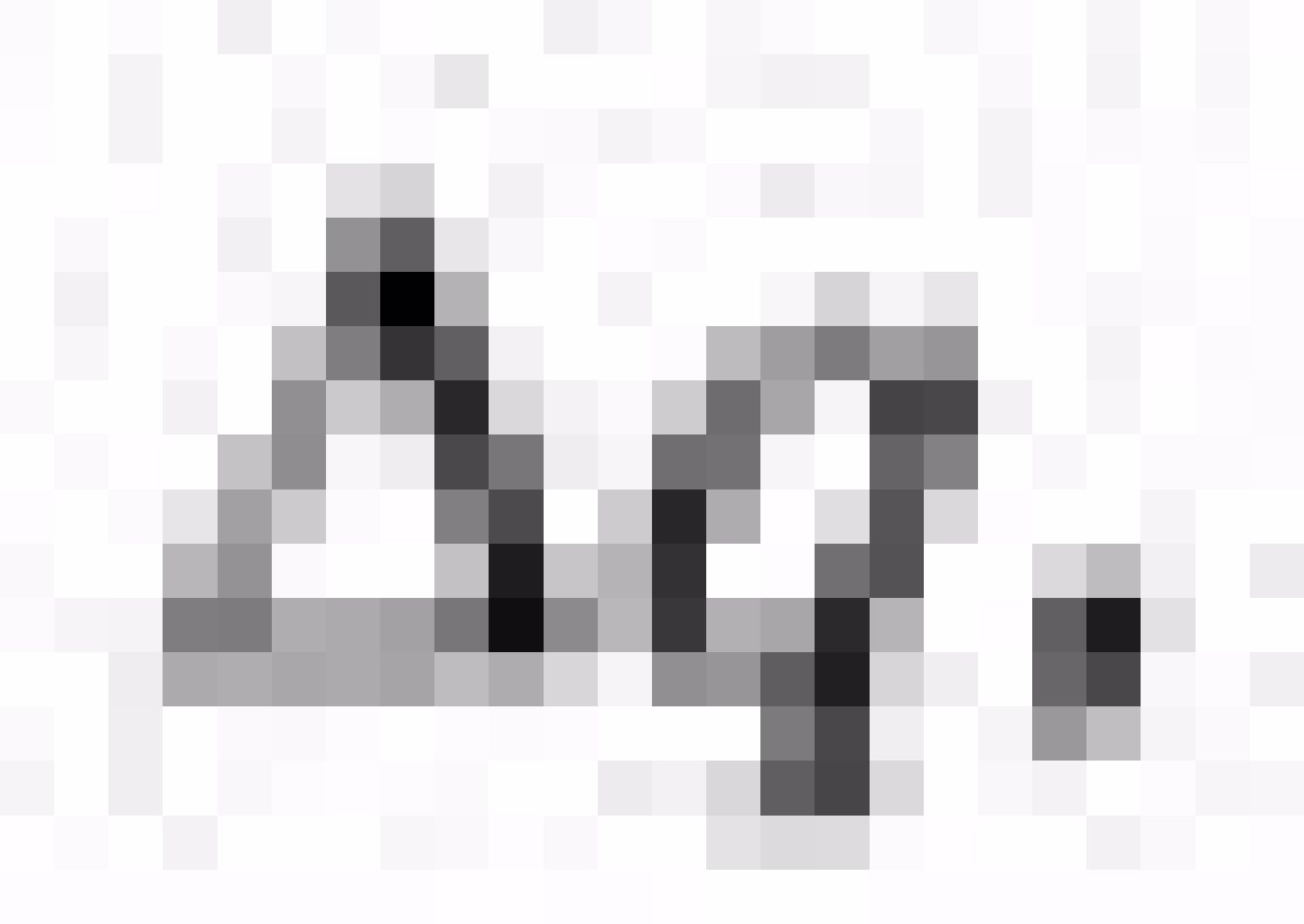


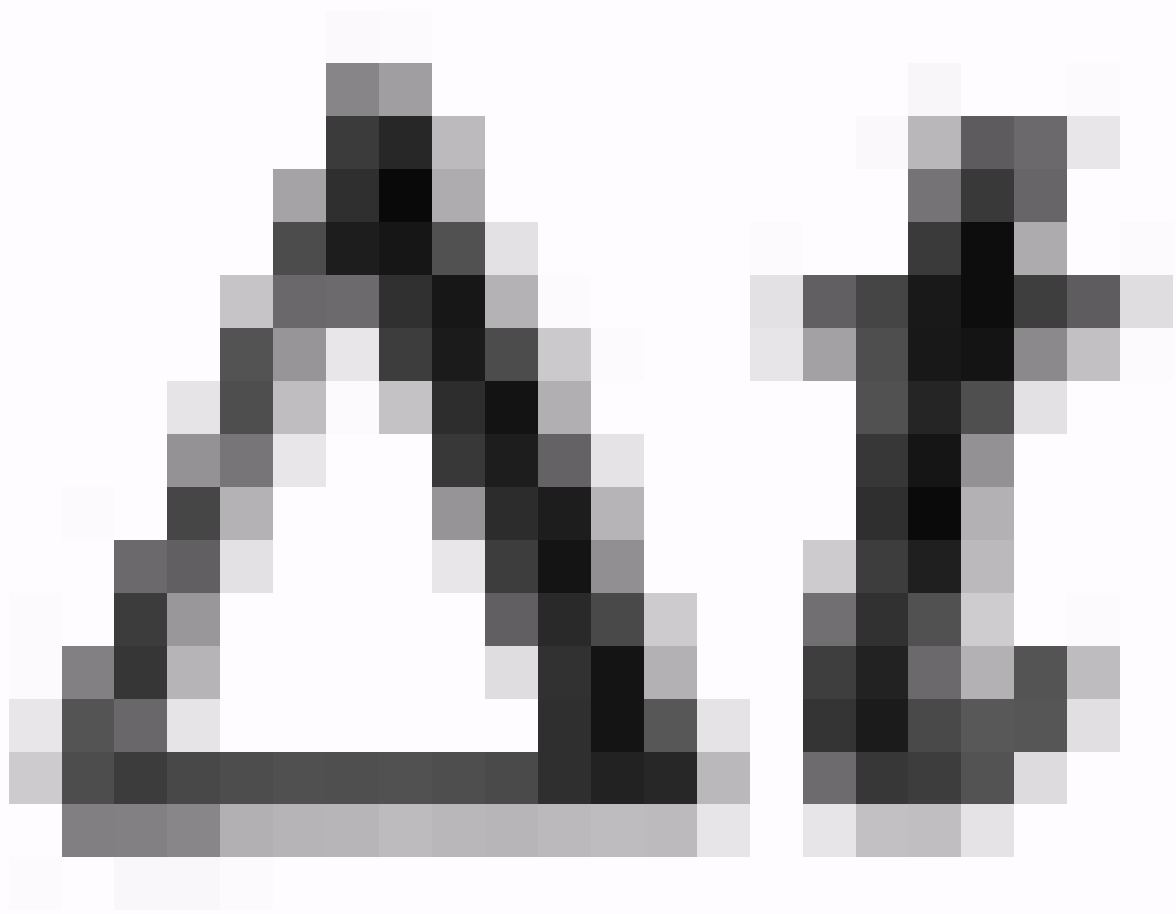


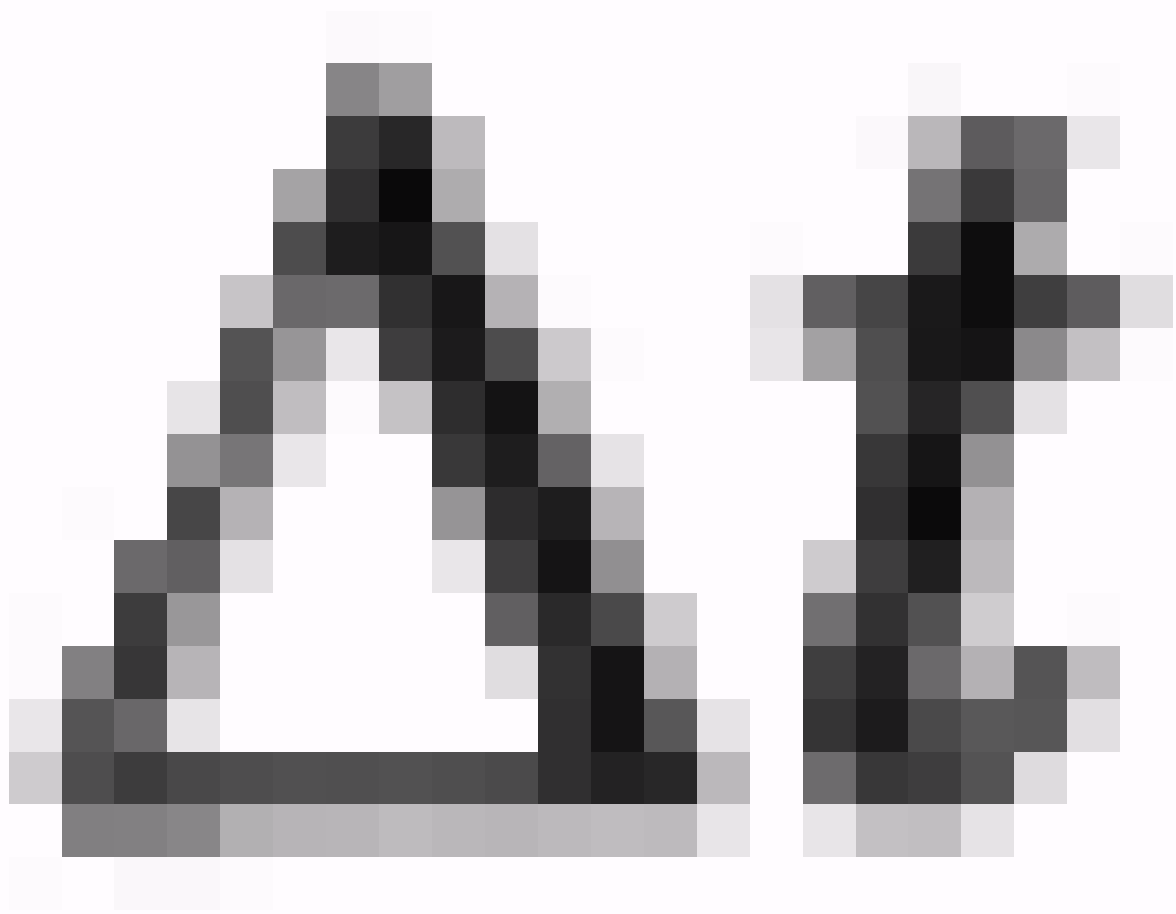


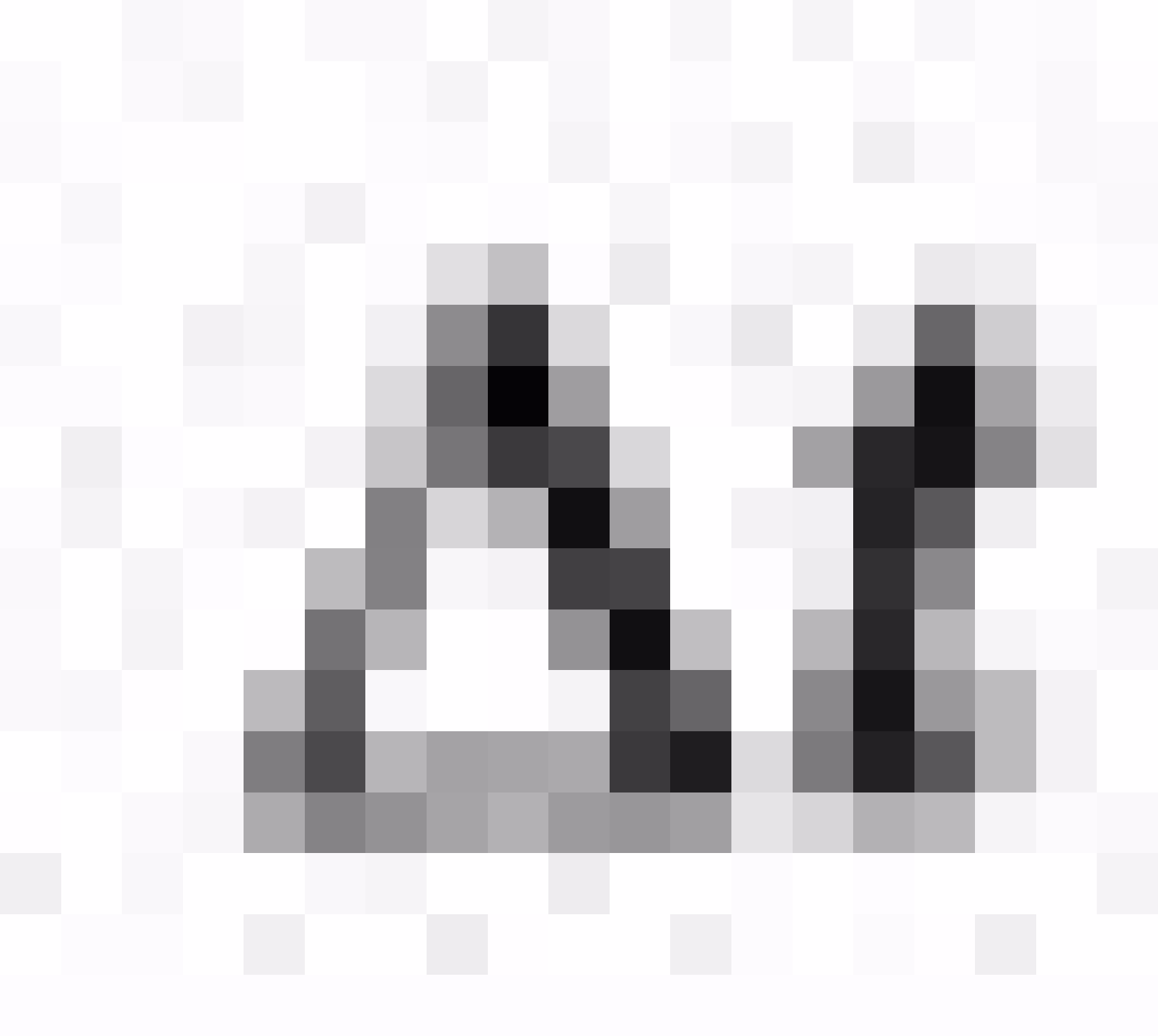


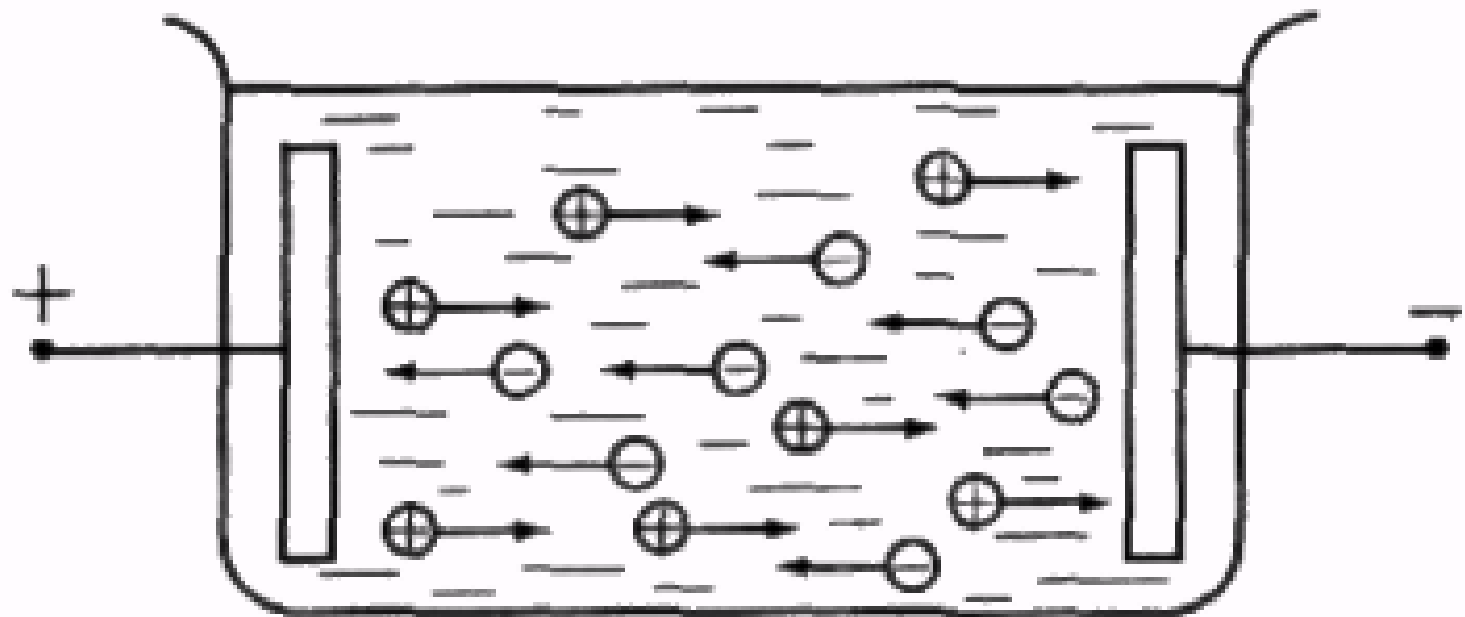






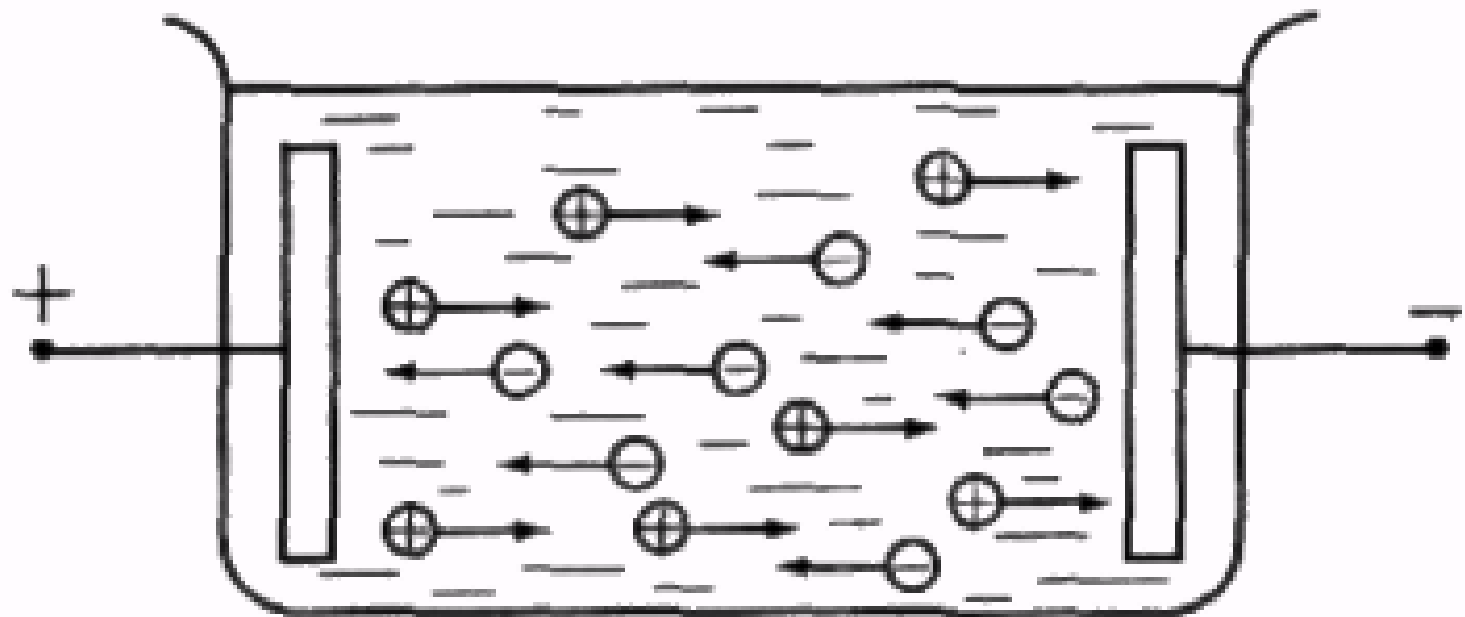




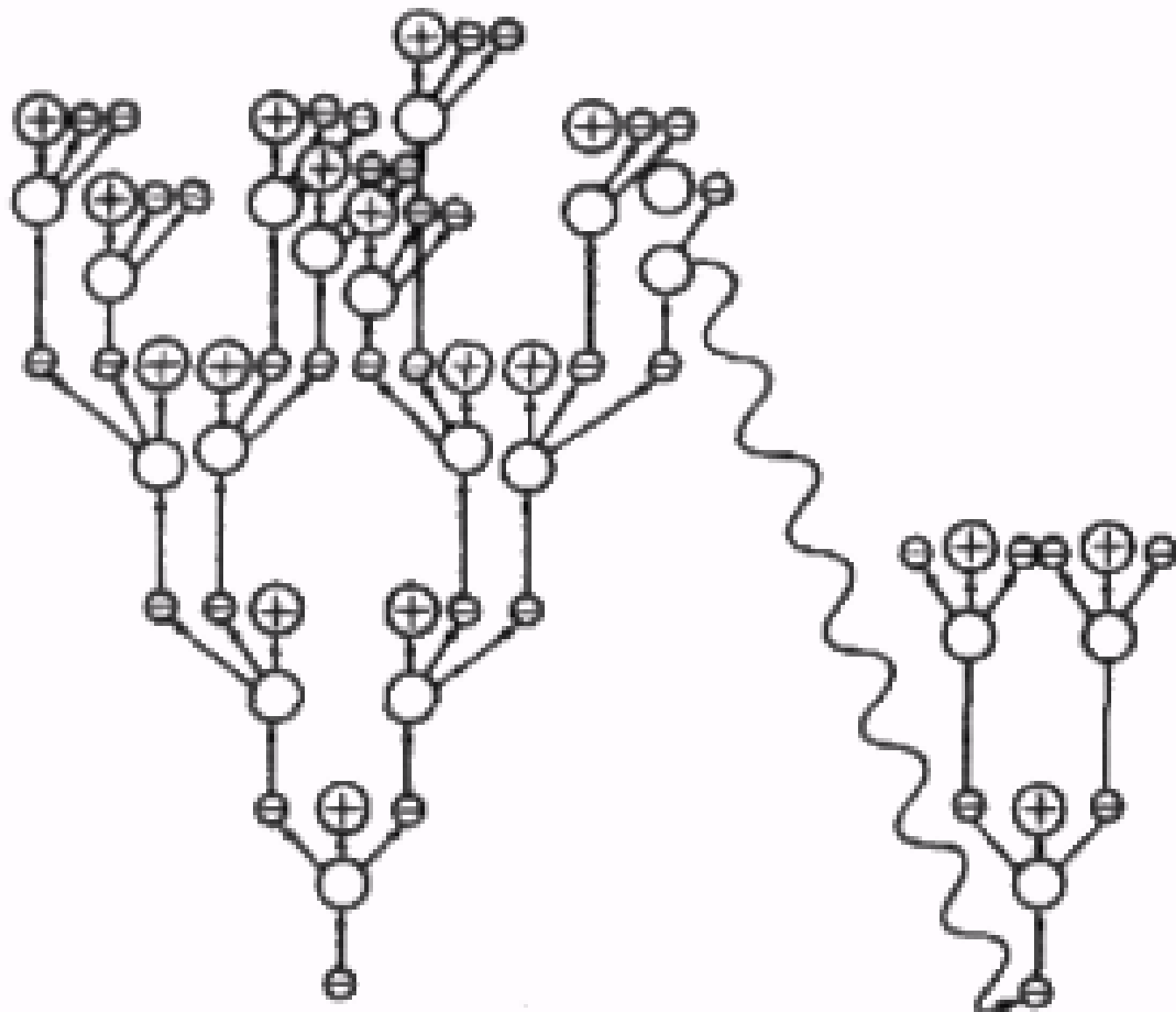


Мал. 2.132

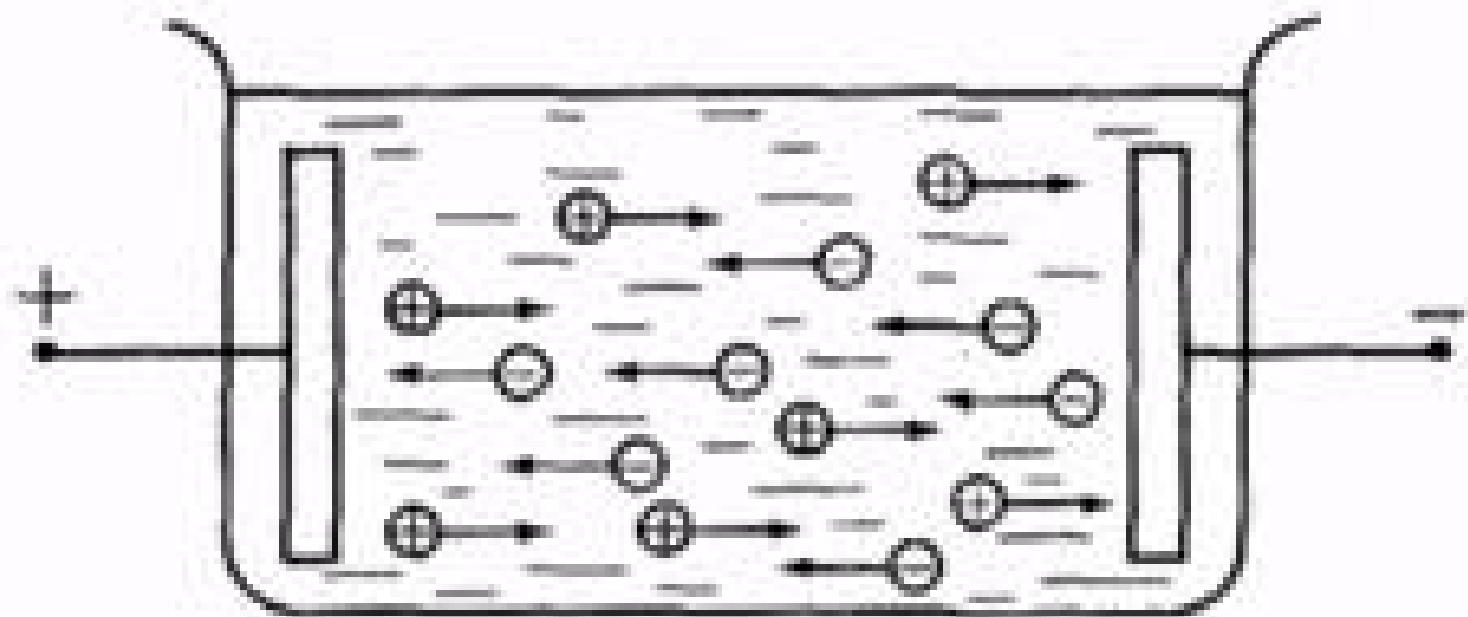




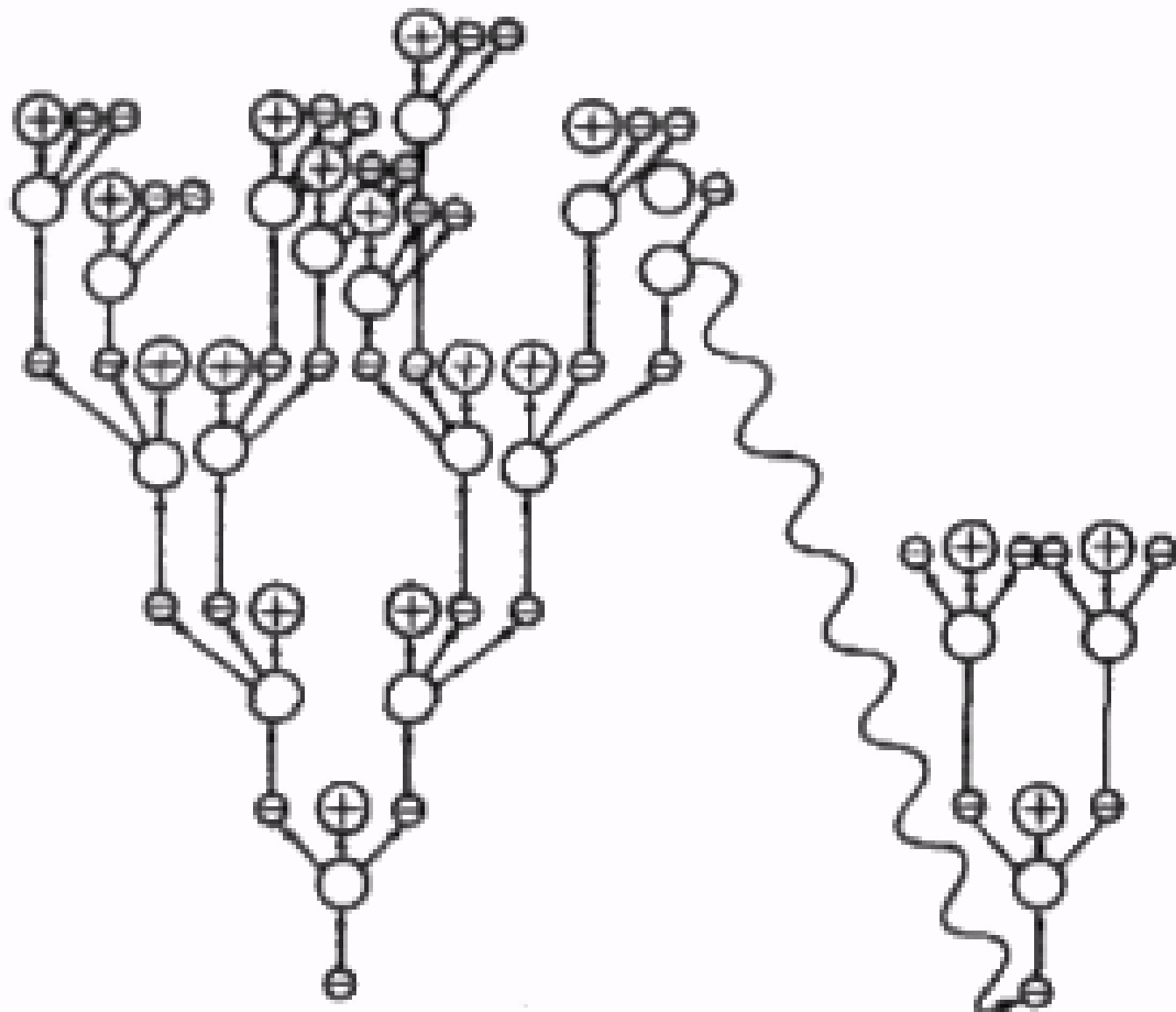
Мал. 2.132



Мал. 2.133



Мал. 2.132

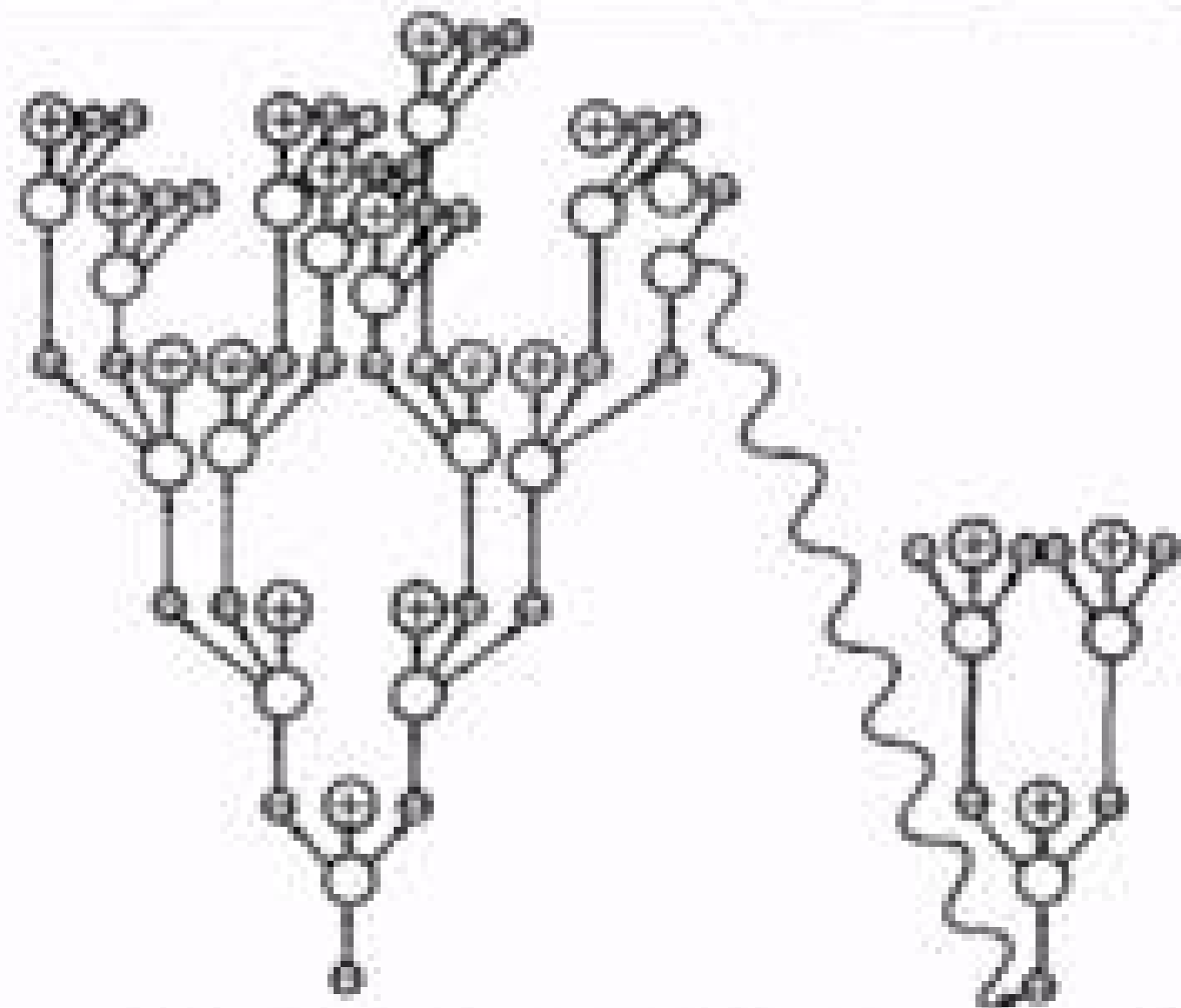


Мал. 2.133

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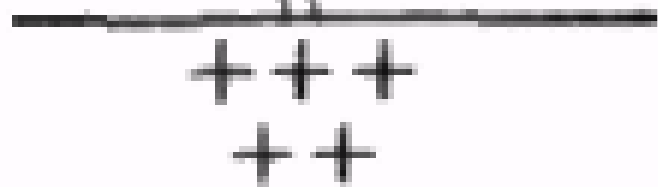
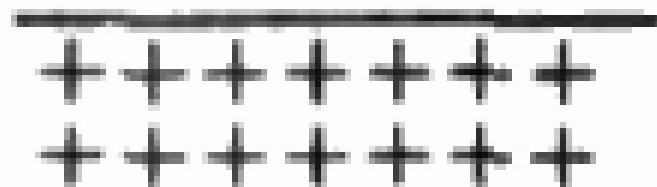


Мал. 2.133

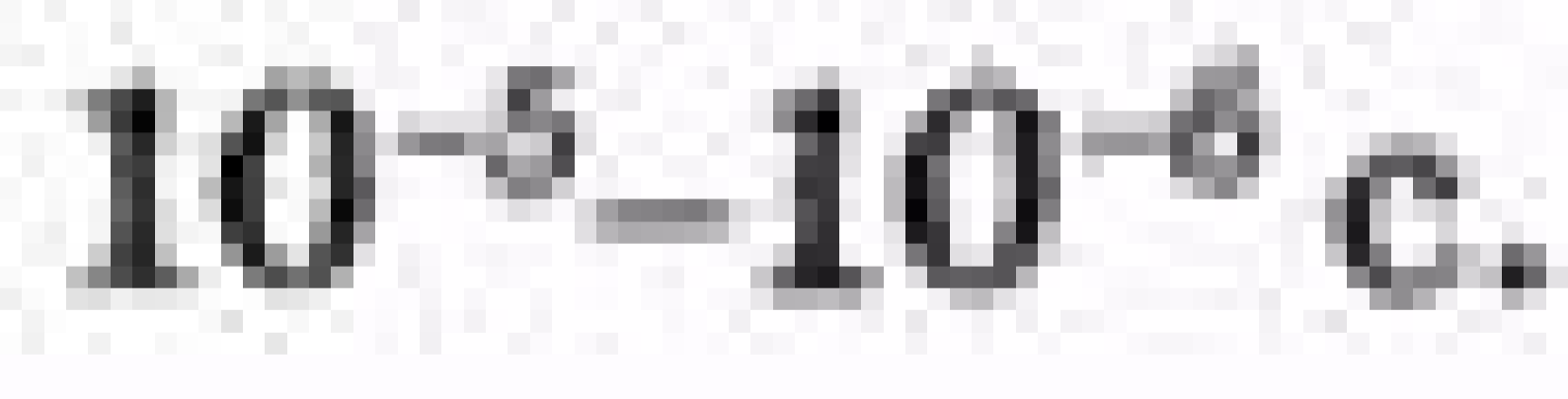
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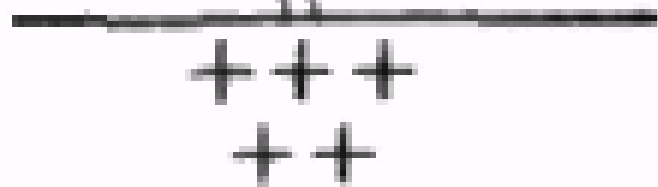
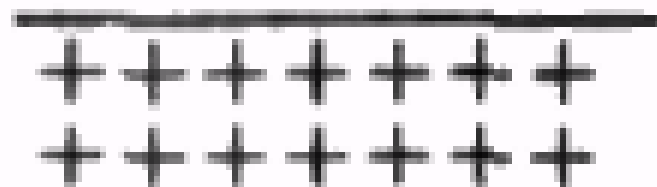
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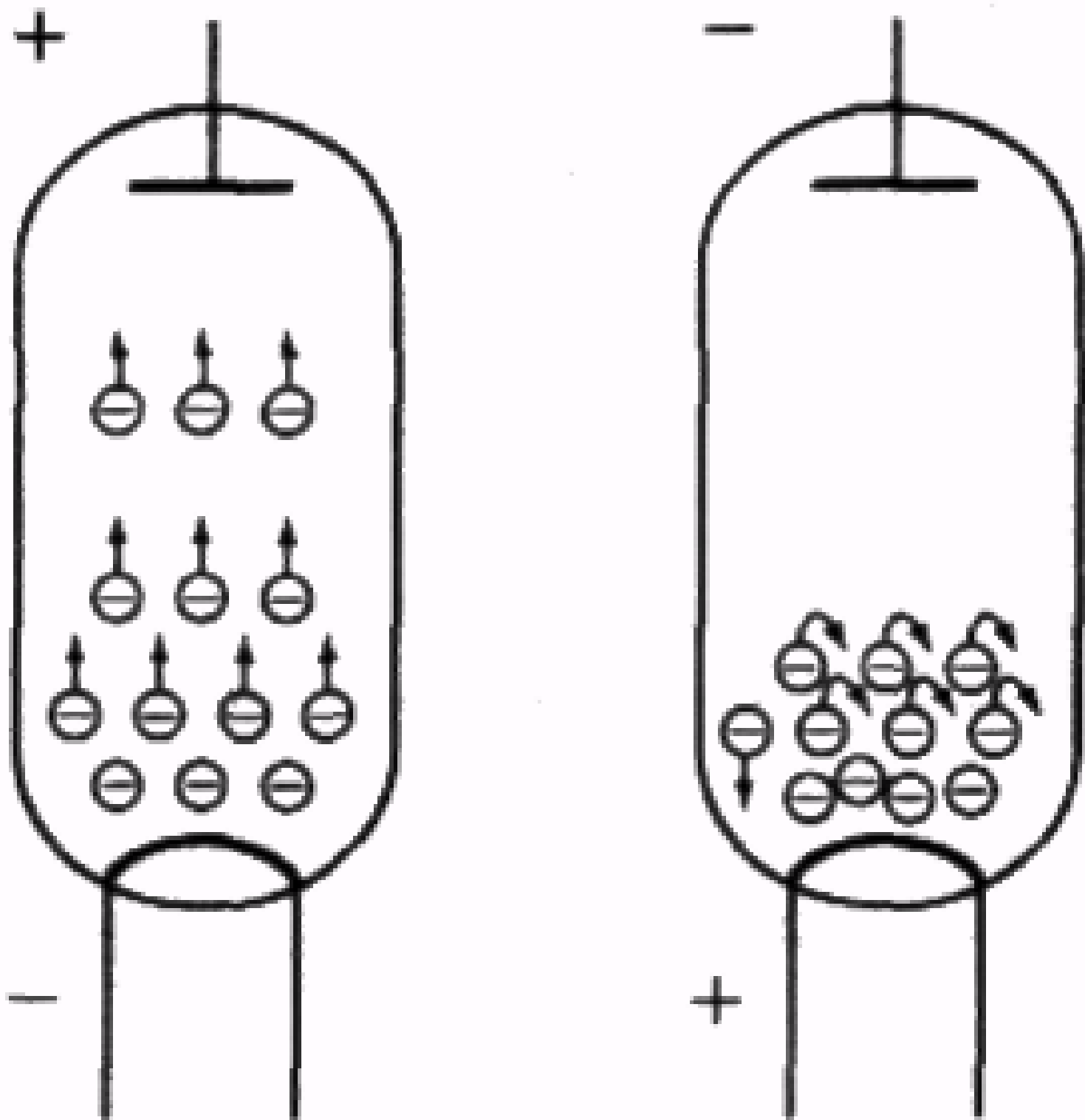


Мал. 2.134





Мал. 2.134



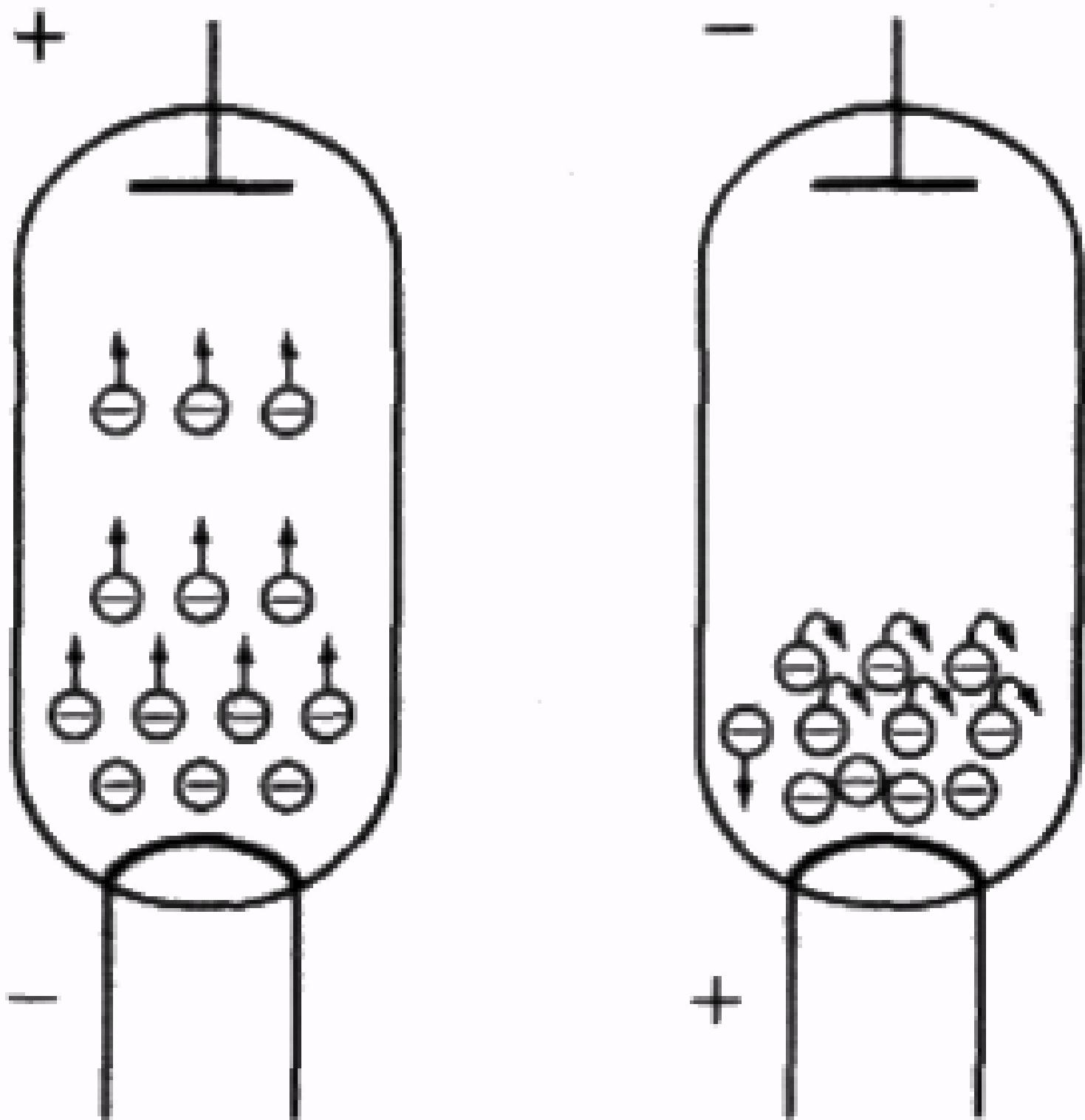
Мал. 2.135



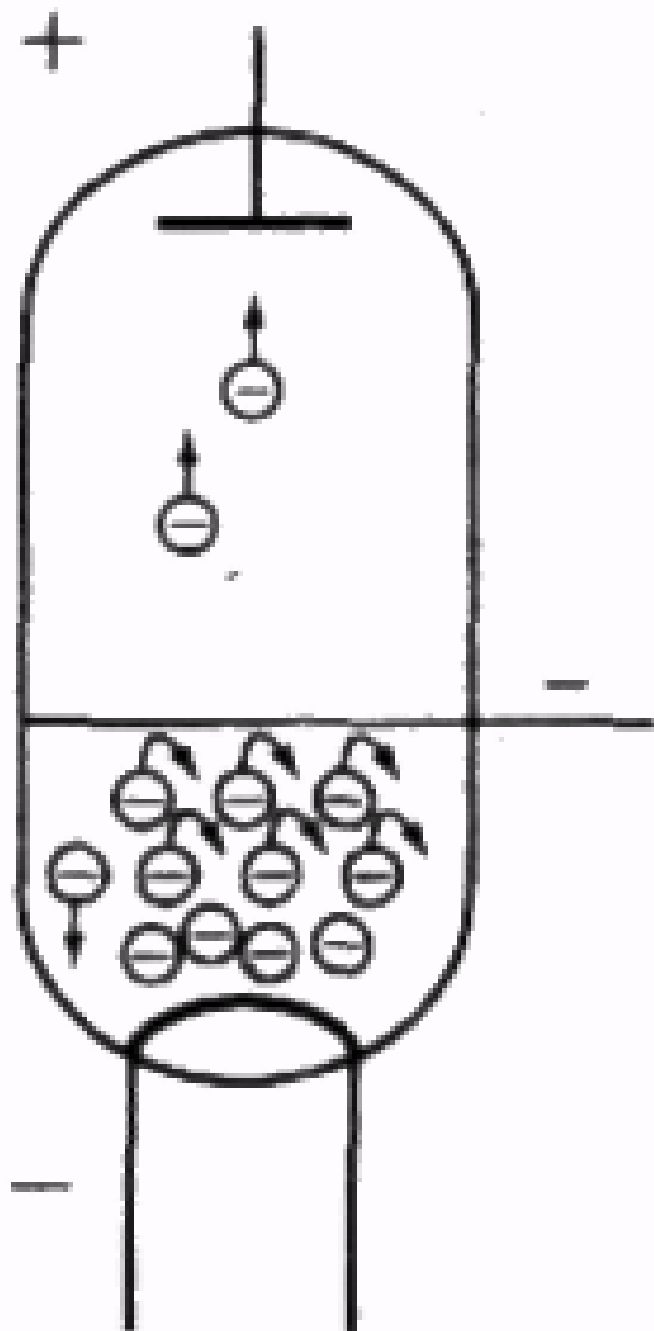
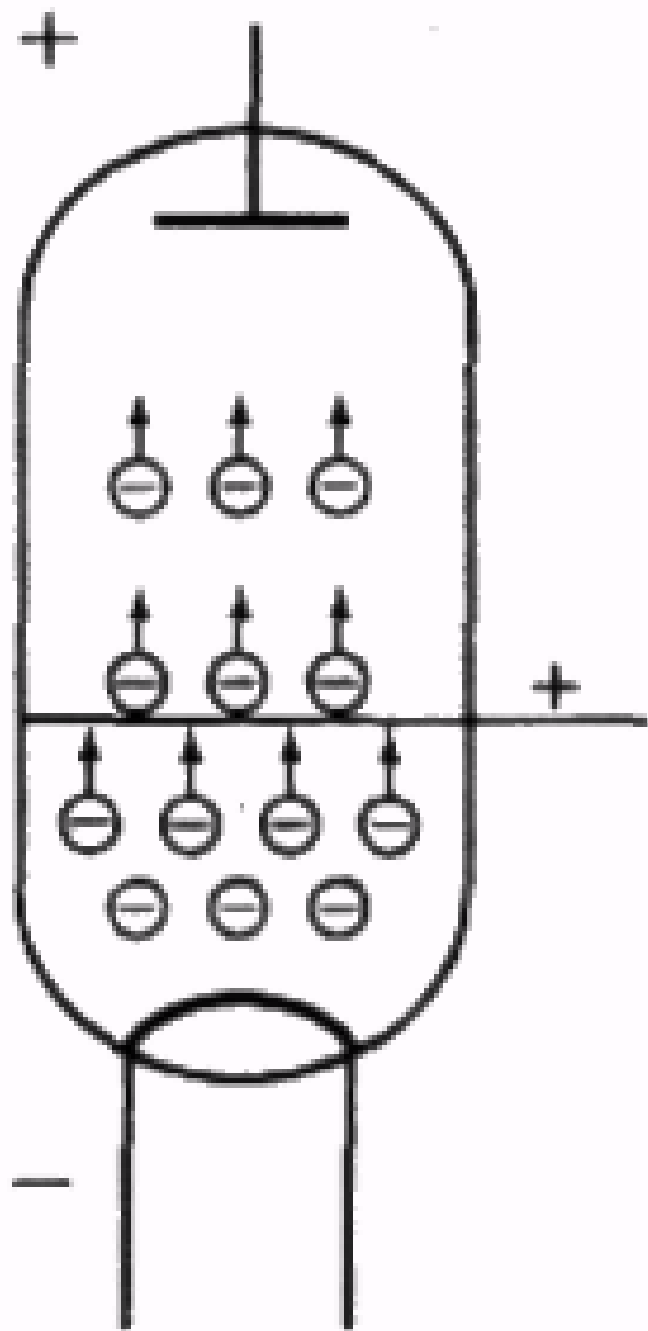
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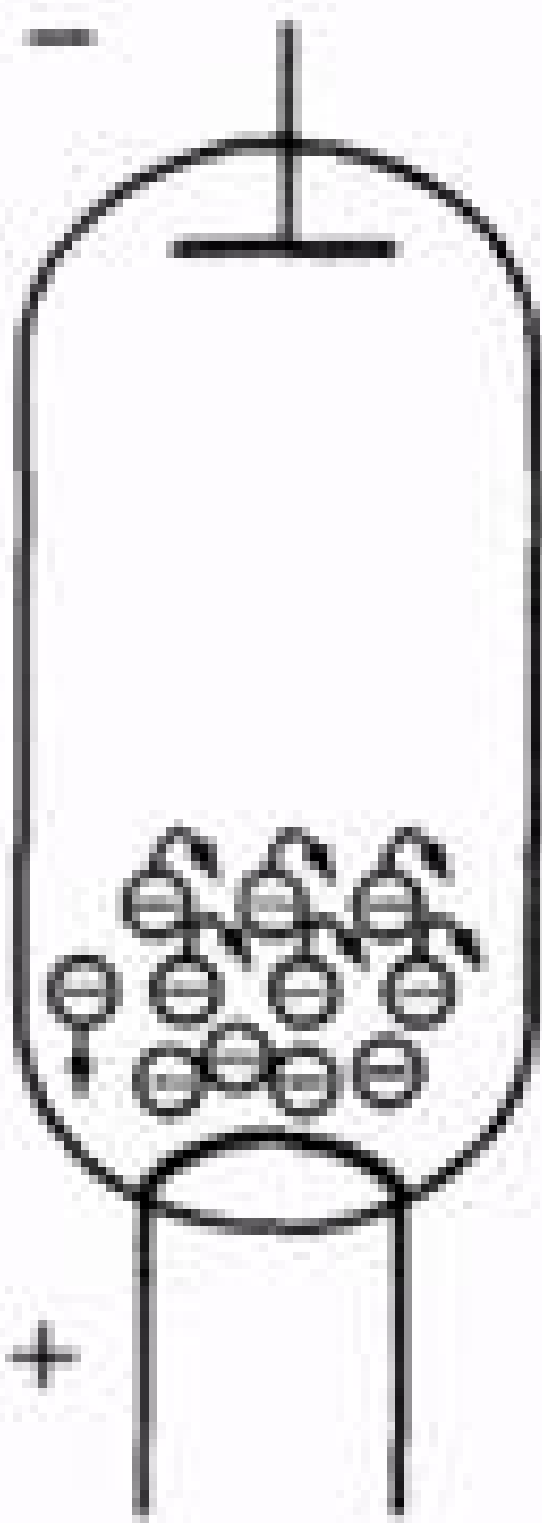
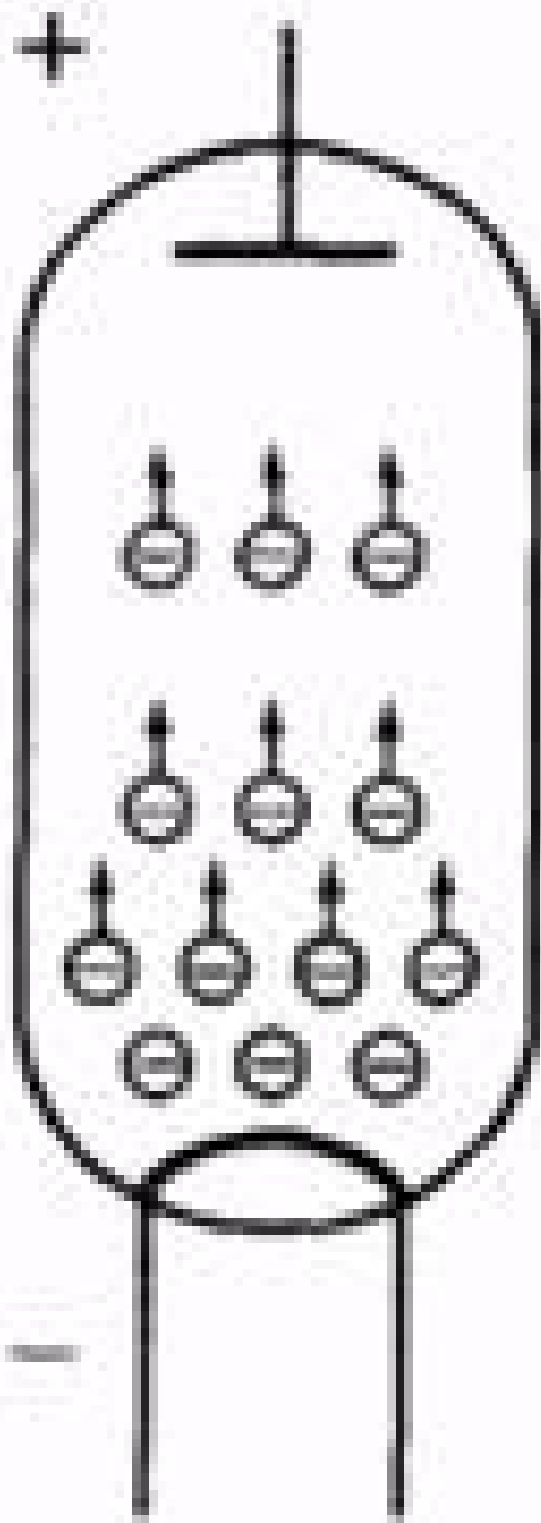
Mal. 2.134



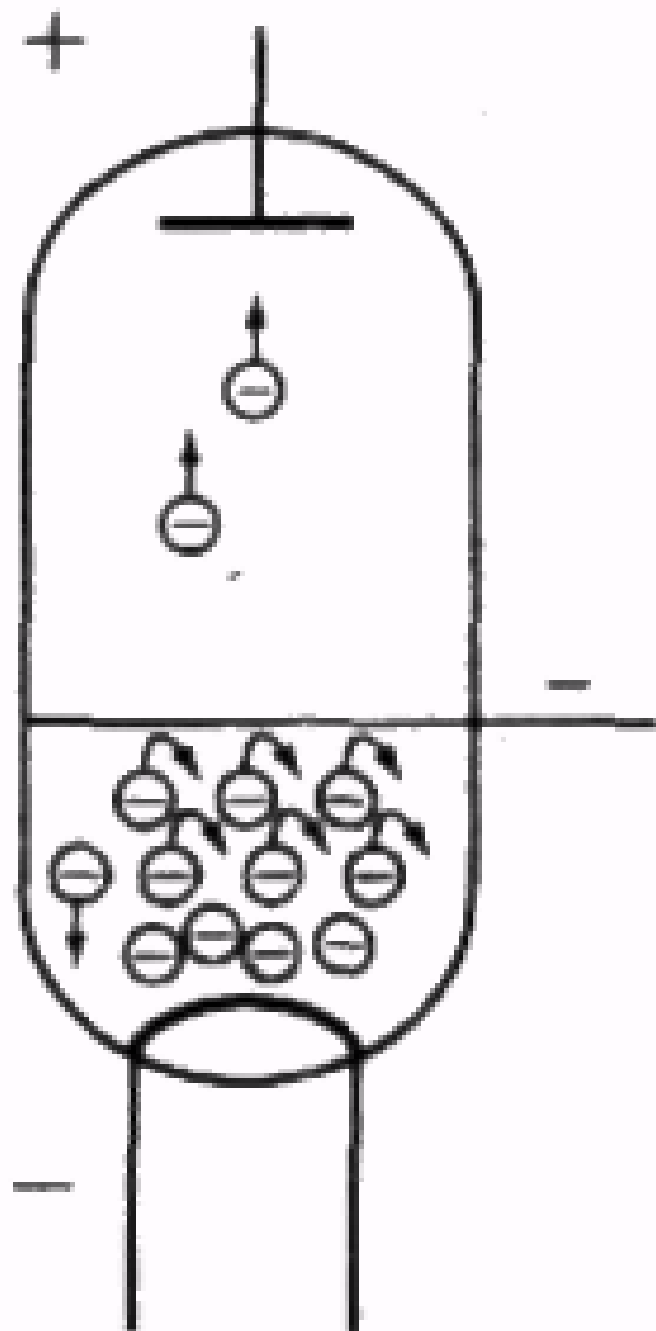
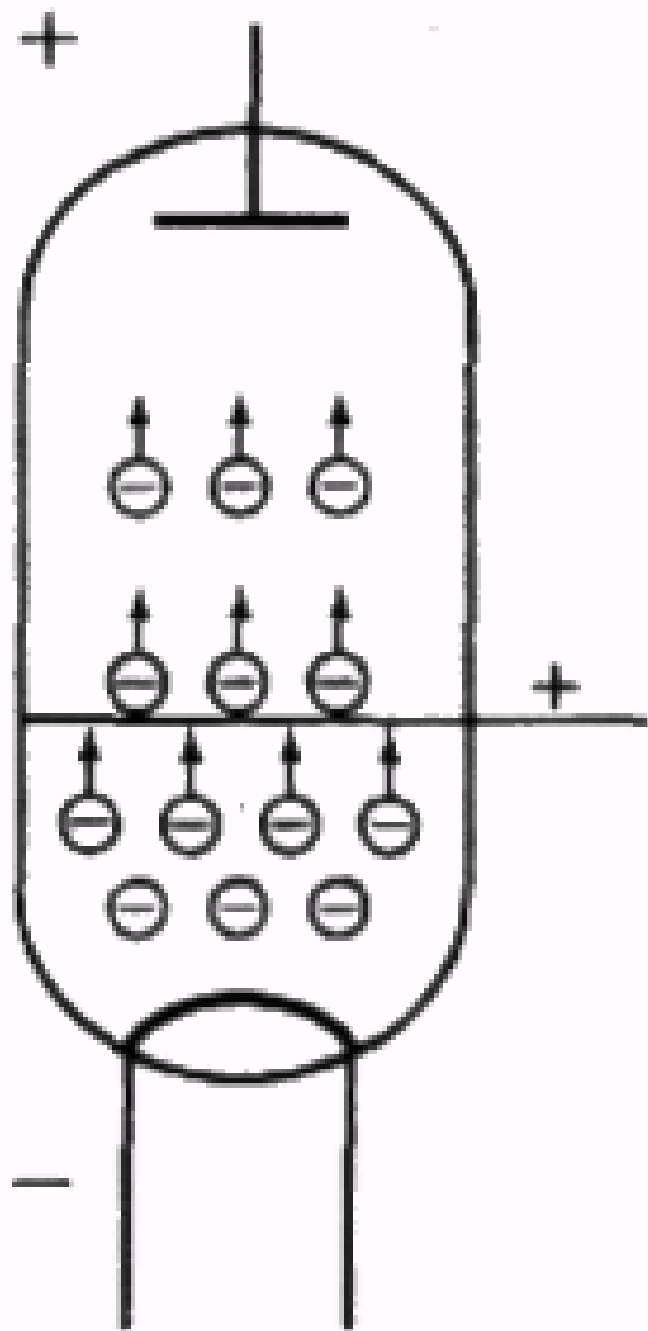
Мал. 2.135



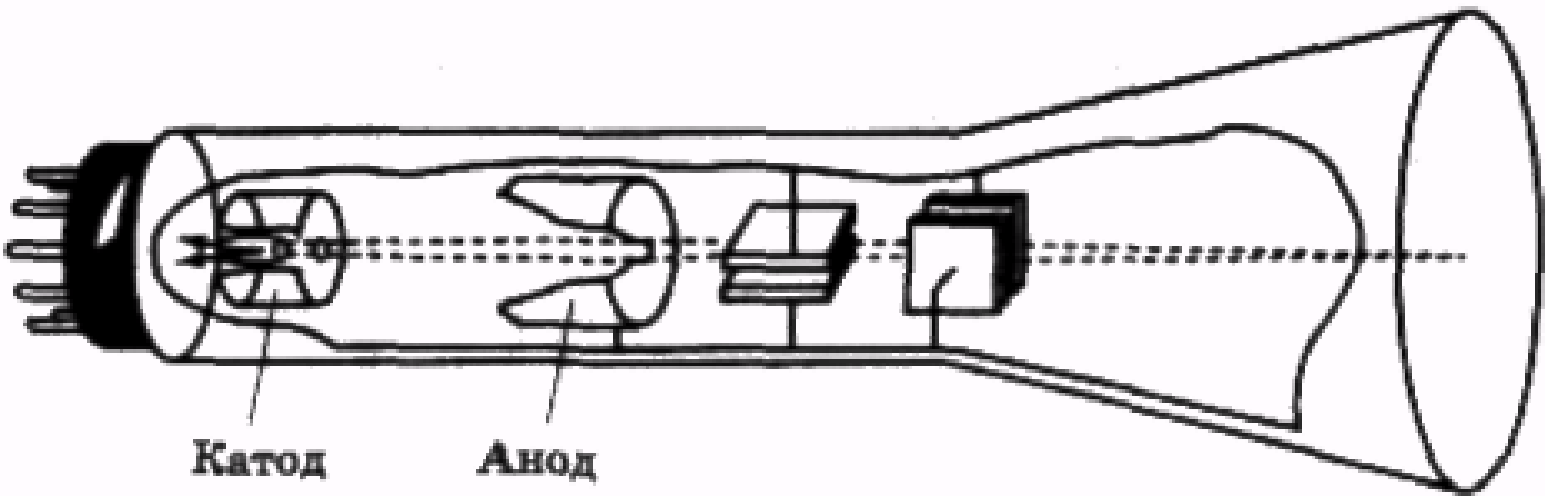
Мал. 2.136



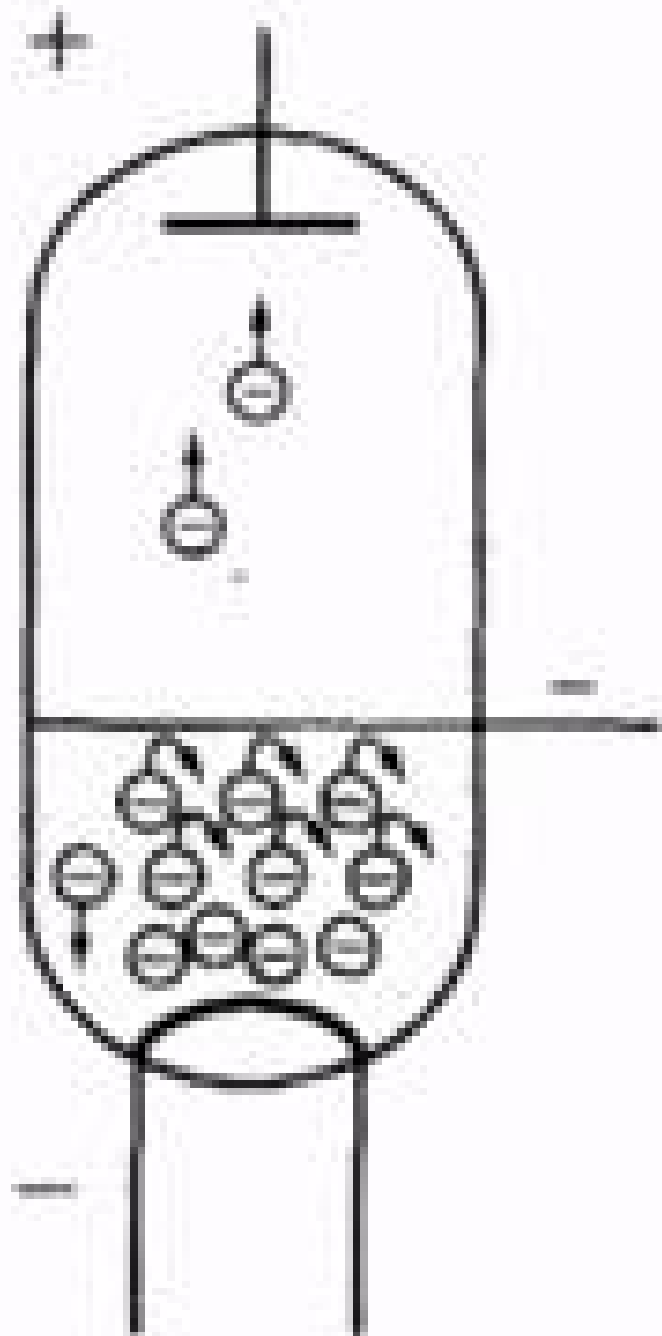
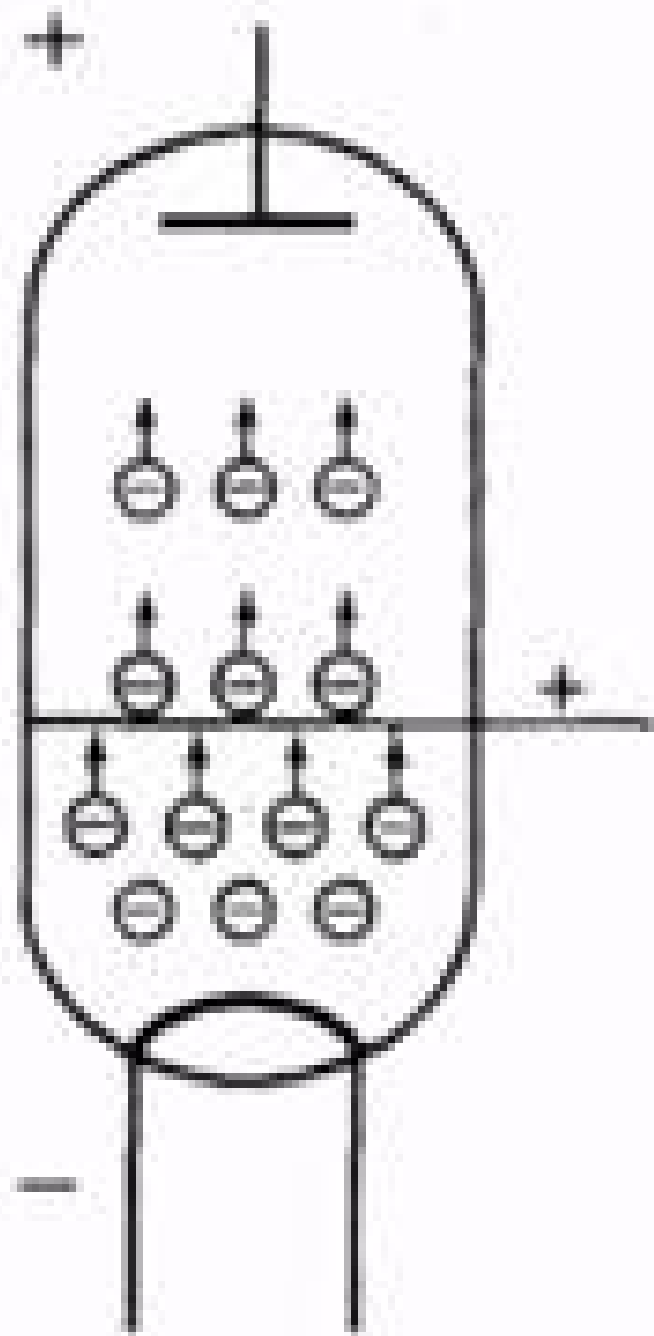
Мал. 2.135



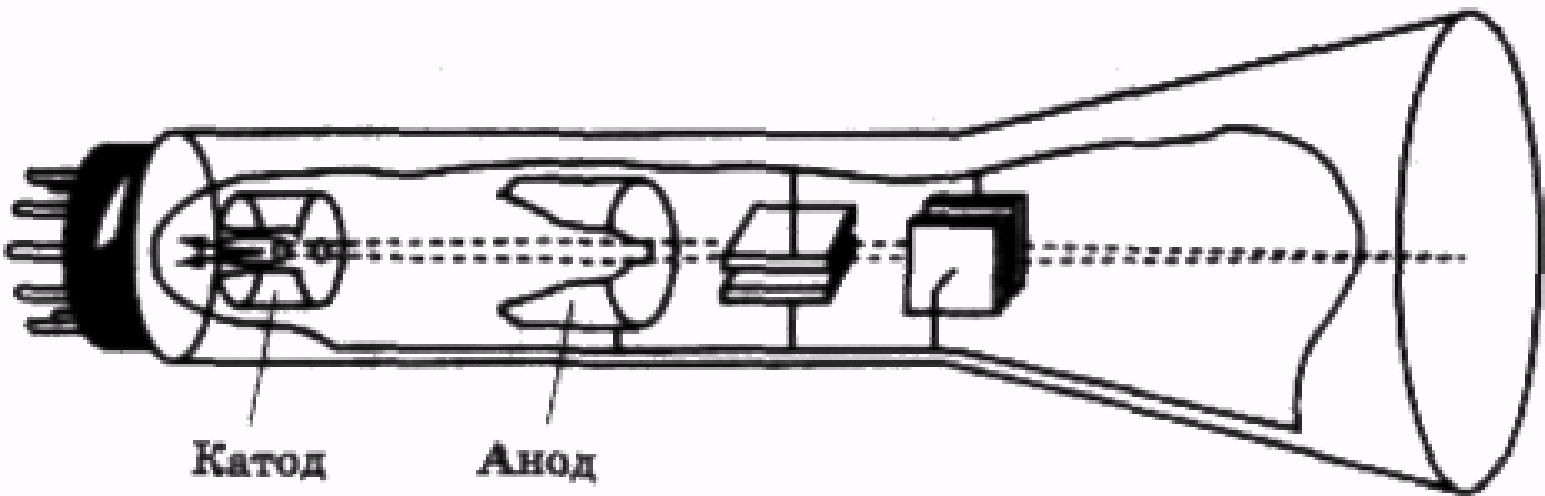
Мал. 2.136



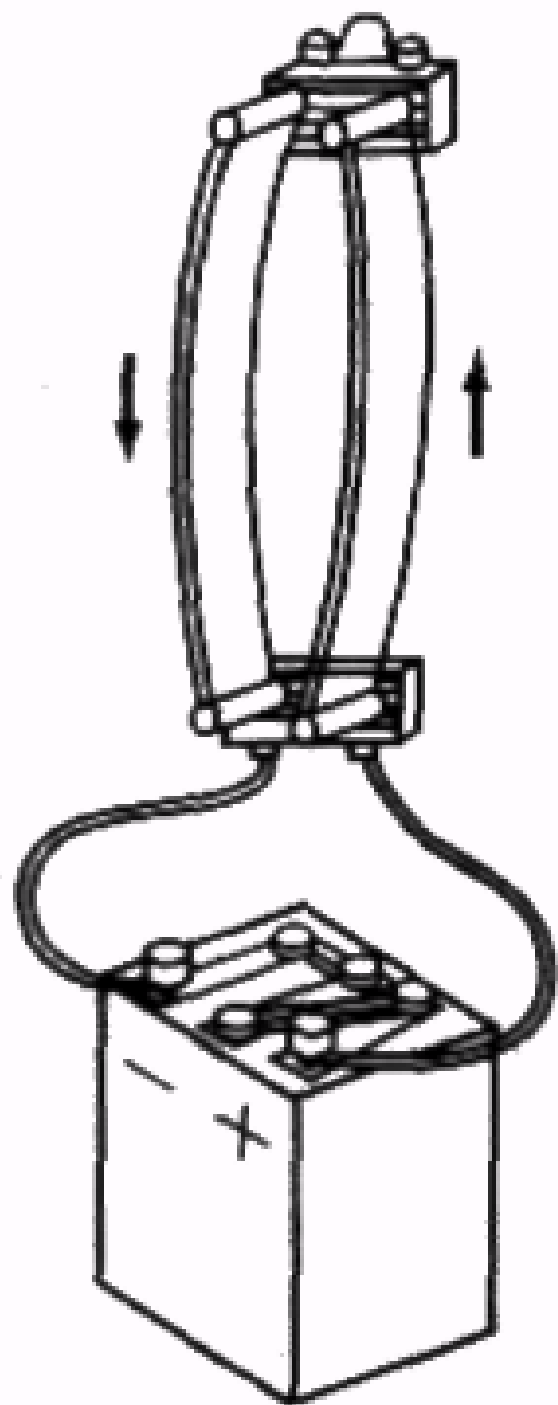
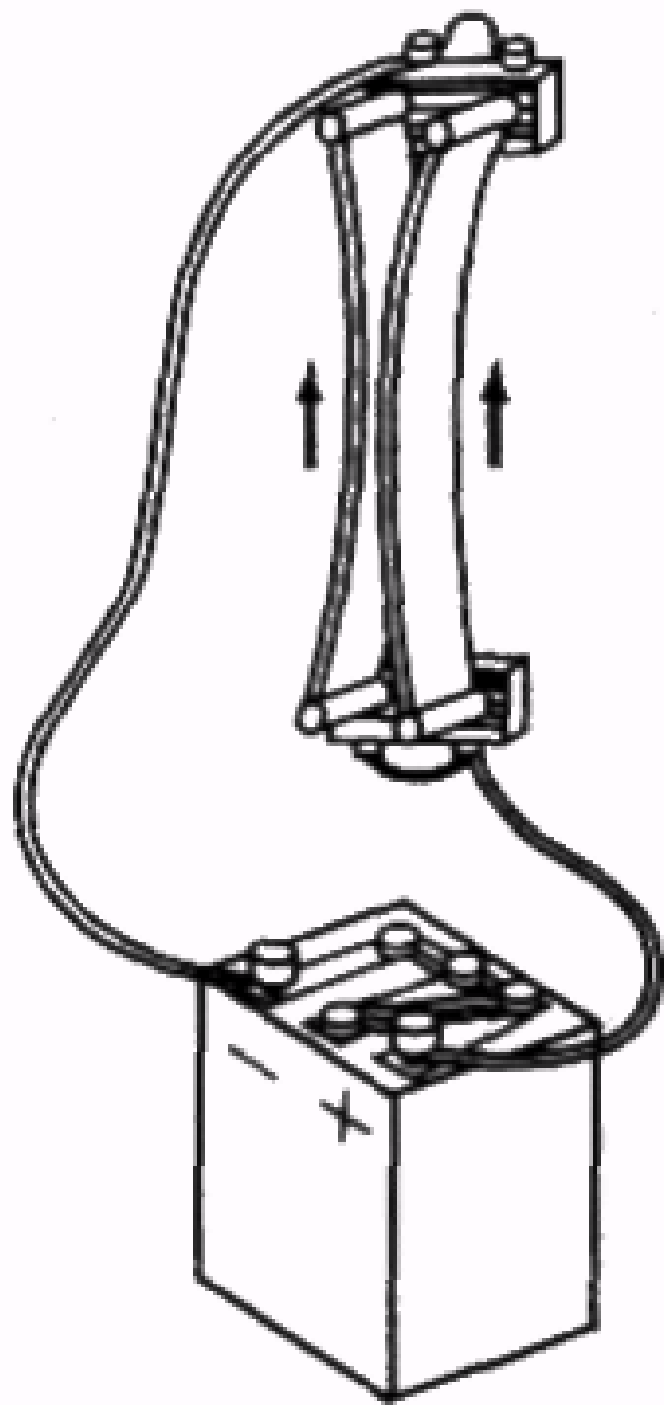
Мал. 2.137



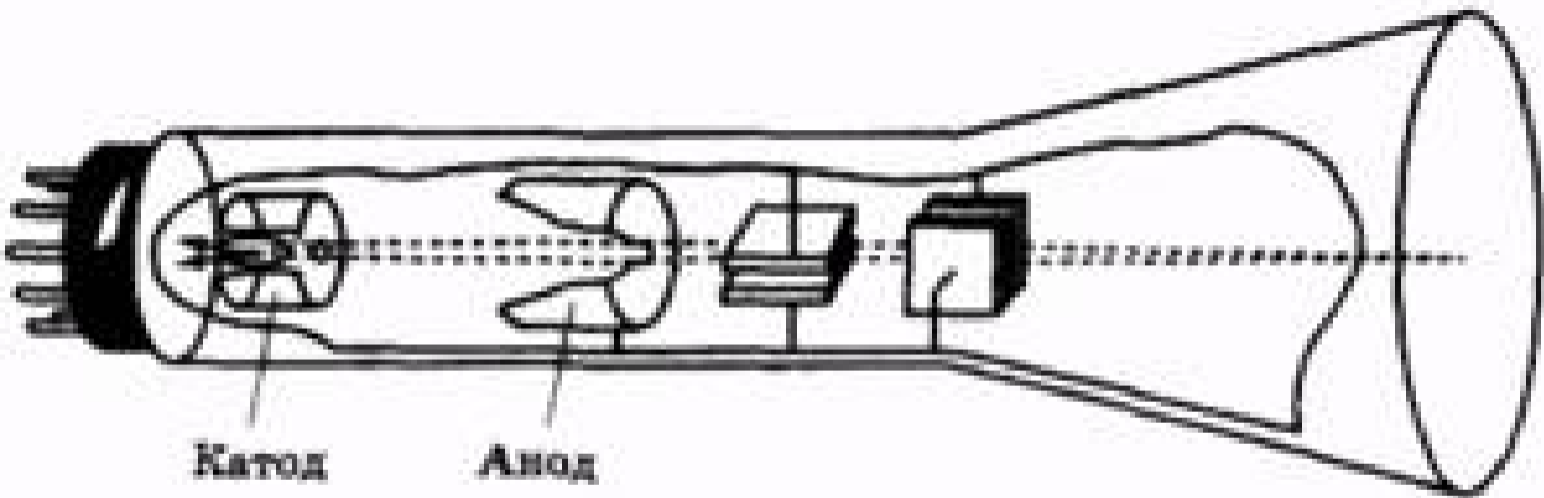
Мал. 2.136



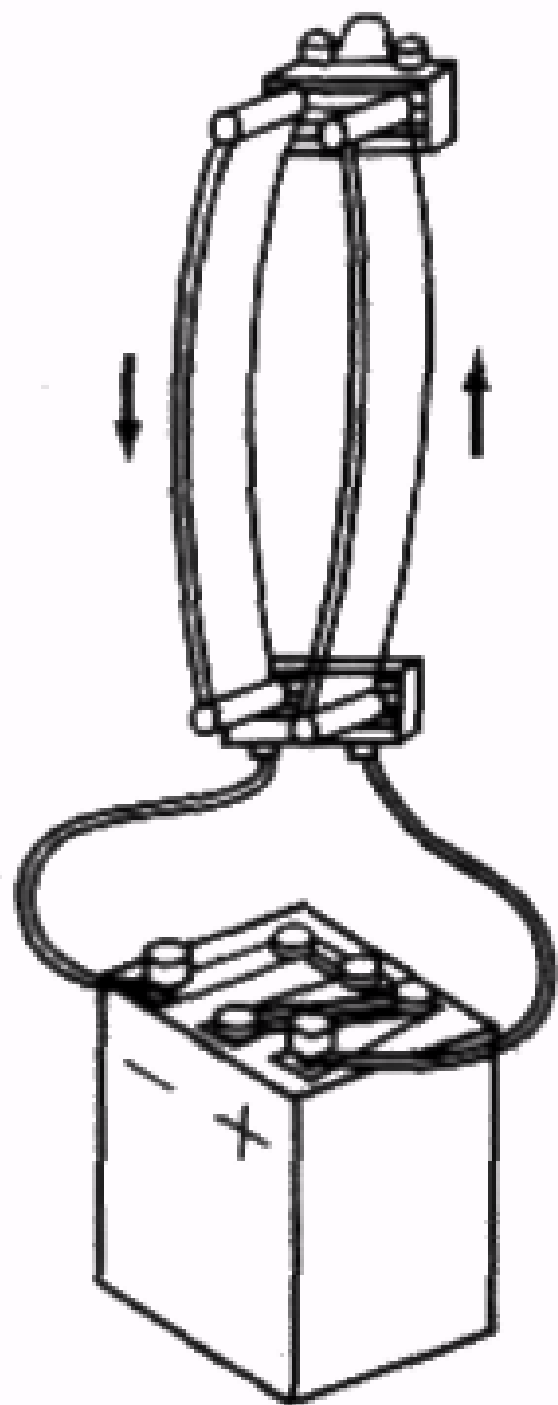
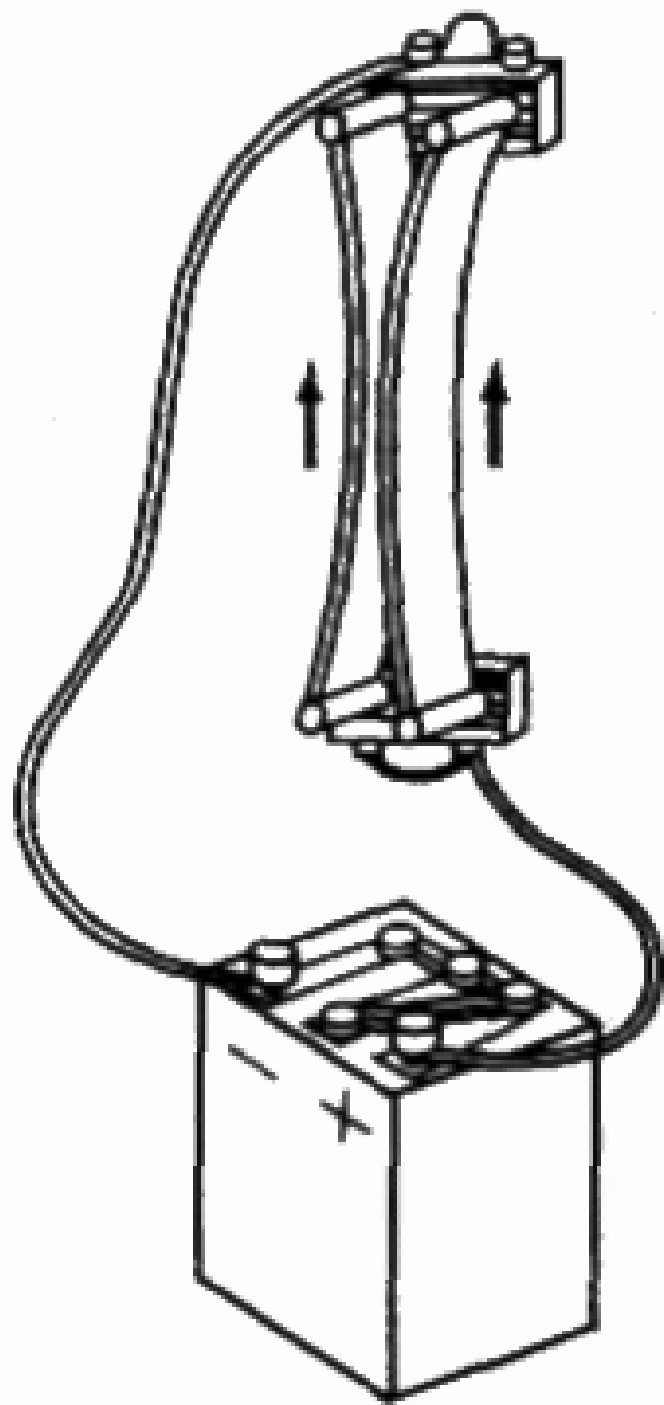
Мал. 2.137



Мал. 2.138



Мал. 2.137



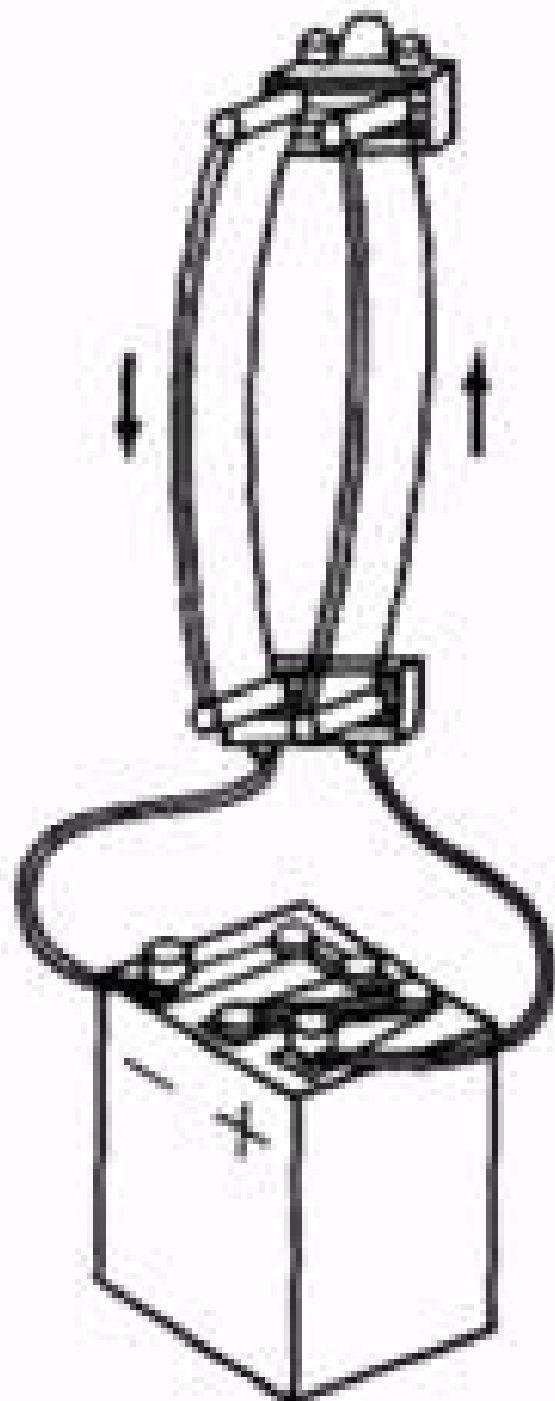
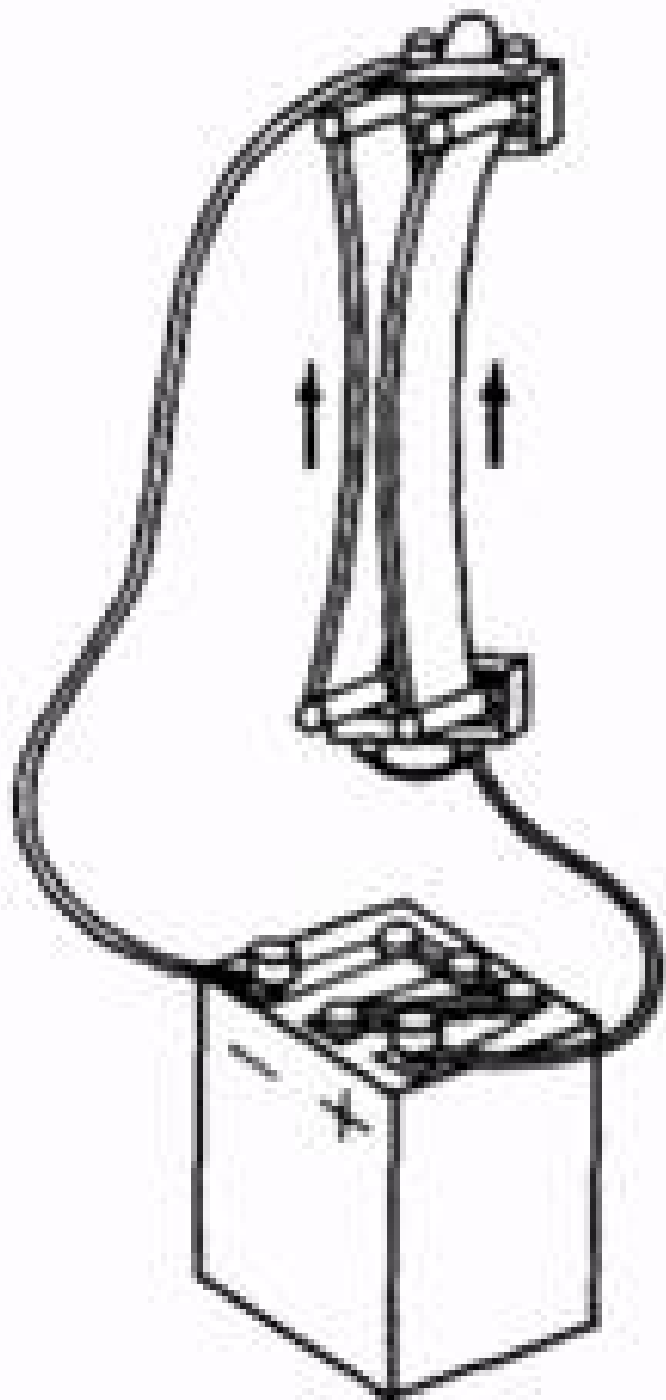
Мал. 2.138

A pixelated, grayscale representation of the number 2. The digits are formed by a grid of black and gray pixels, giving it a blocky, digital appearance.

A pixelated, grayscale representation of the number 3. The digits are formed by a grid of black and gray pixels, giving it a blocky, digital appearance.

A pixelated, grayscale representation of the number 10. The digits are formed by a grid of black and gray pixels, giving it a blocky, digital appearance.

A pixelated, grayscale representation of the number 11. The digits are formed by a grid of black and gray pixels, giving it a blocky, digital appearance.



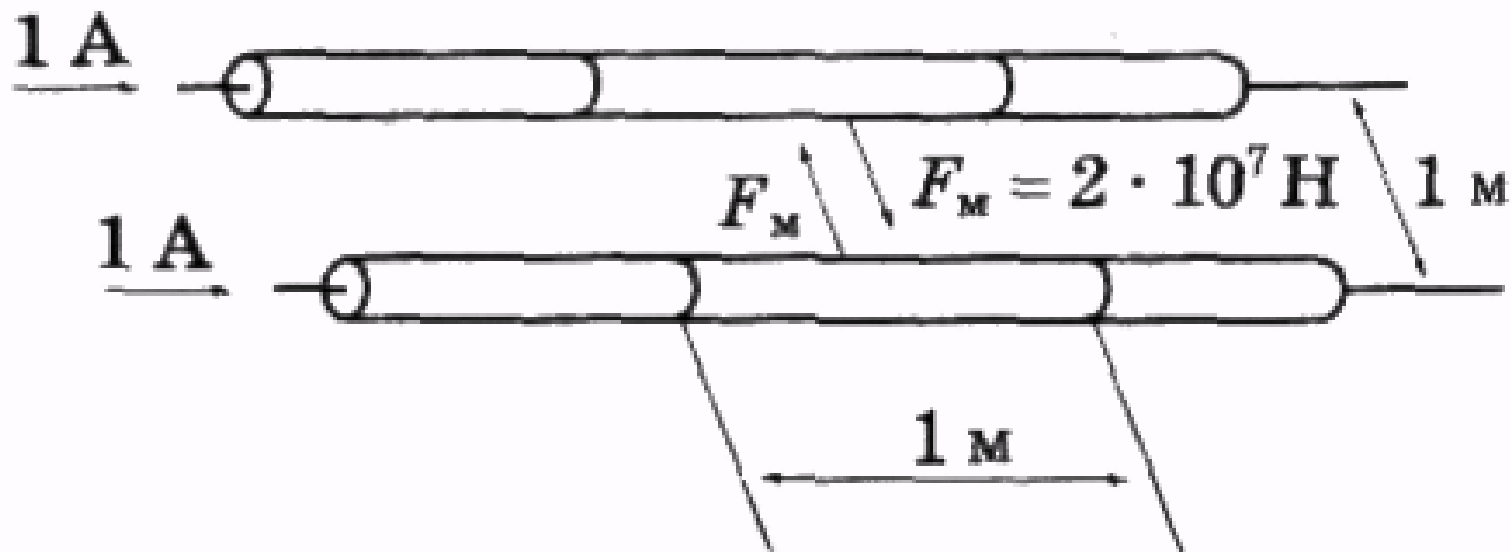
Мал. 2.138

2

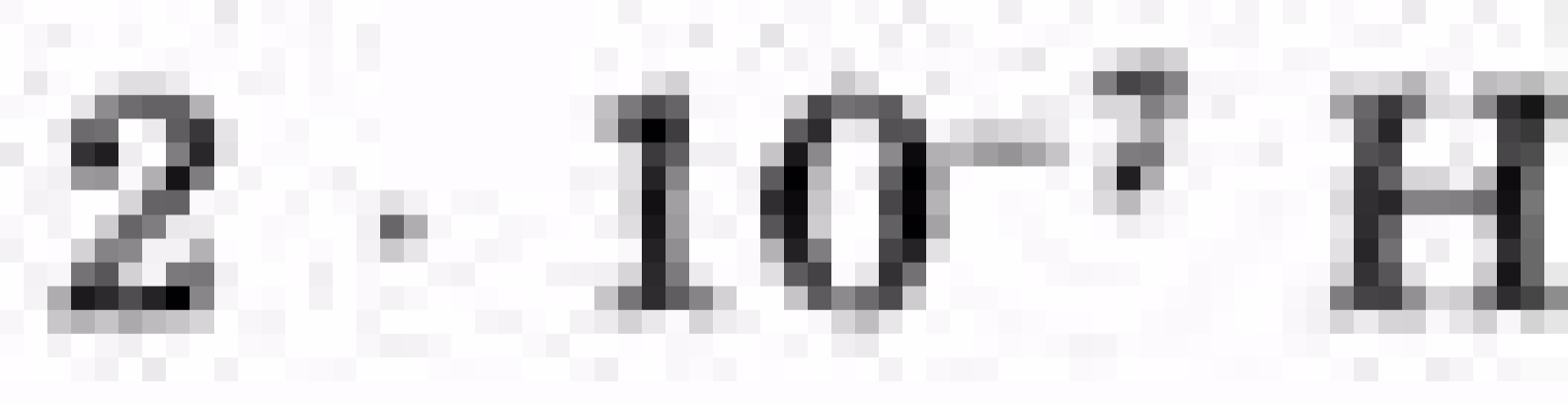
.

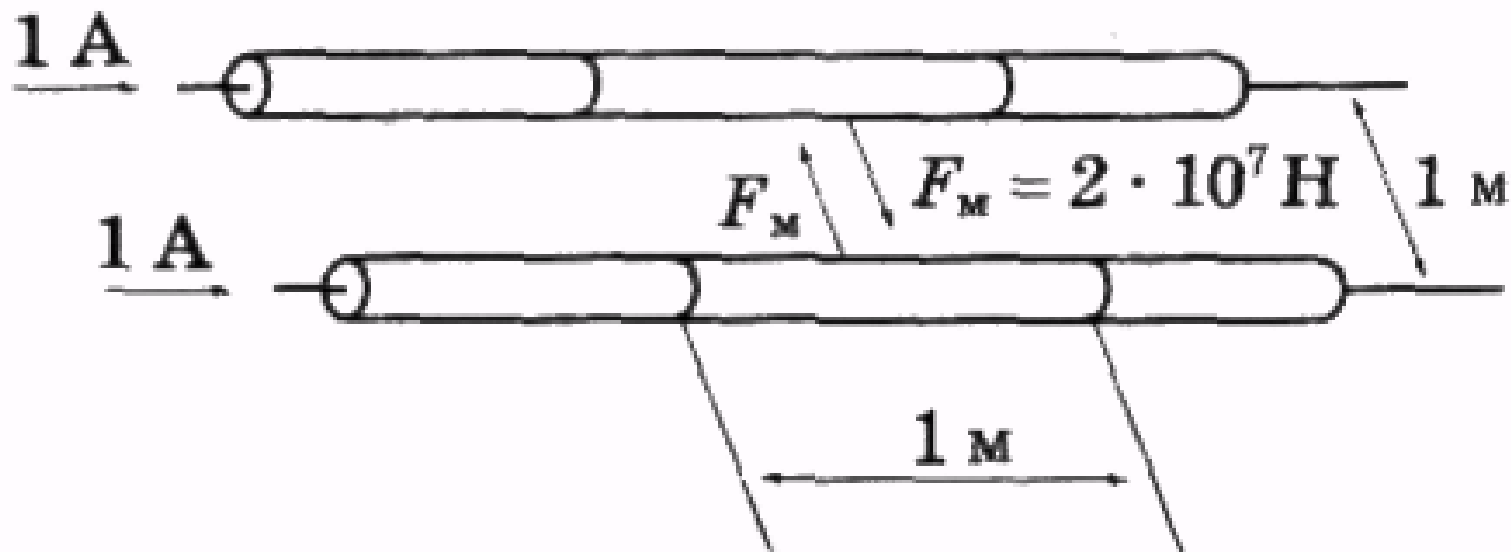
100%

FI

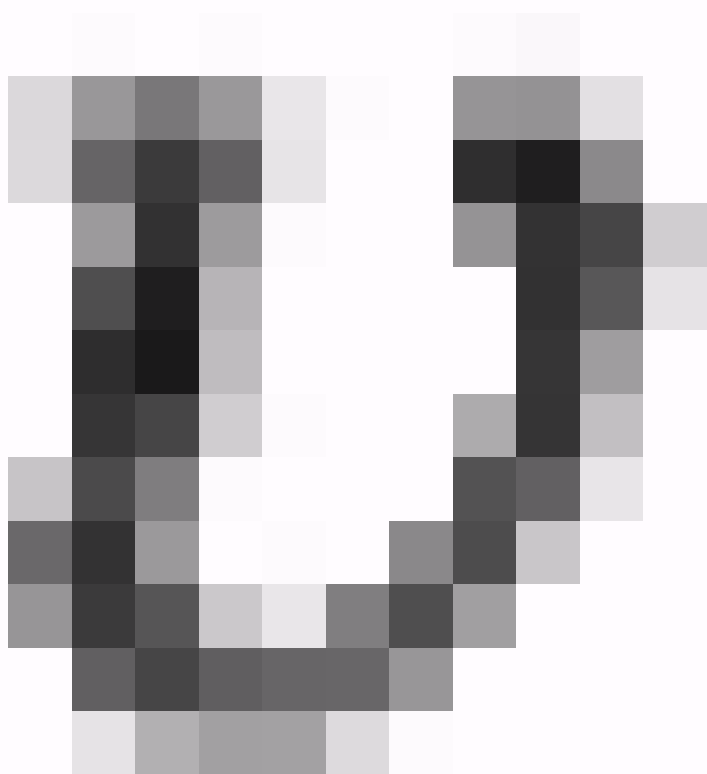
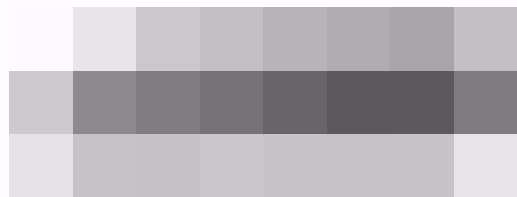


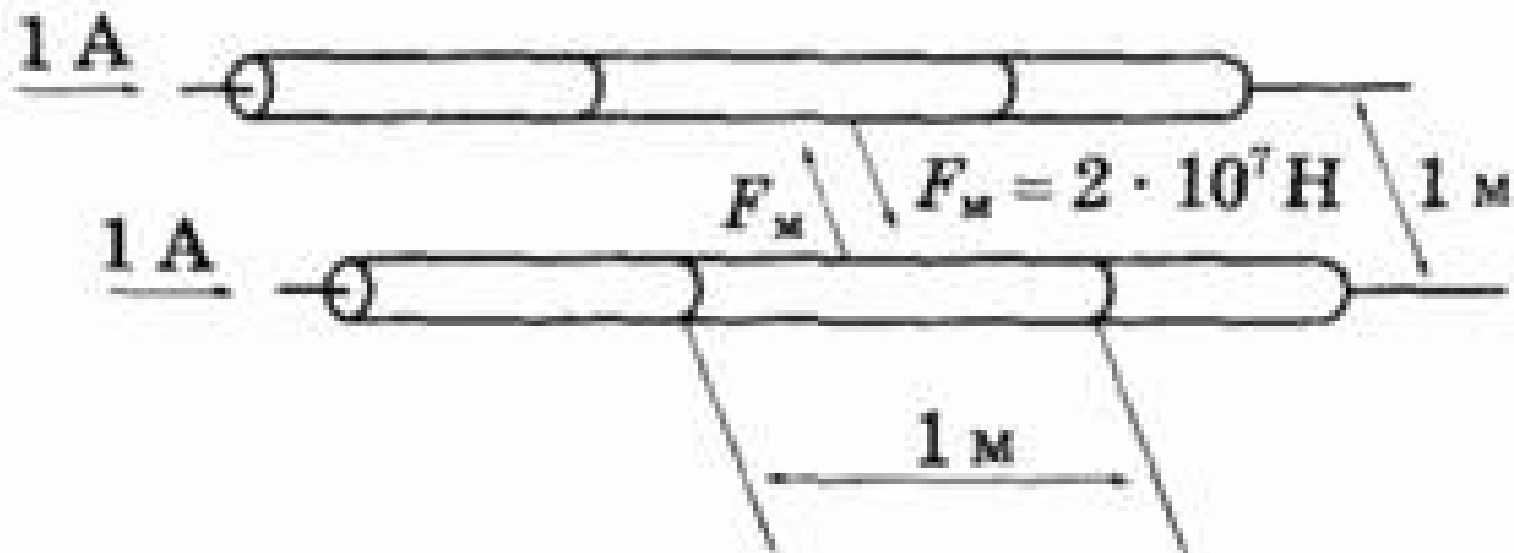
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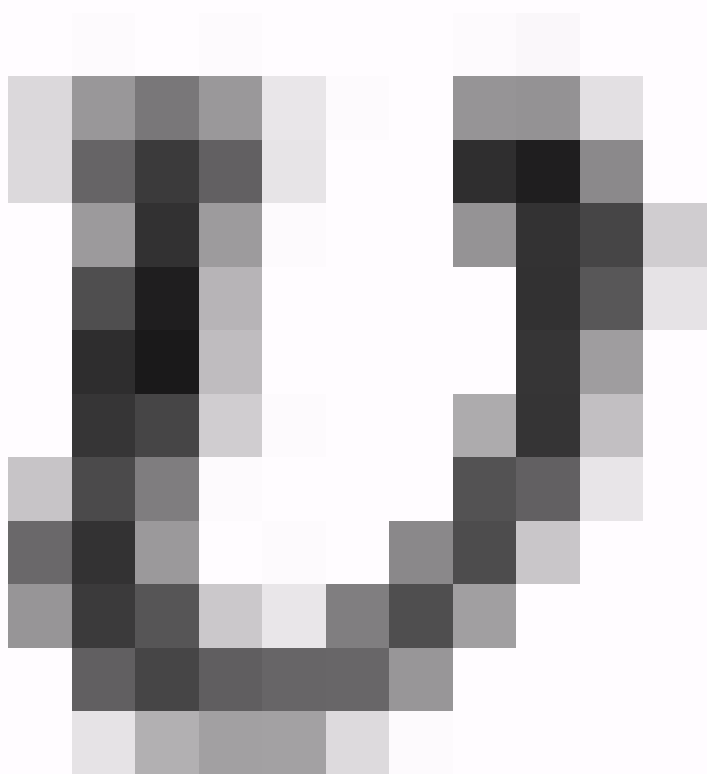
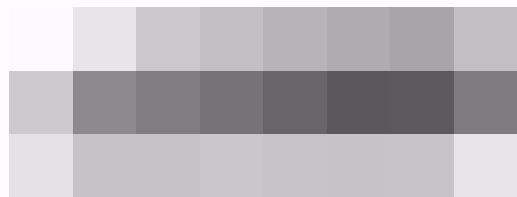


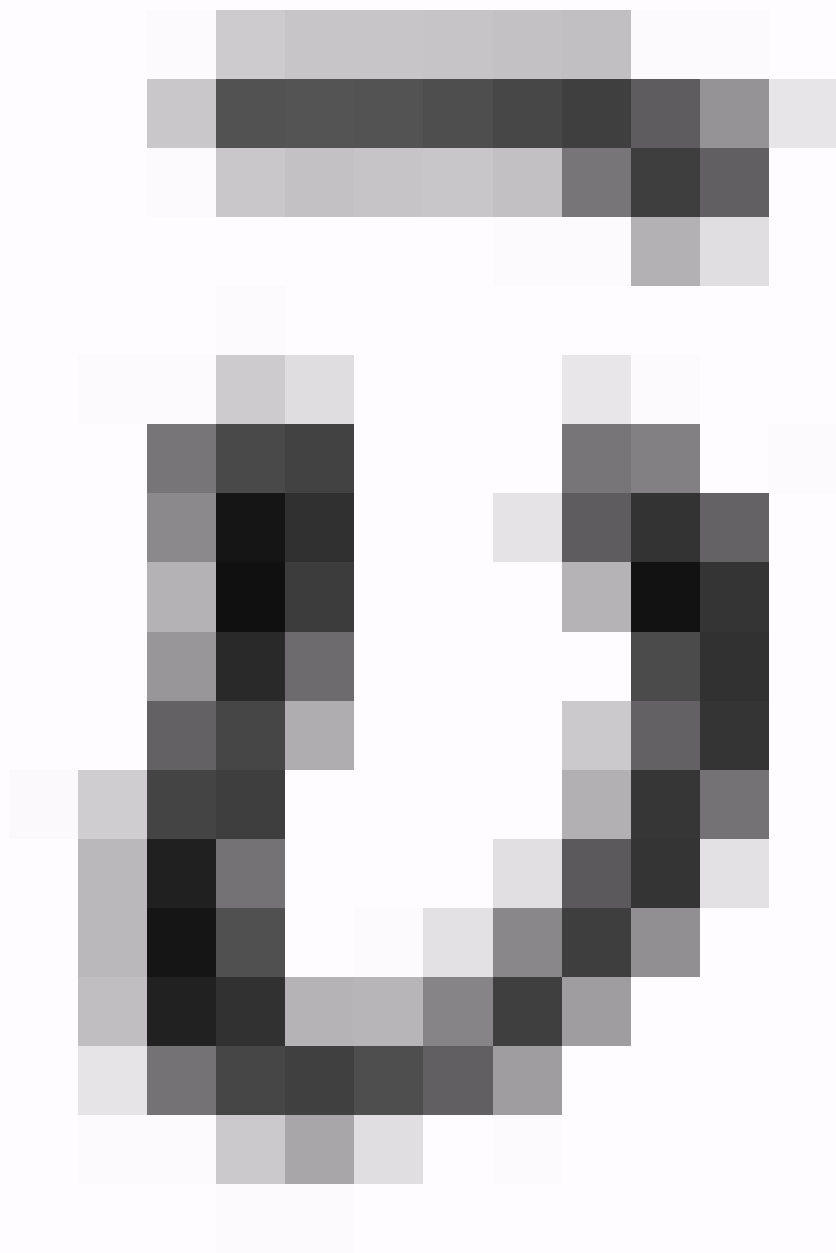
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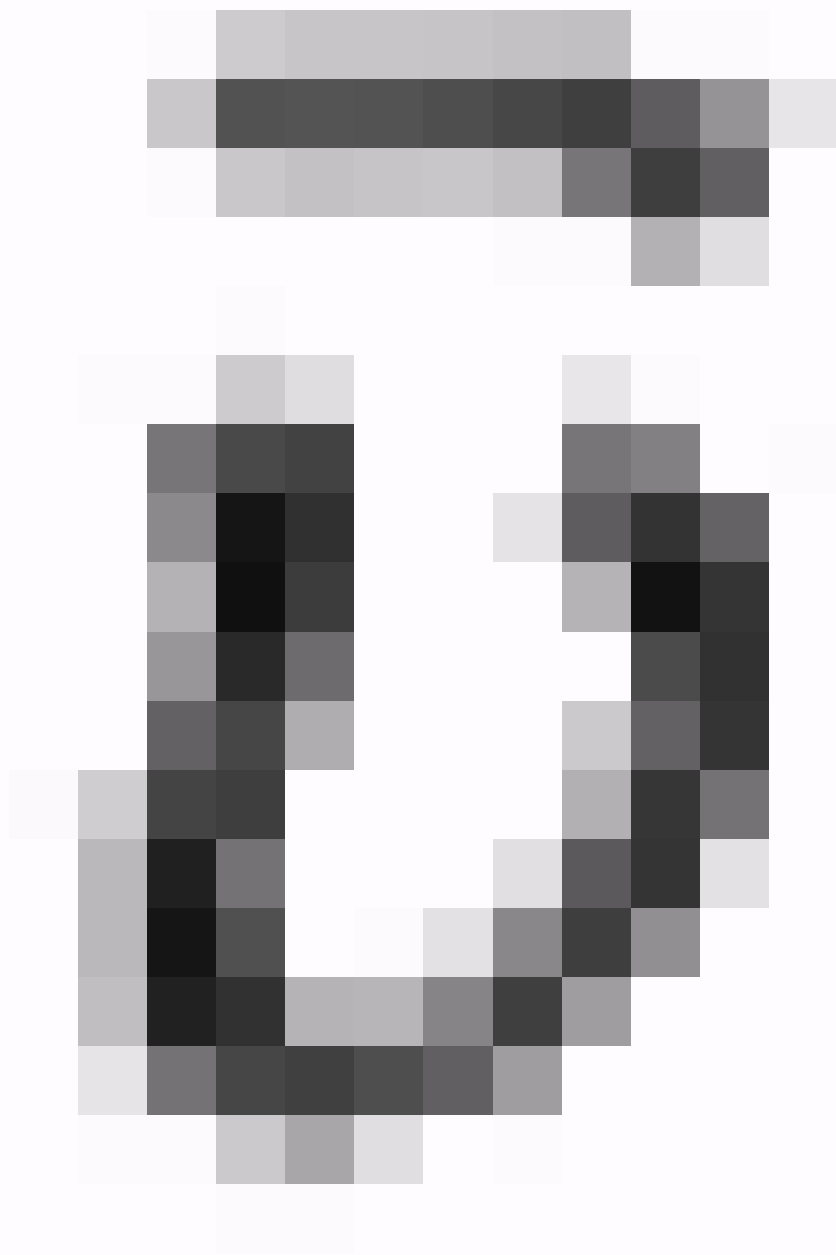


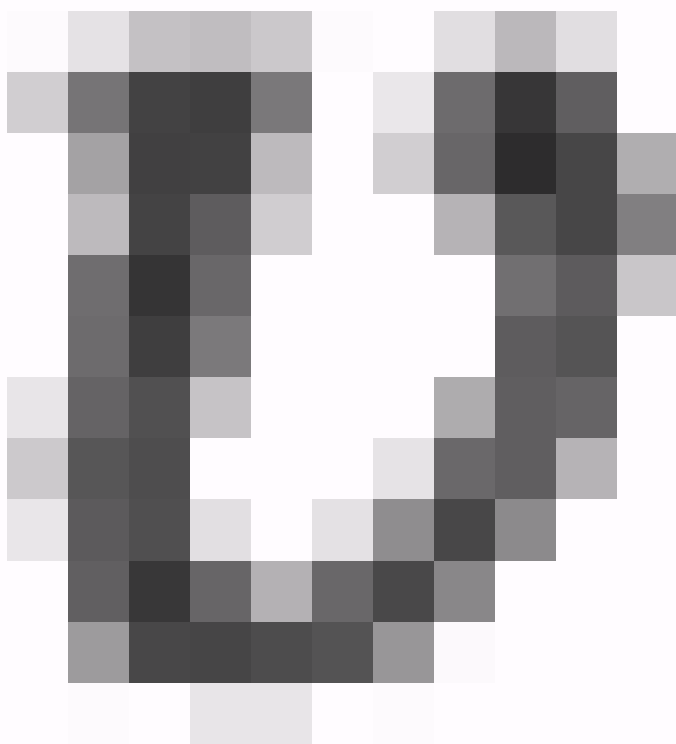
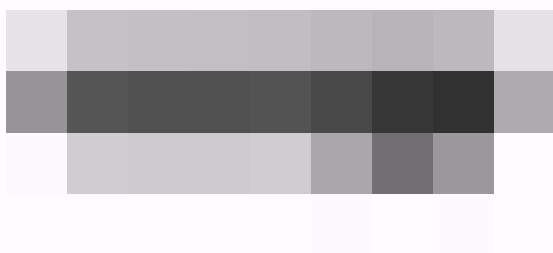


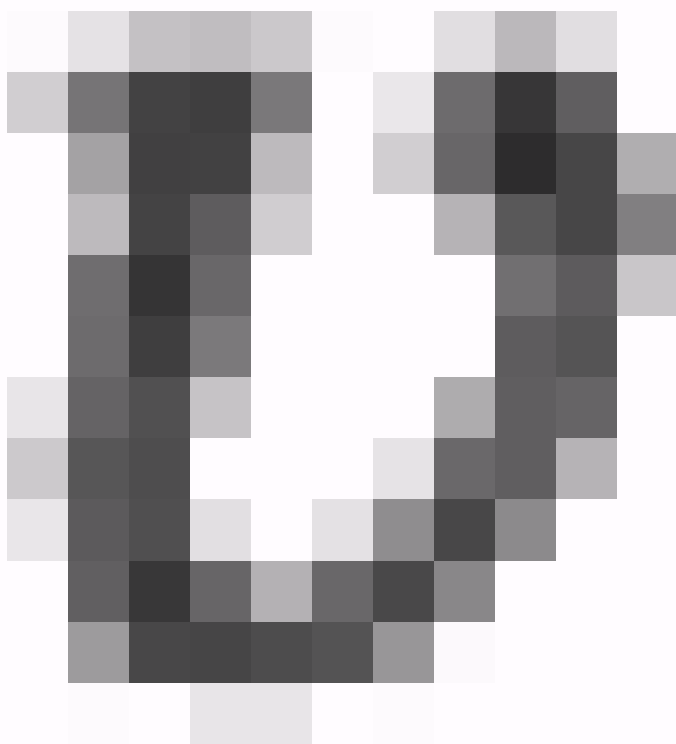
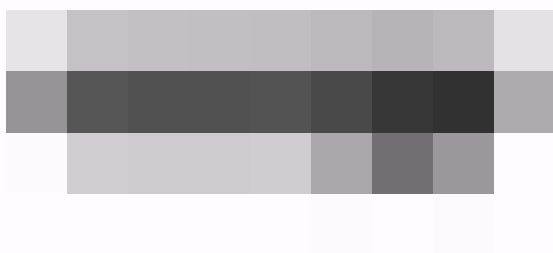
Мал. 2.139

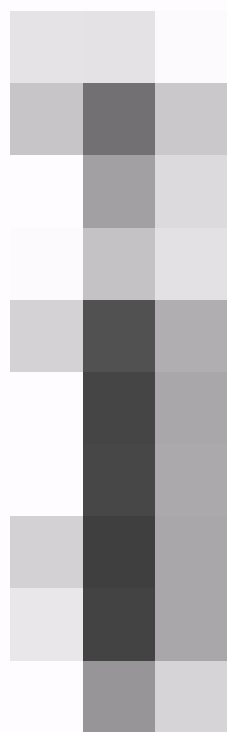
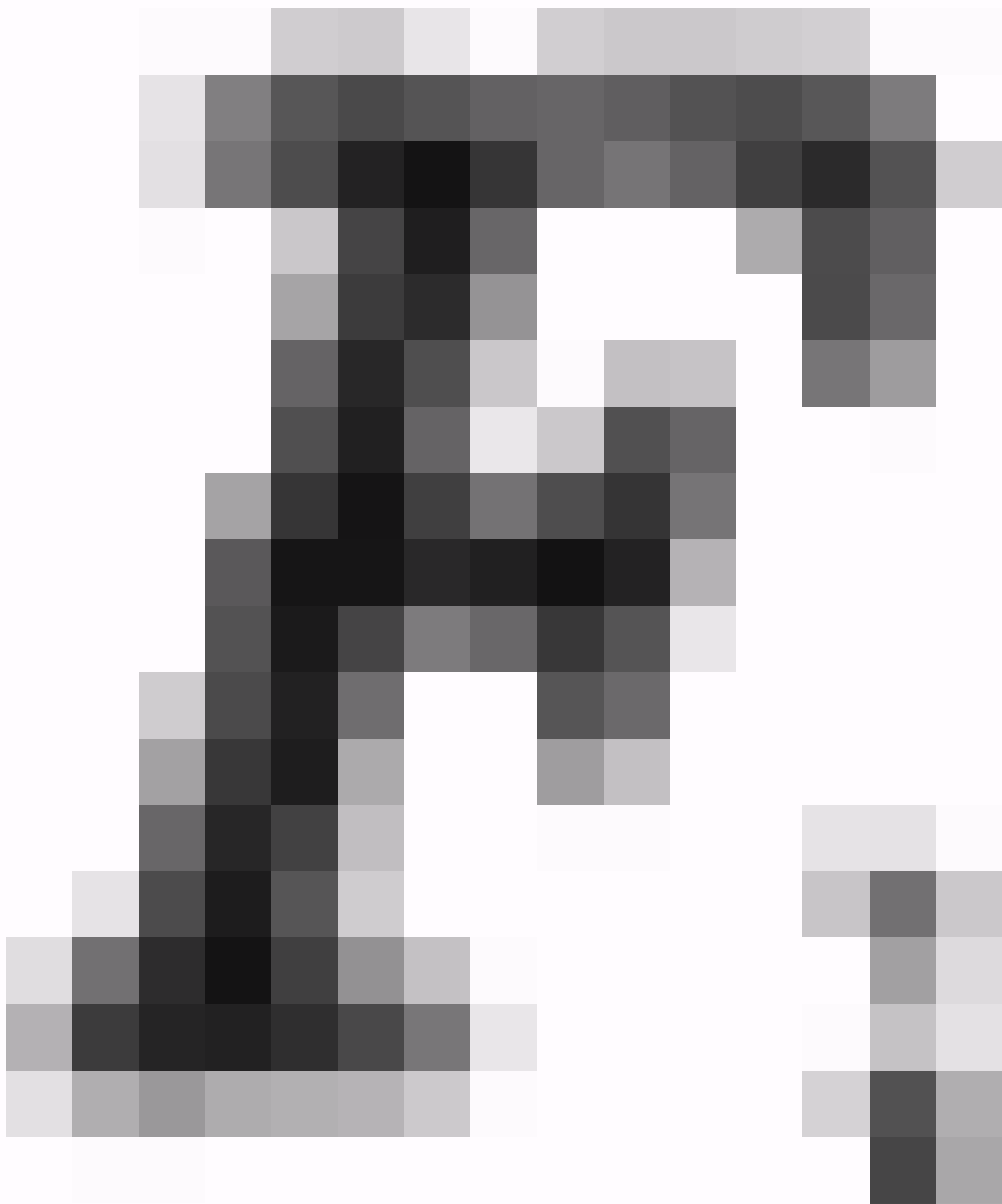
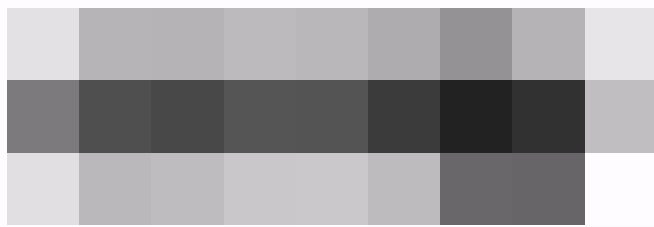


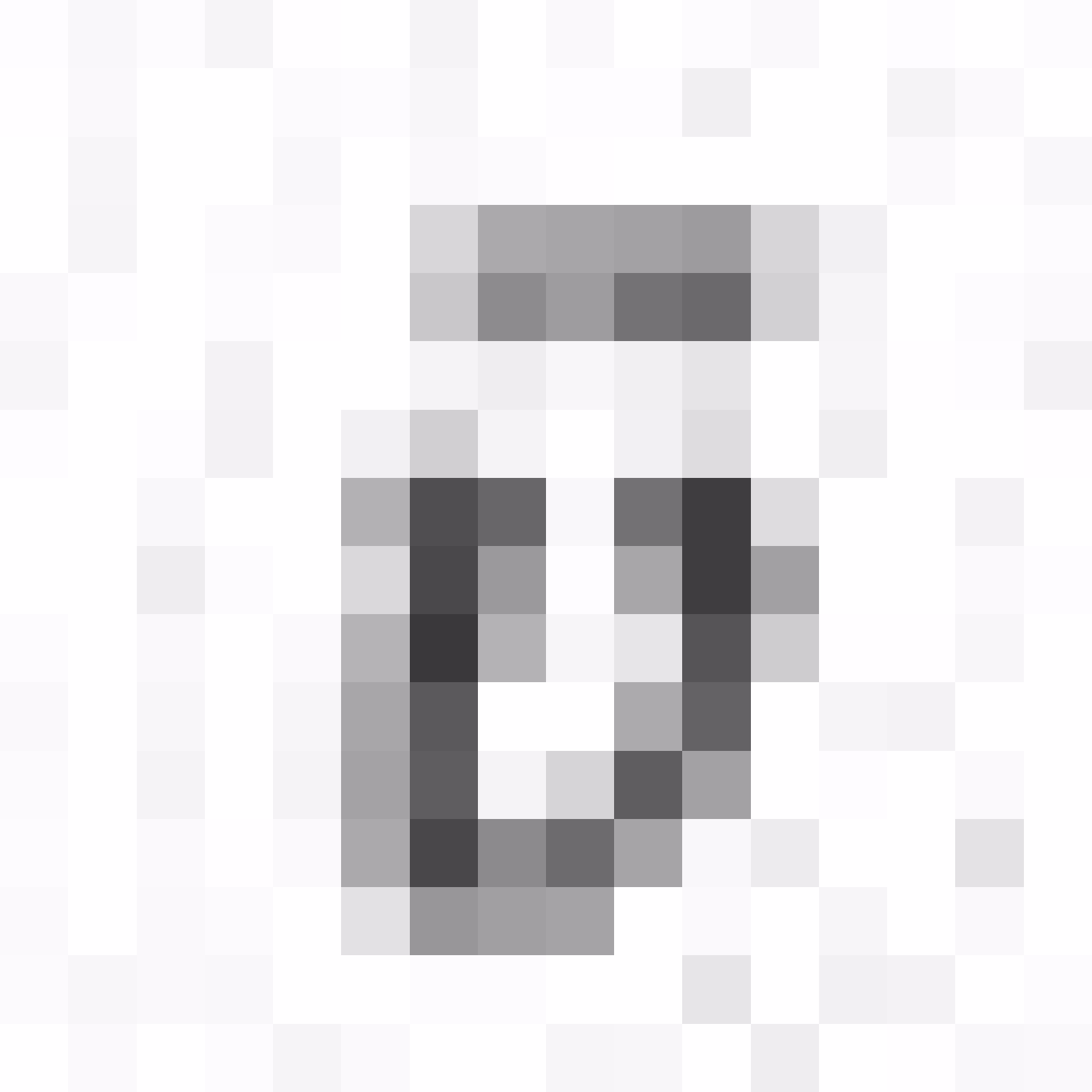


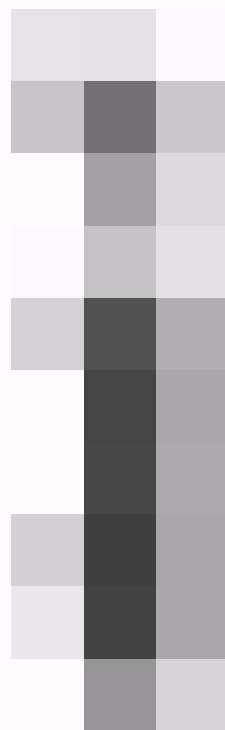
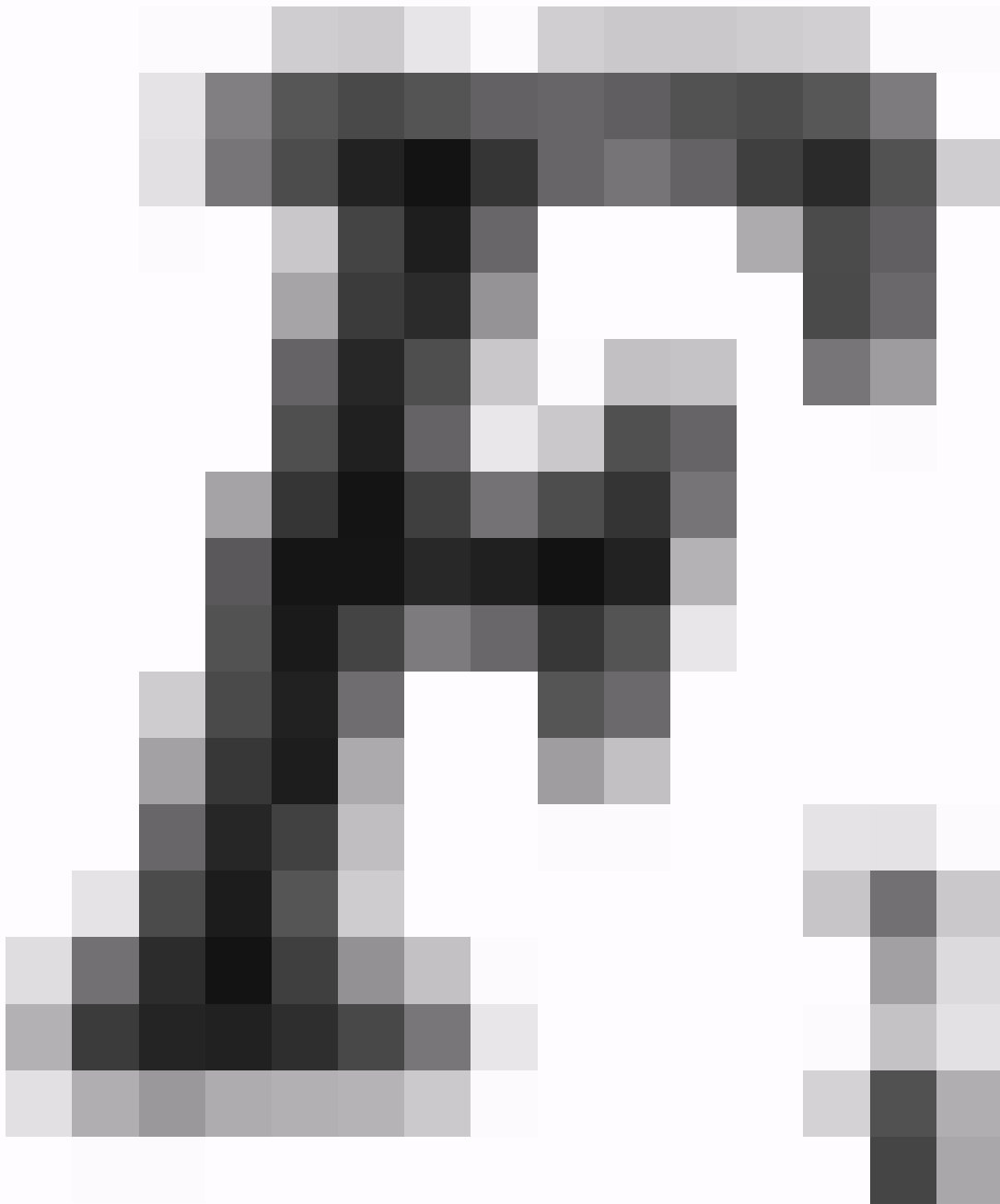
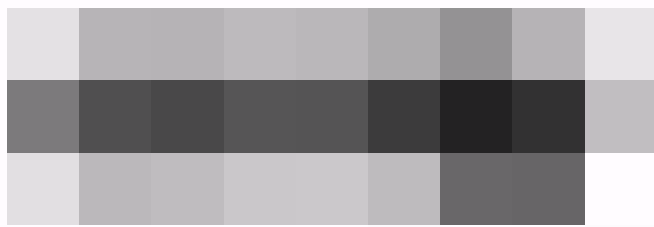


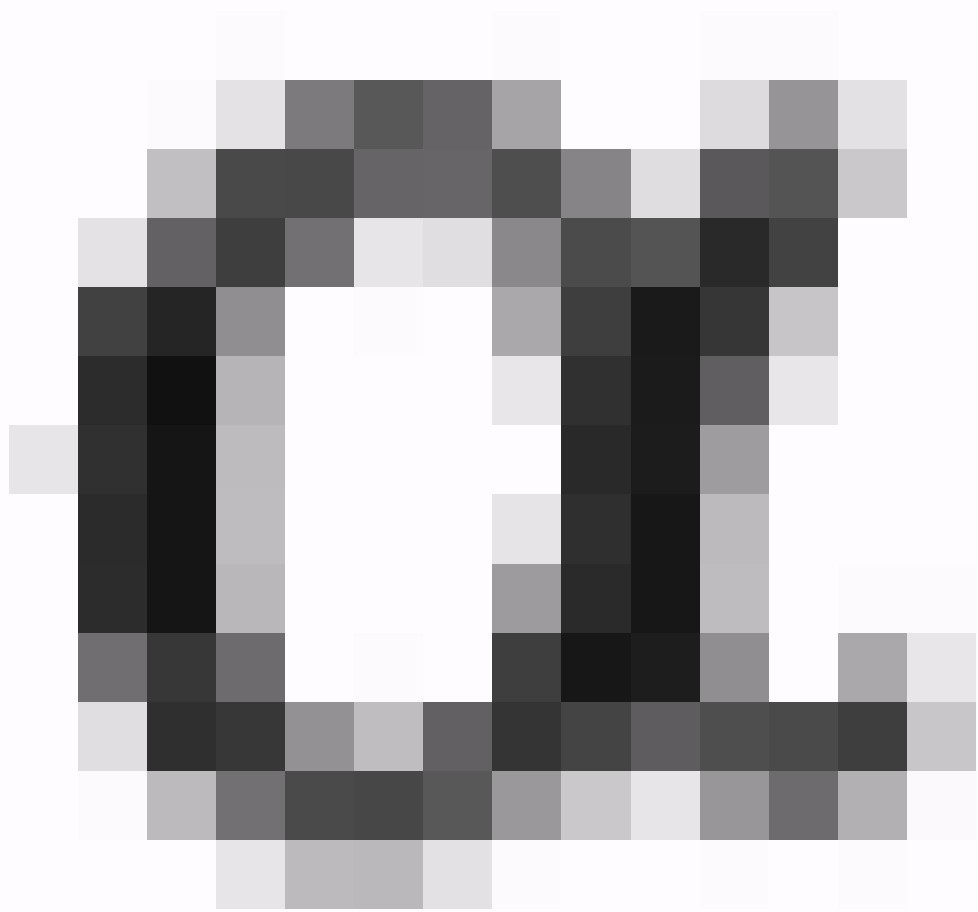


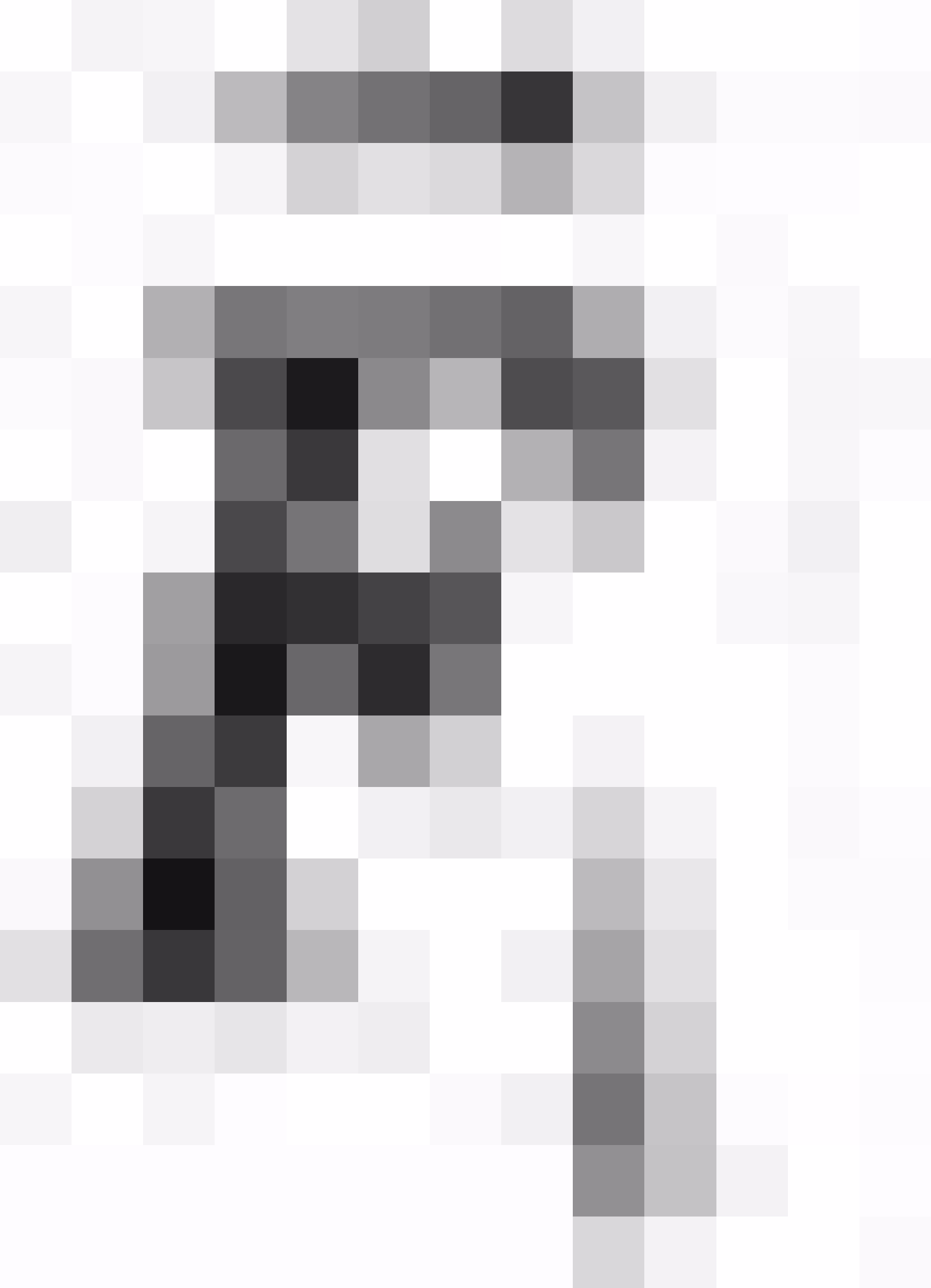


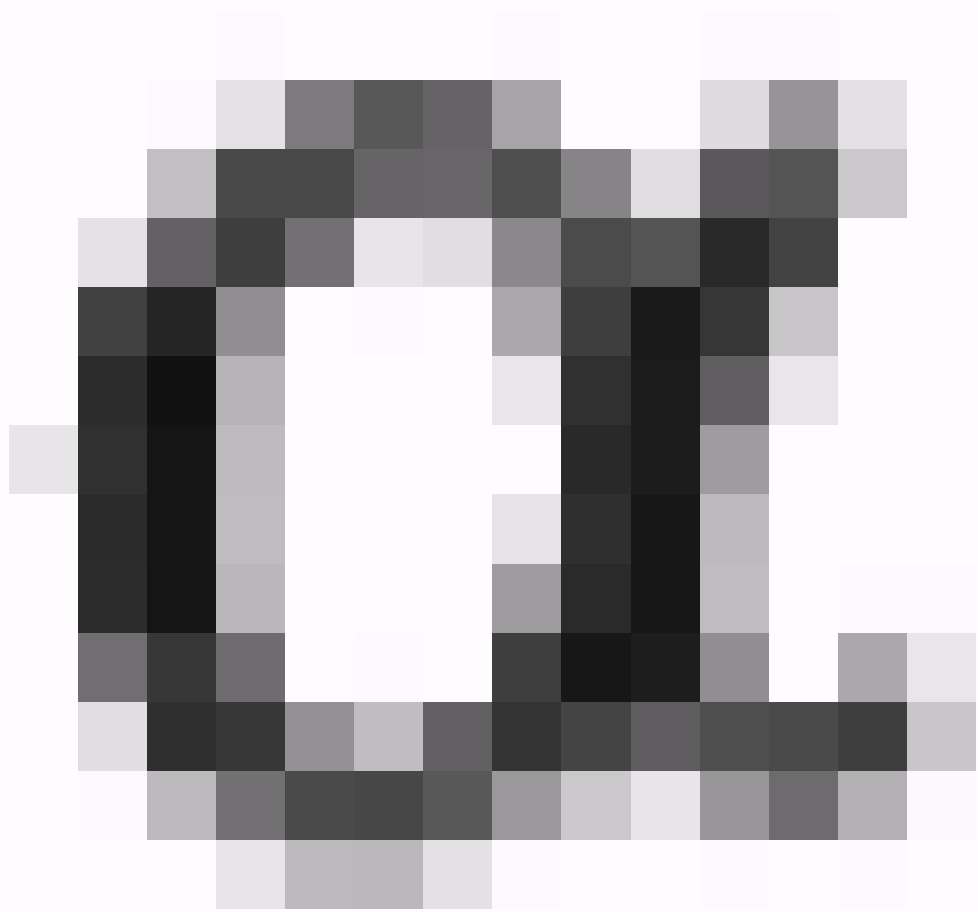


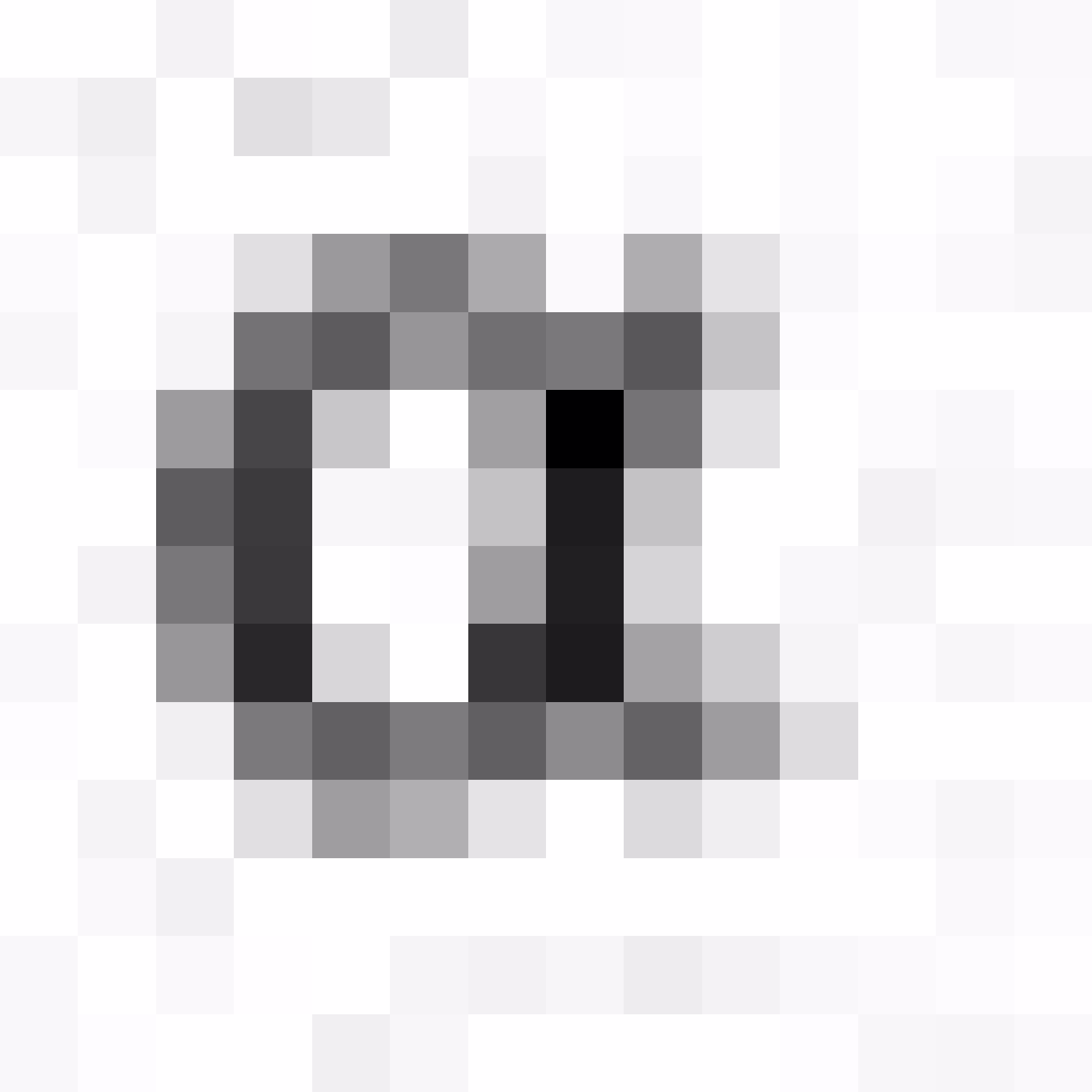


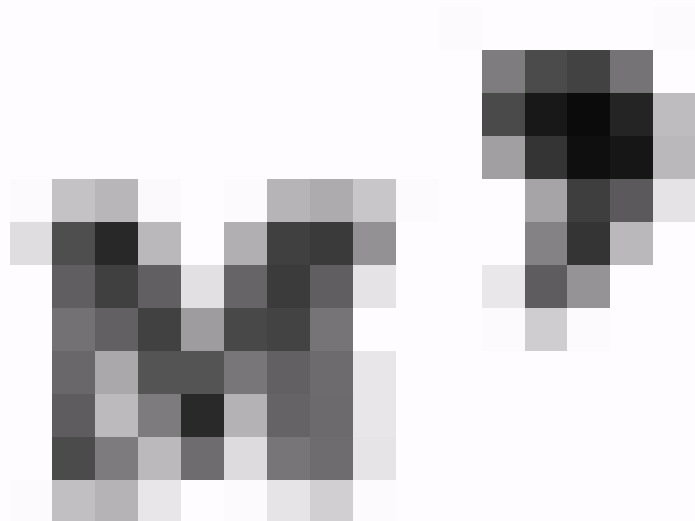
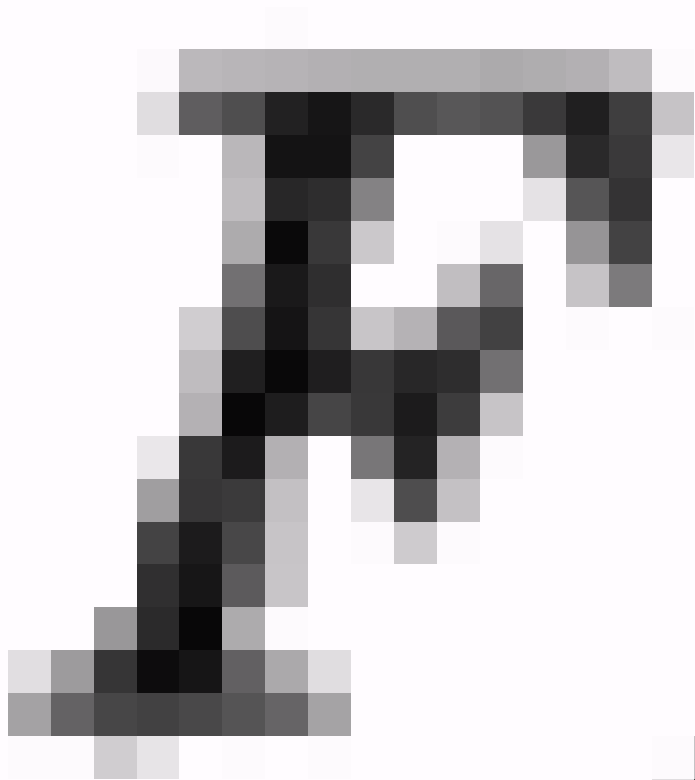




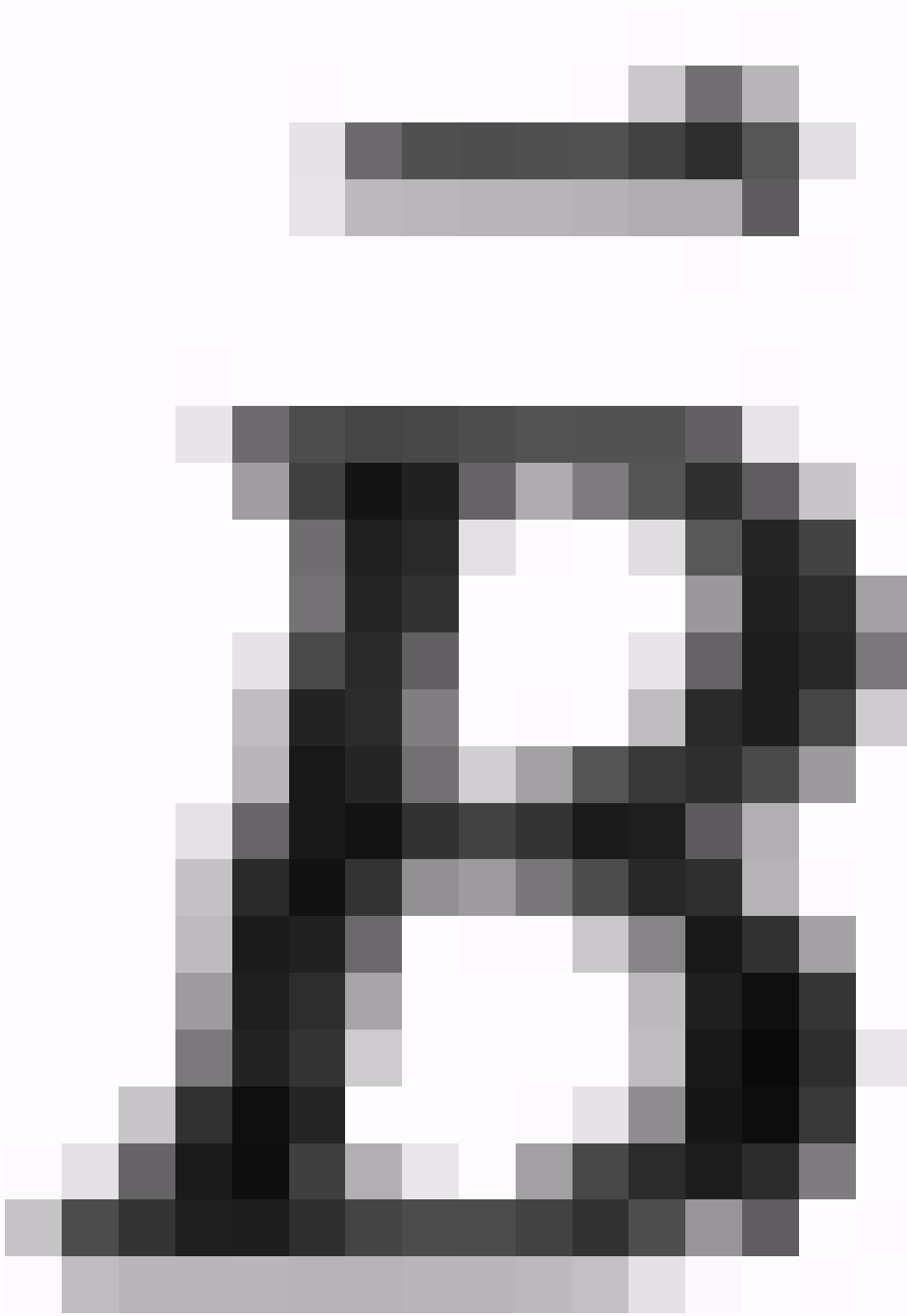














$$B = \frac{F_N}{qv \sin \alpha}$$



$$B = \frac{F_N}{qv \sin \alpha}$$

$$I_{\Gamma\Delta} = \frac{IH}{IK_{\Delta} \cdot I_{M/C}}.$$

19

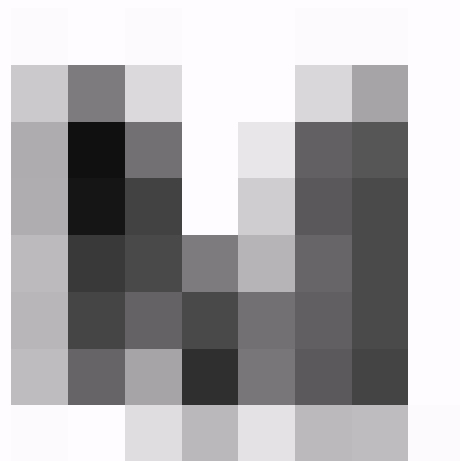
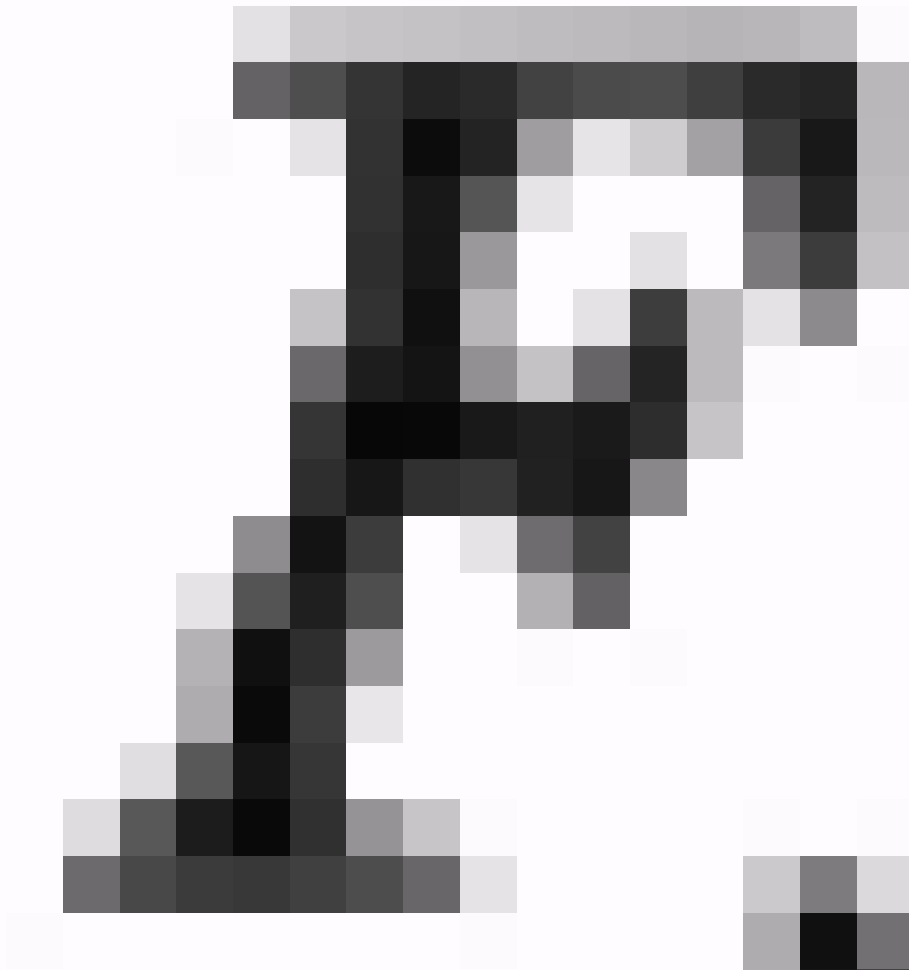
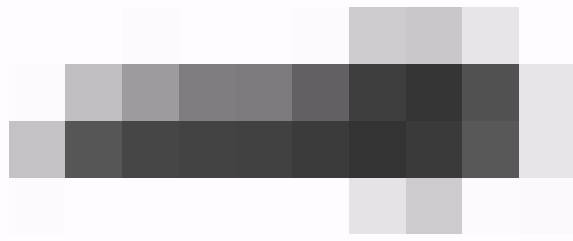
20

21

22

23

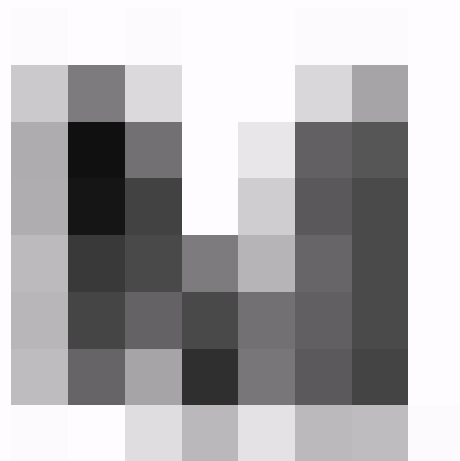
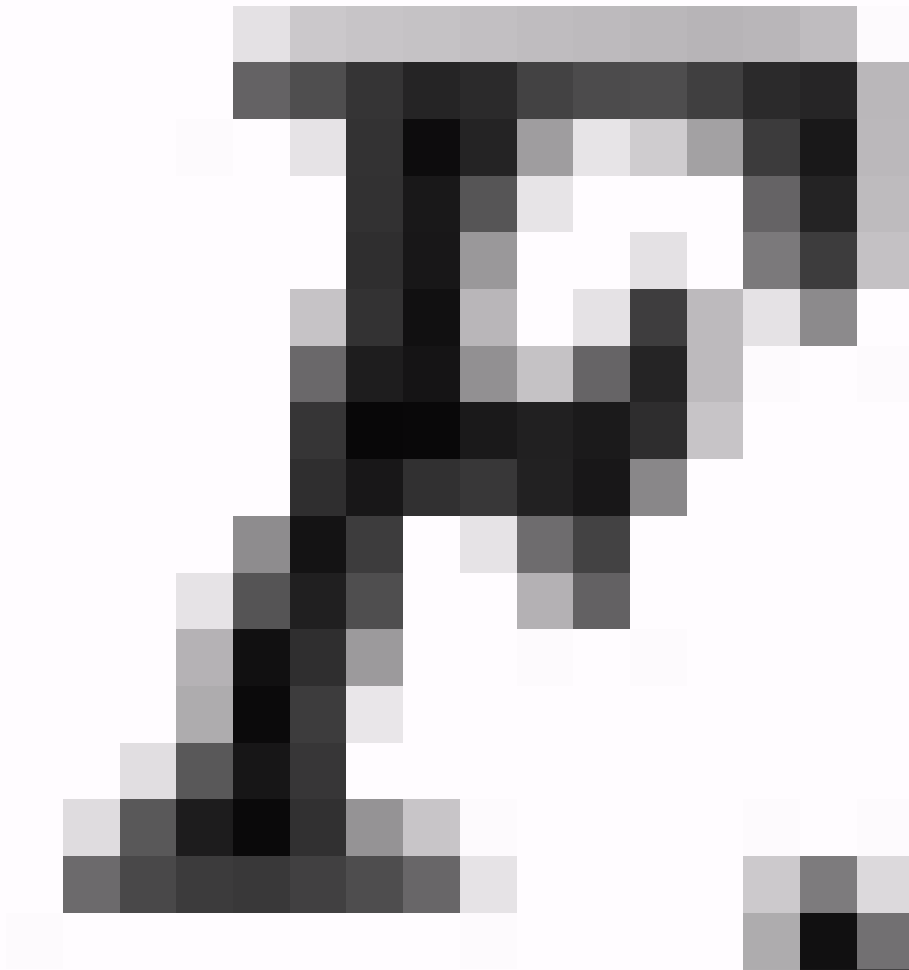
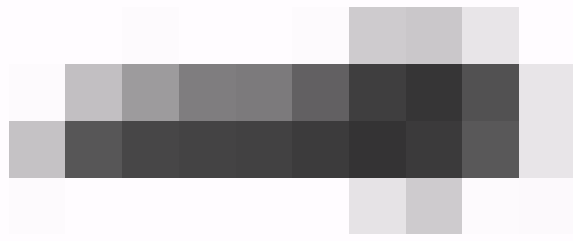
$$I_{\Gamma\Delta} = \frac{IH}{IK_{\Delta} \cdot I_{M/C}}.$$

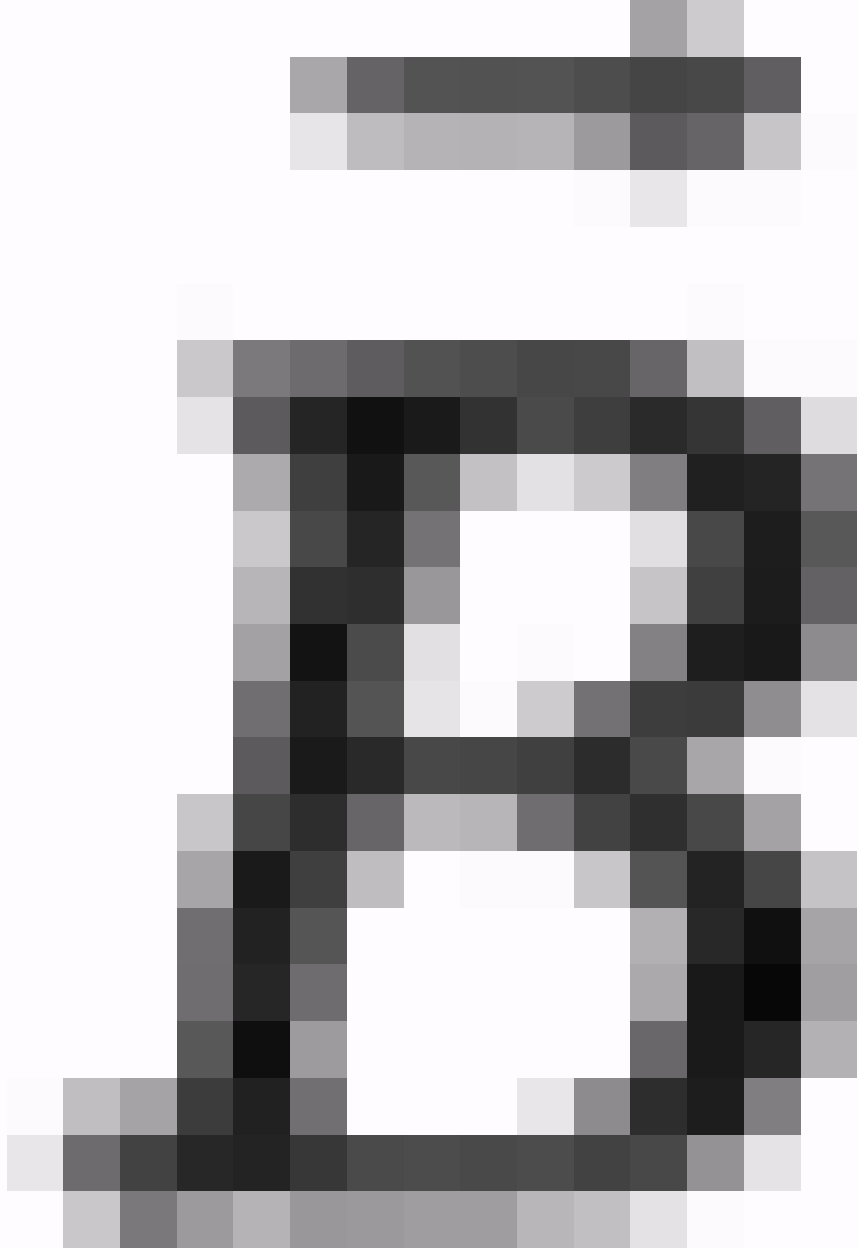


ITM =

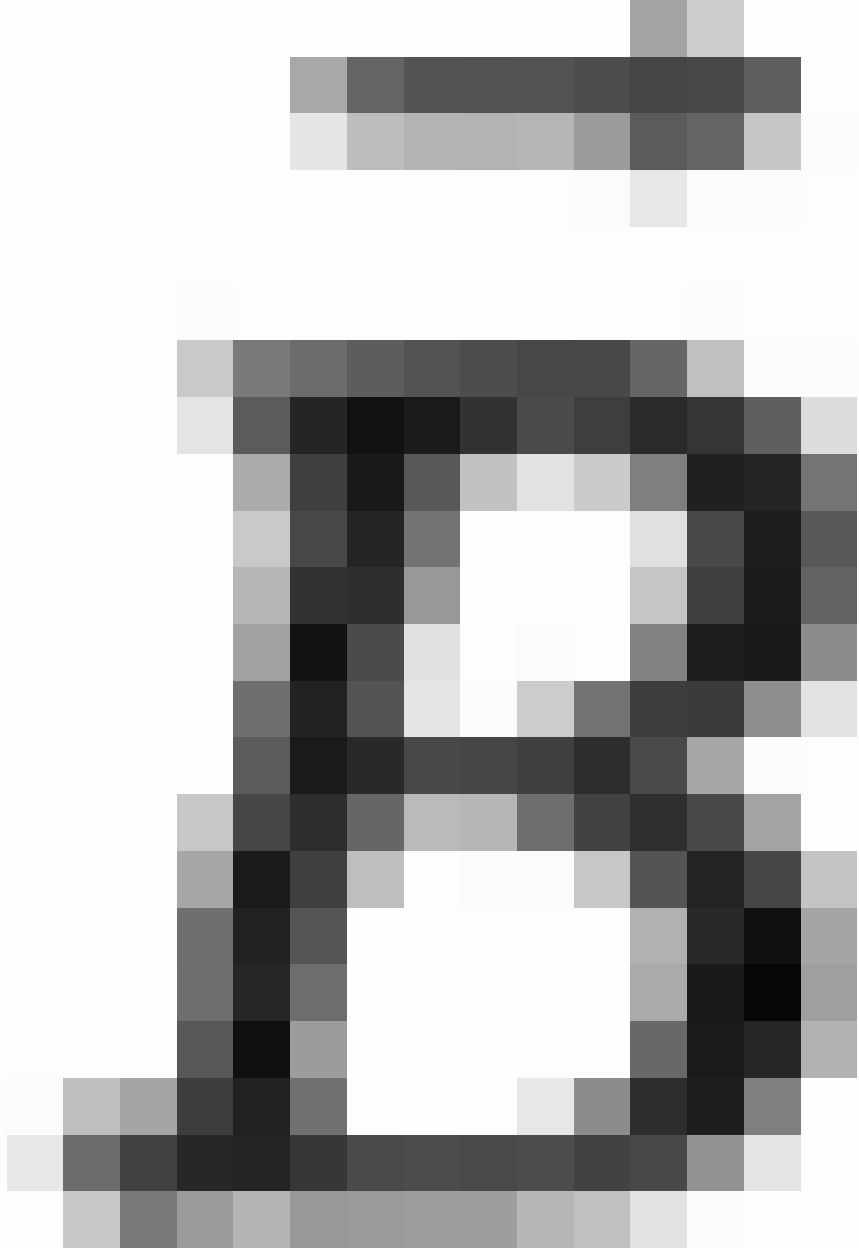
IRI

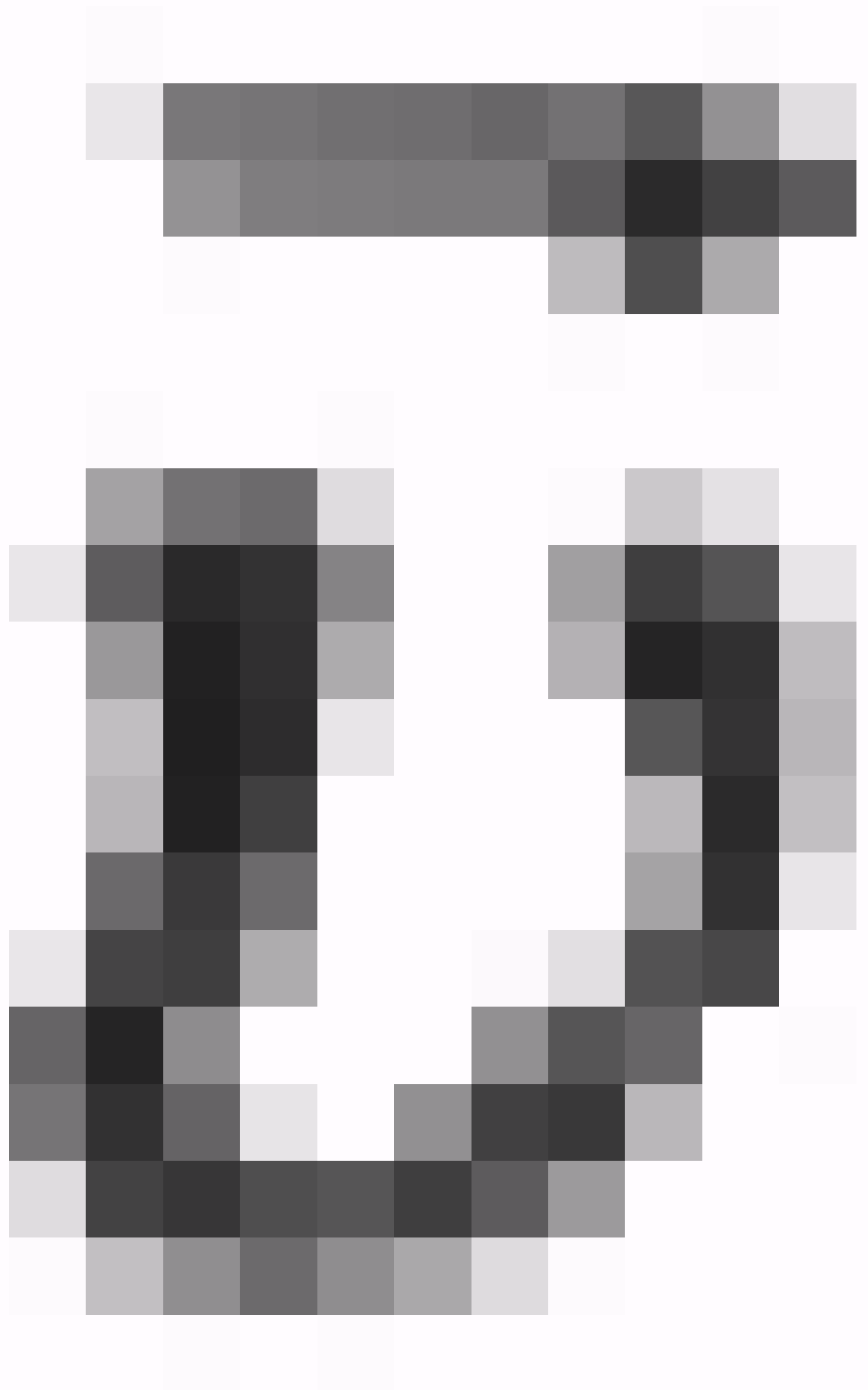
IRI - IRI

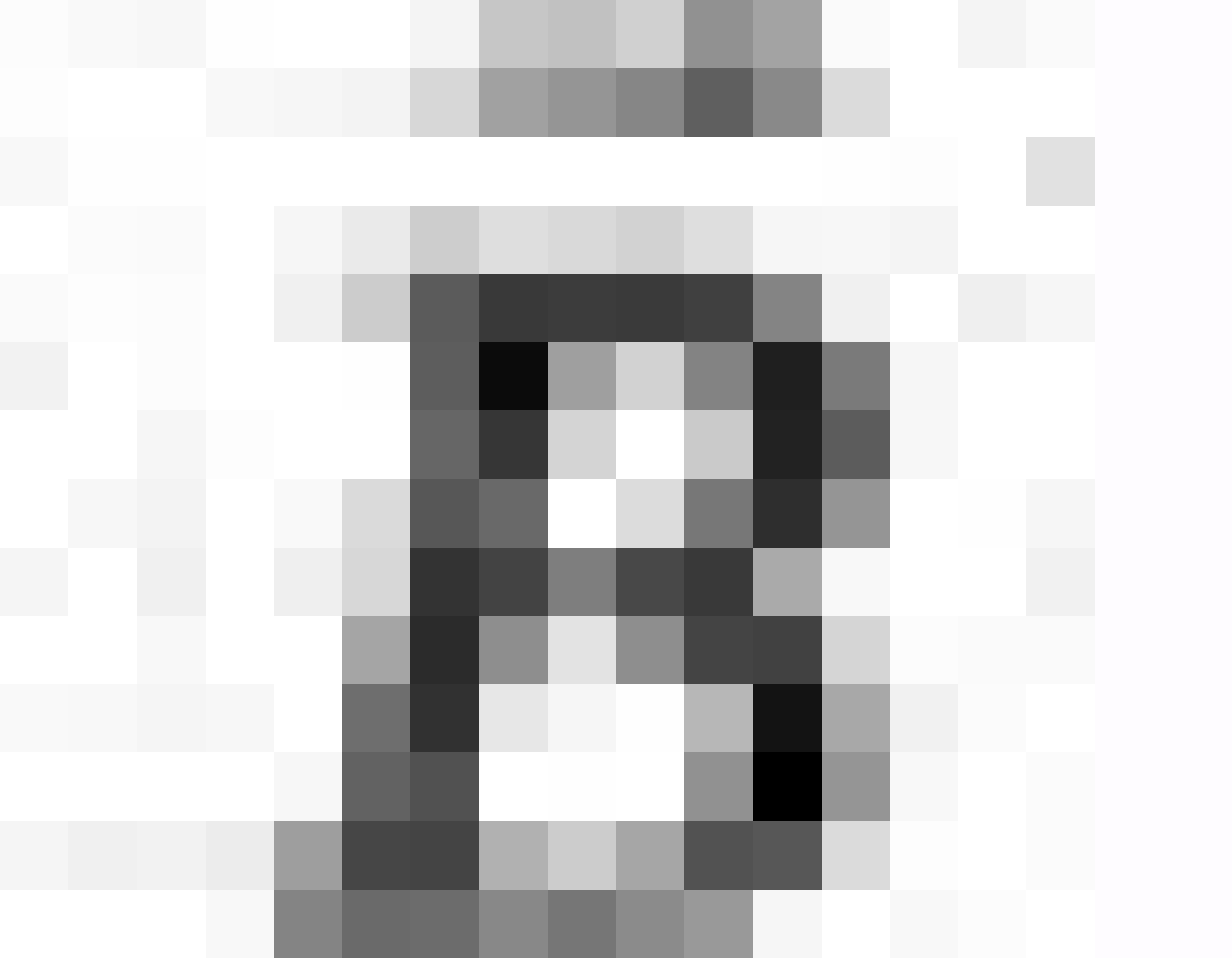


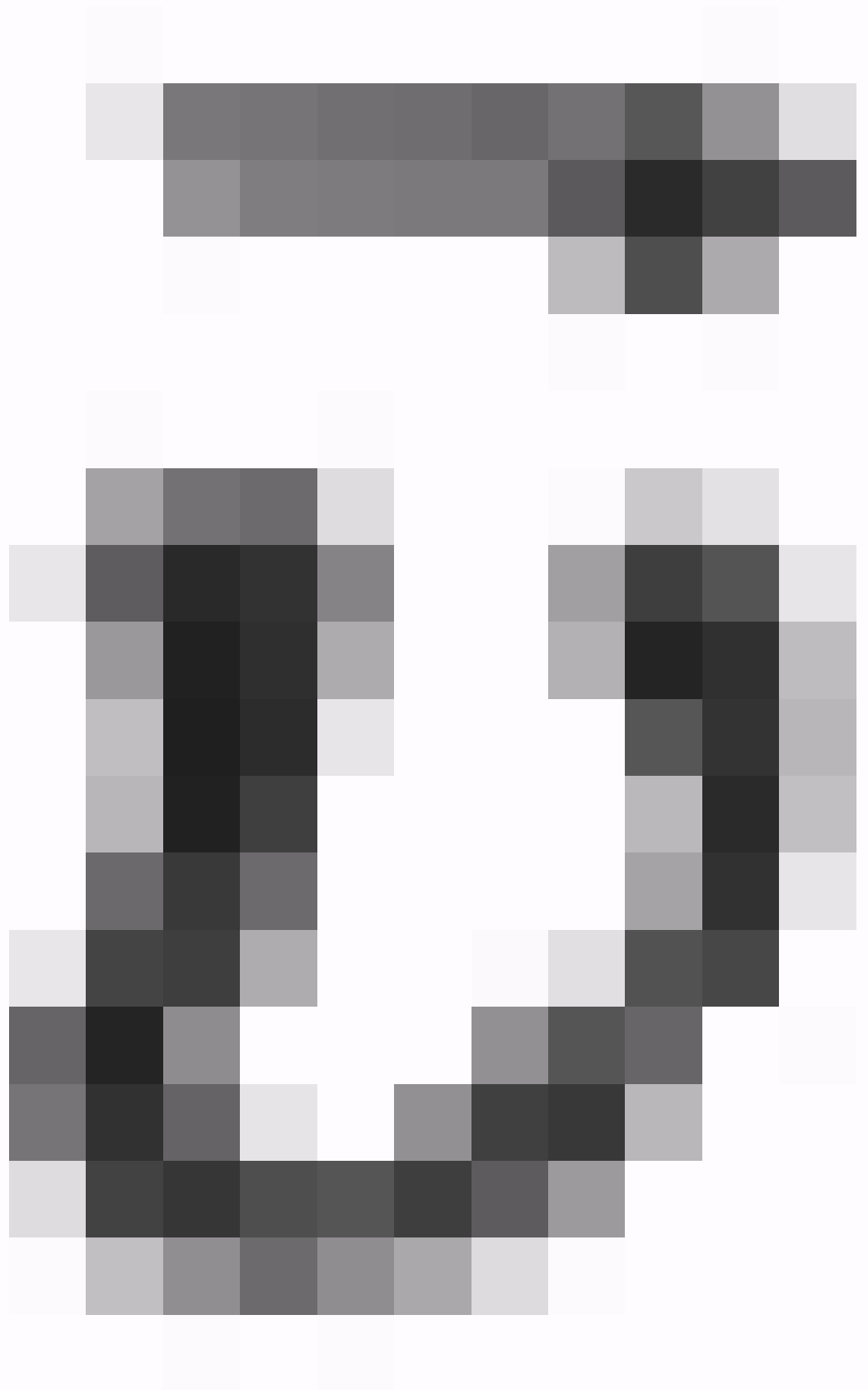


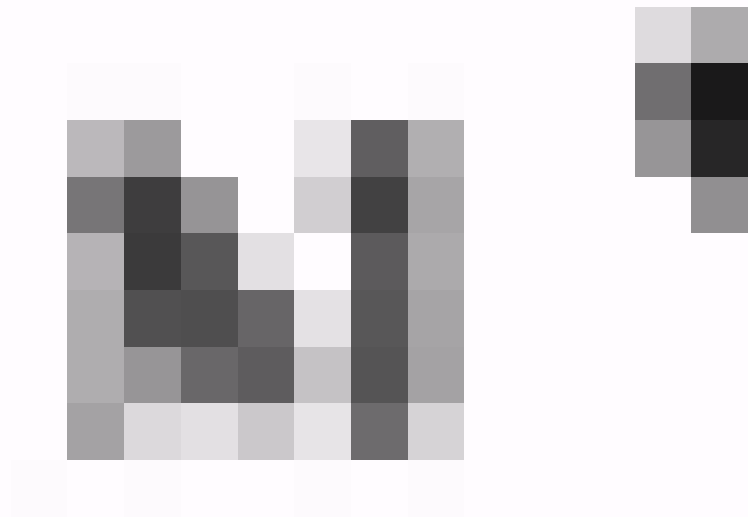
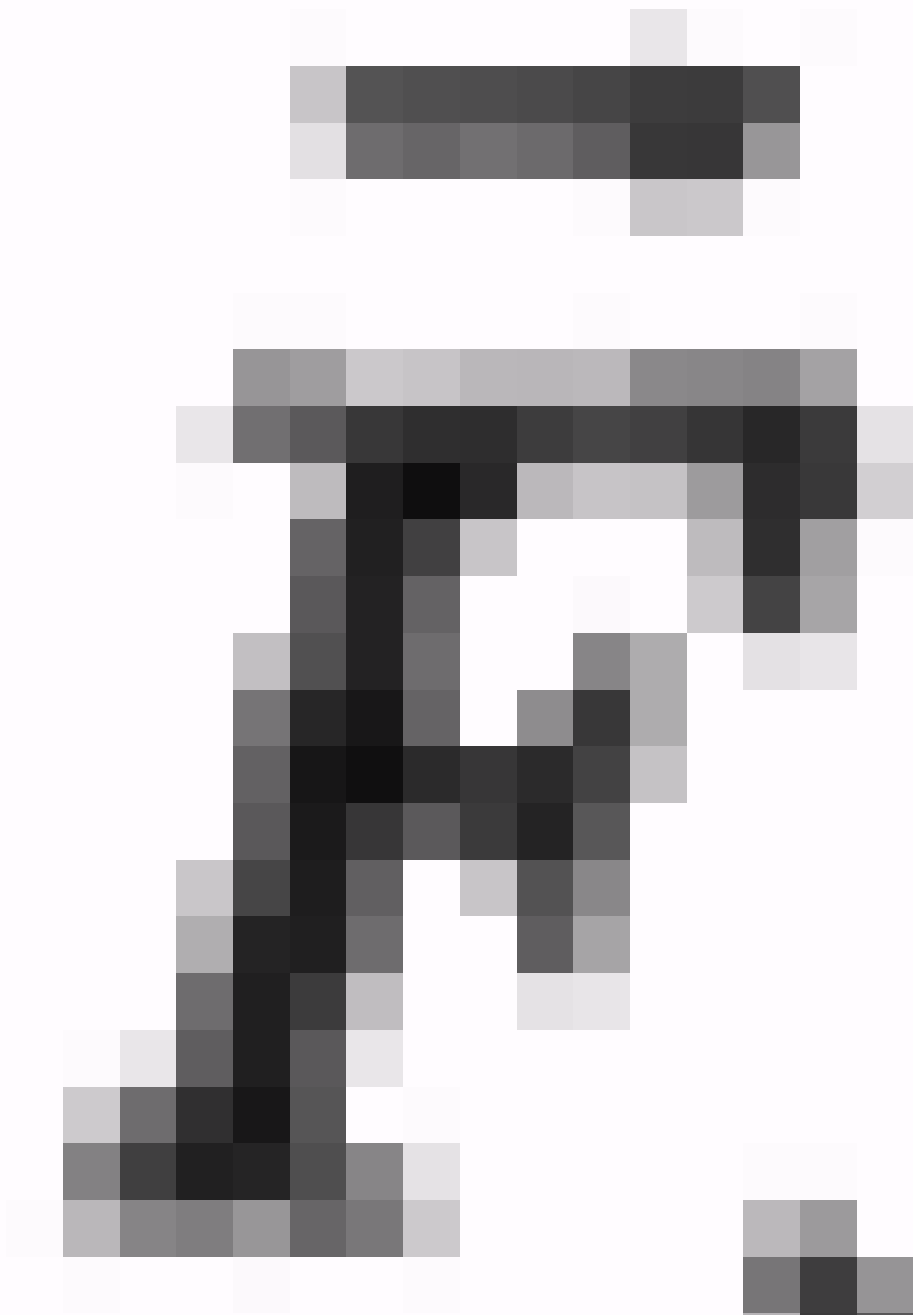


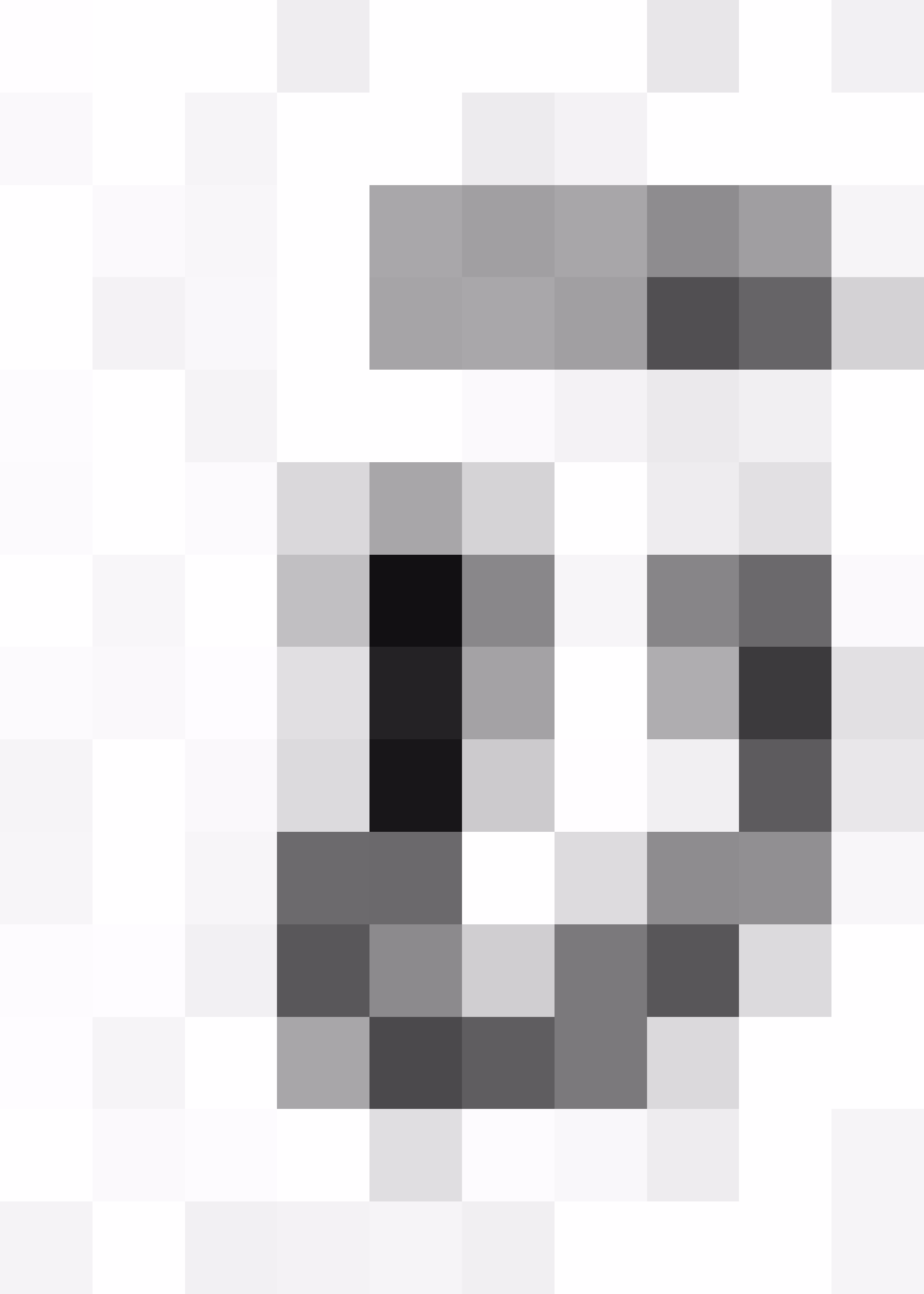


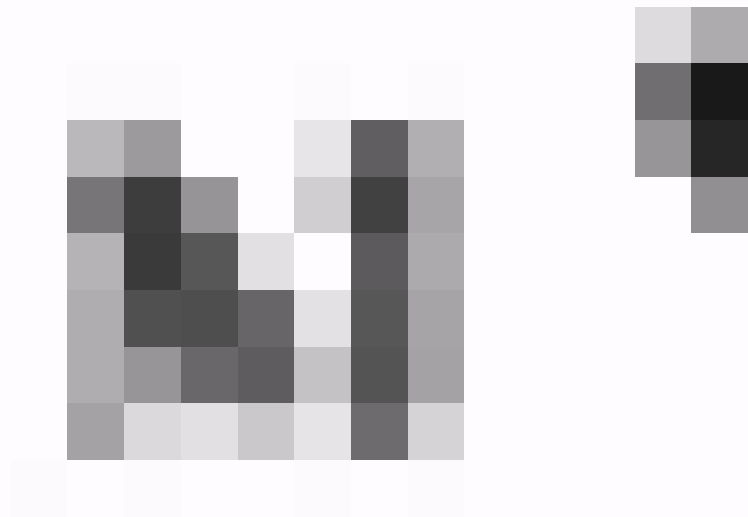
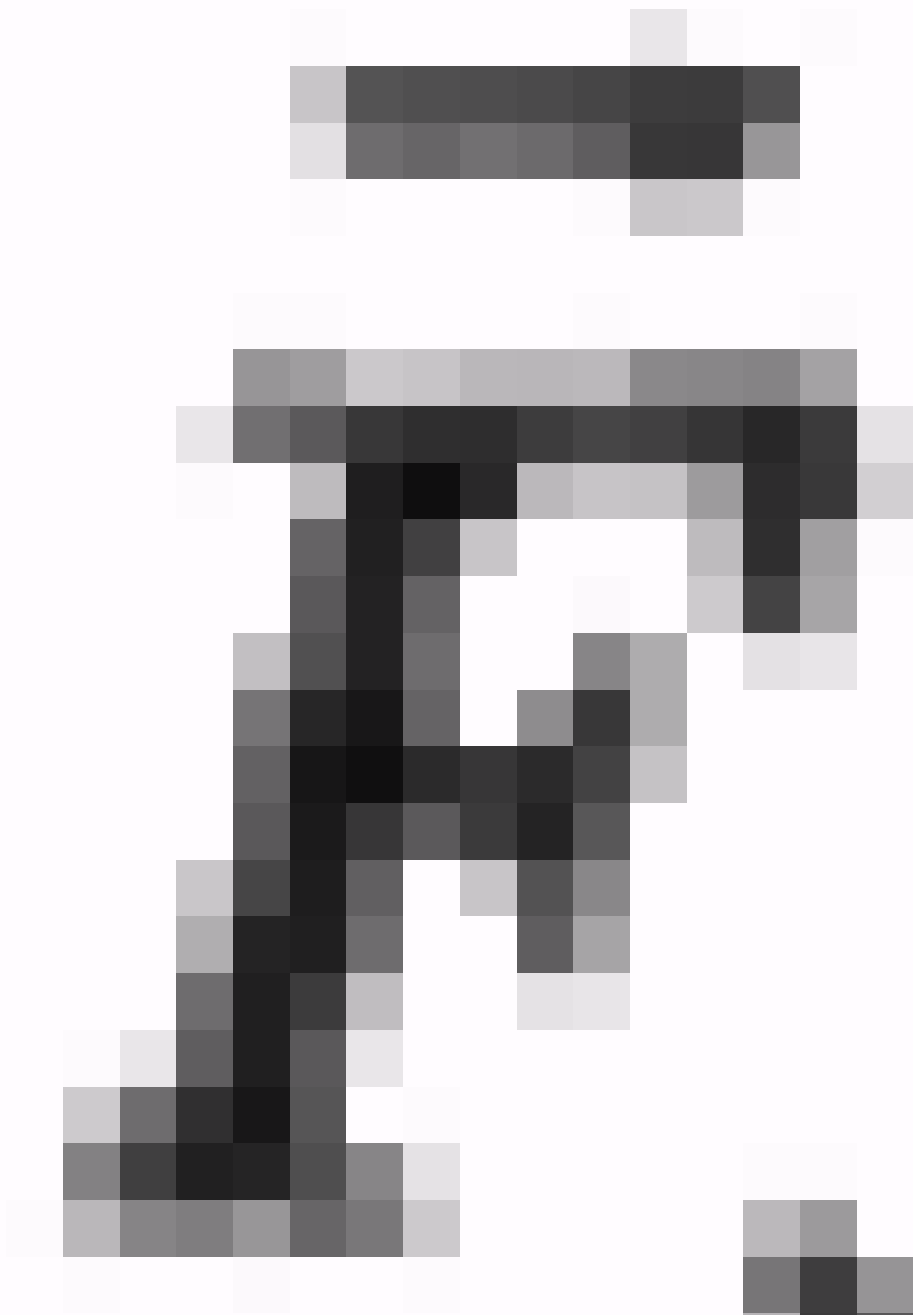


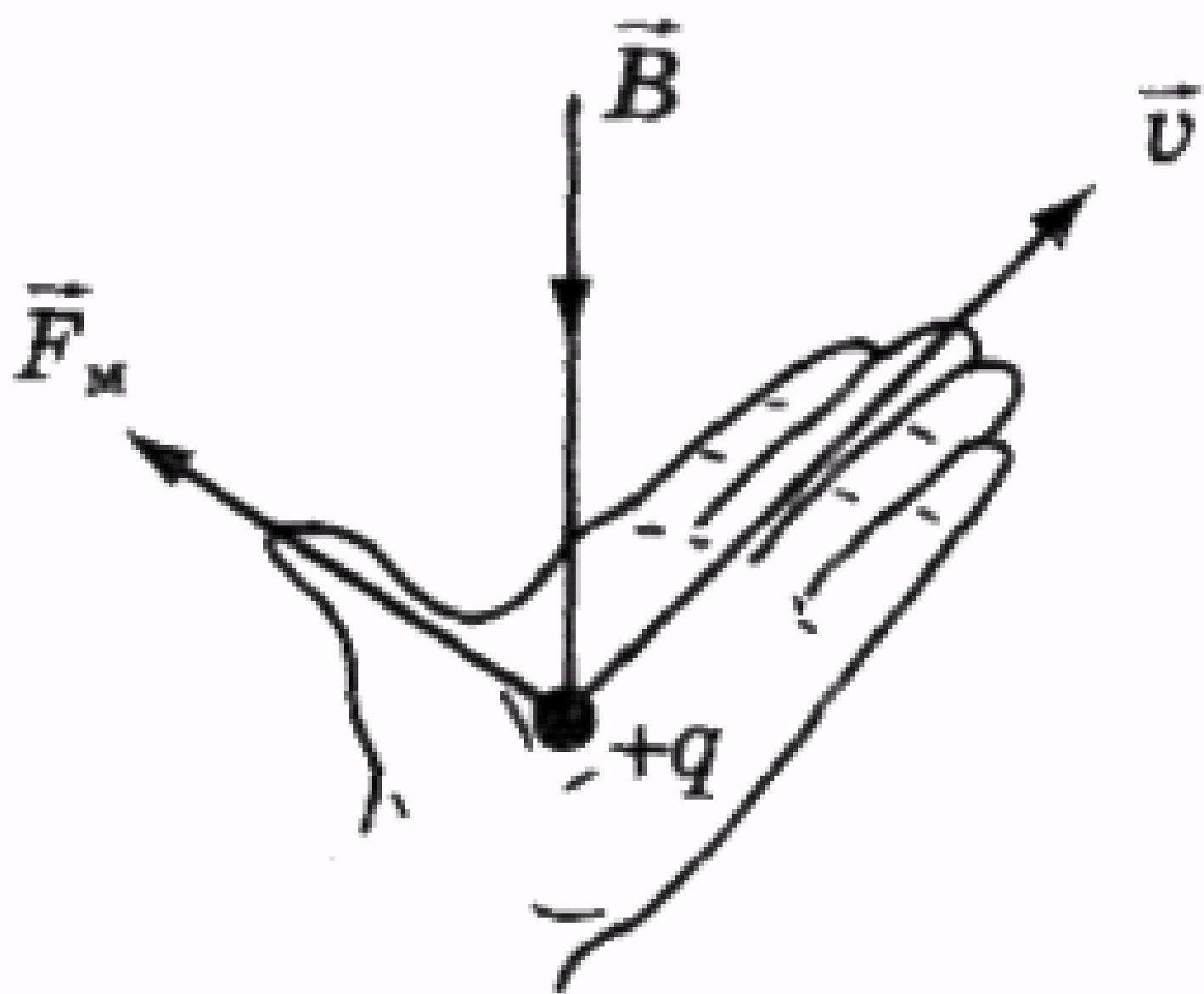




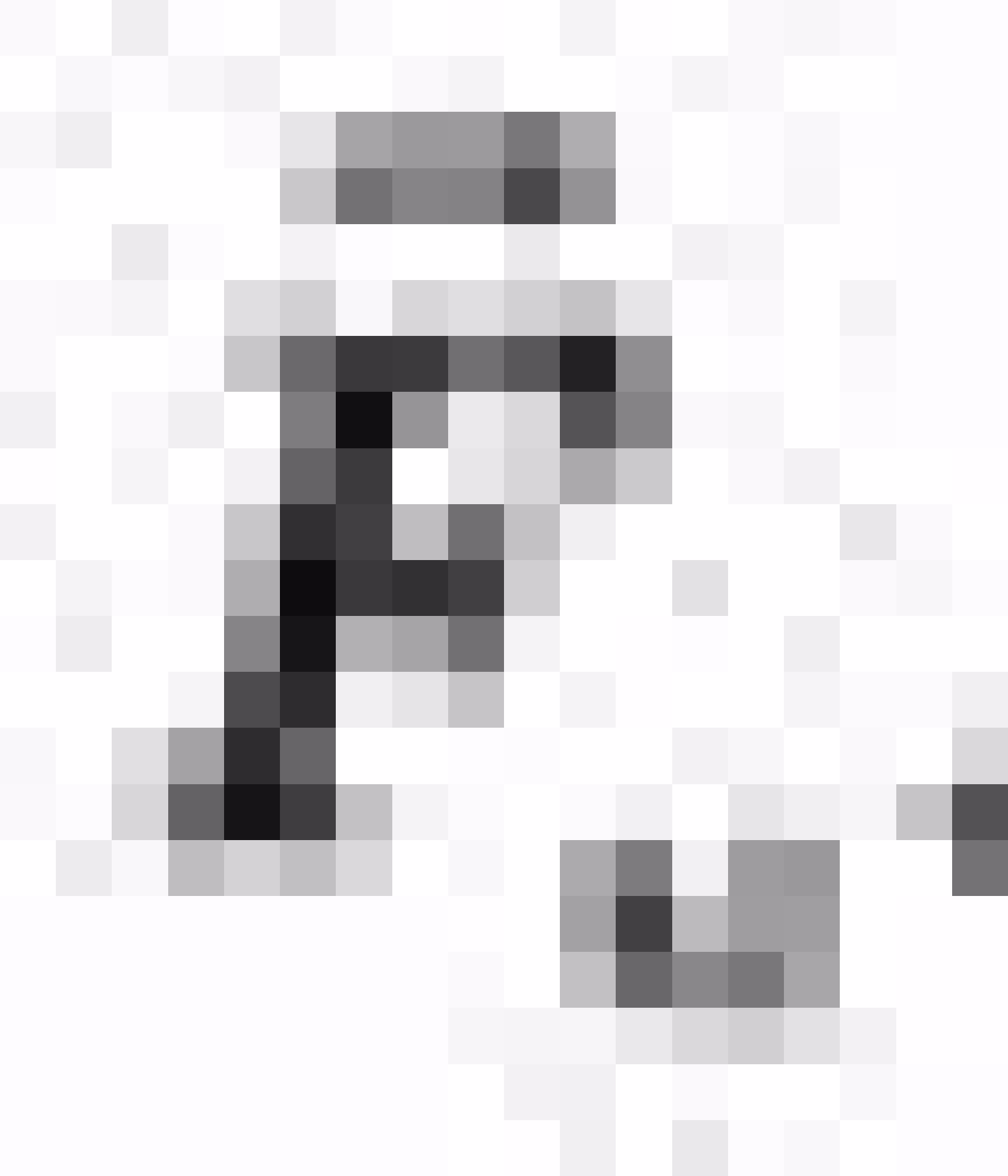


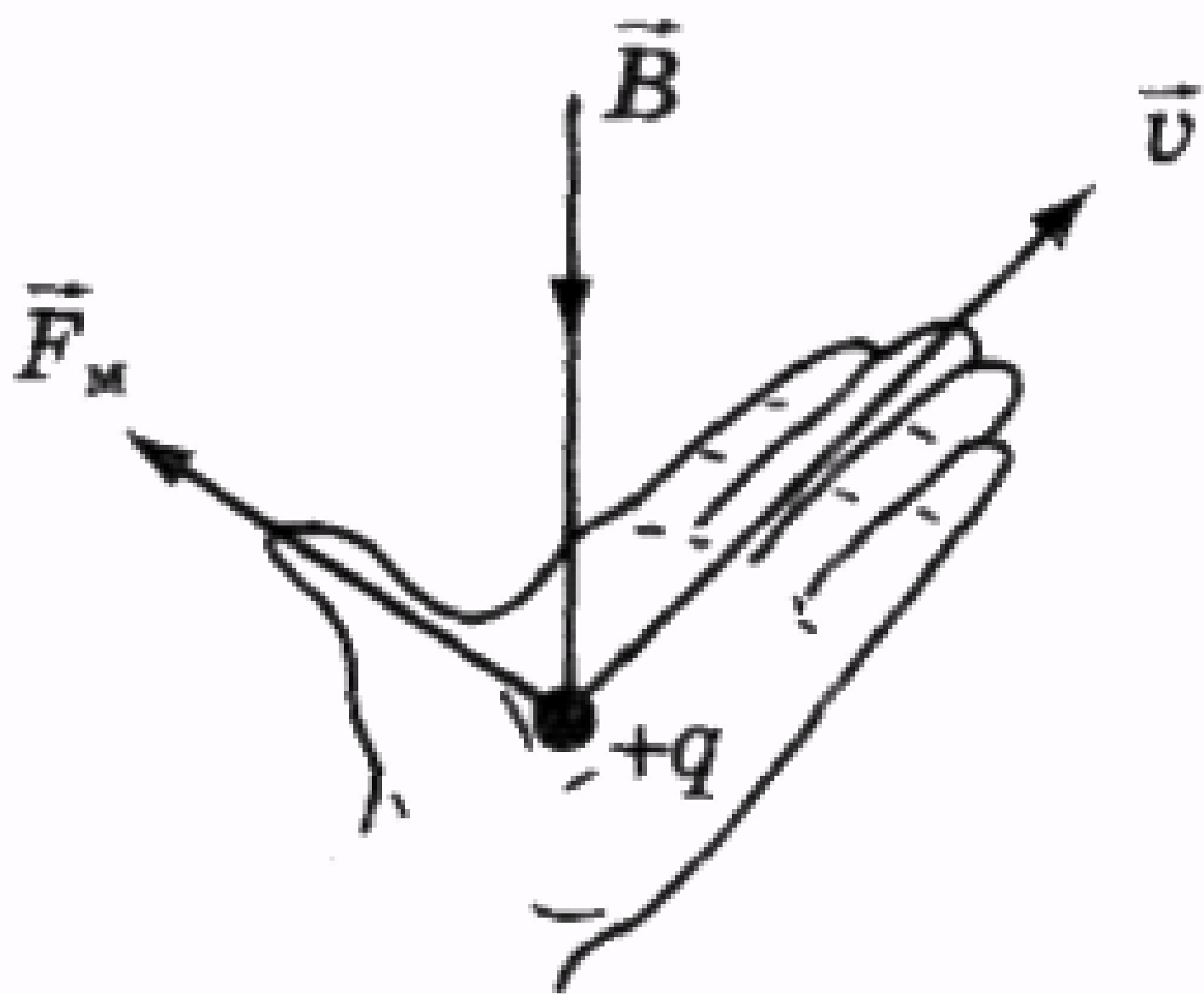




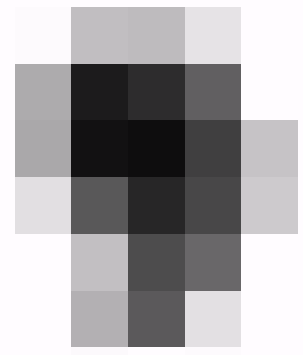
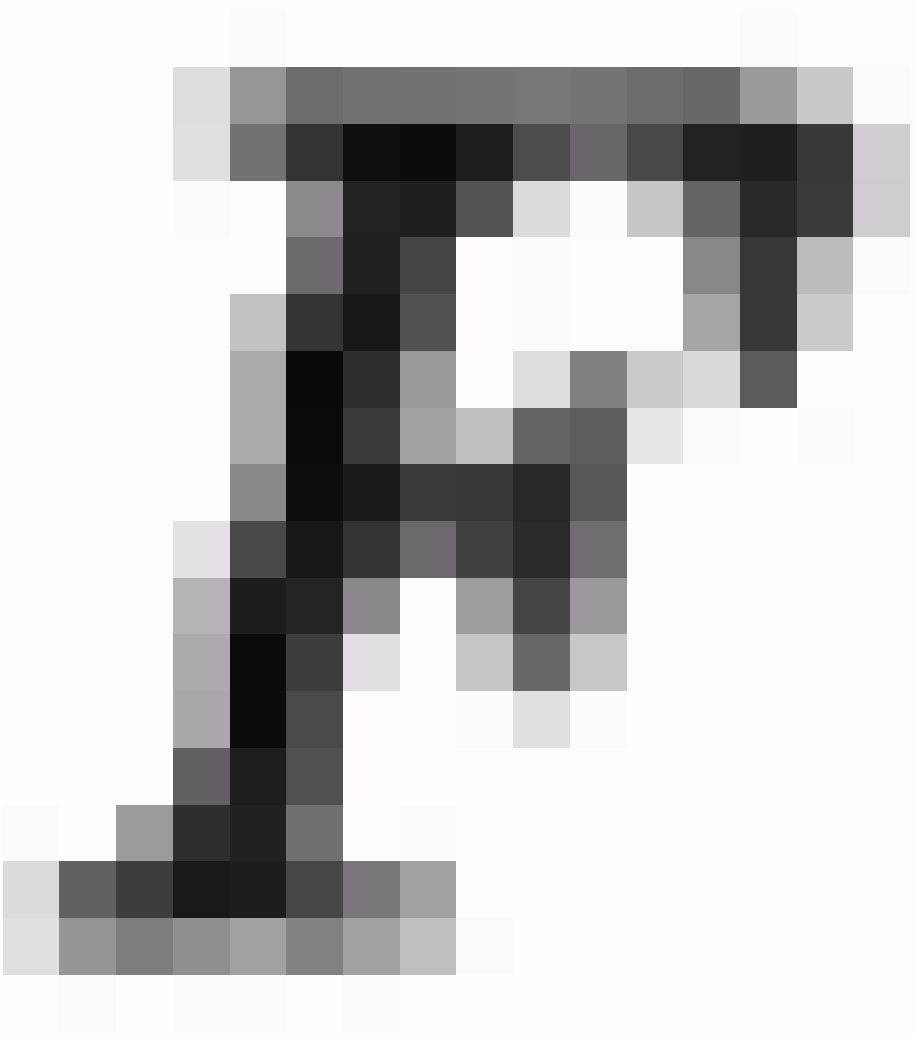
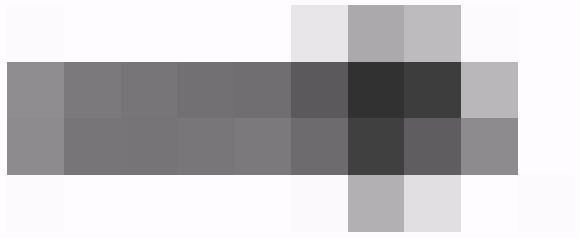


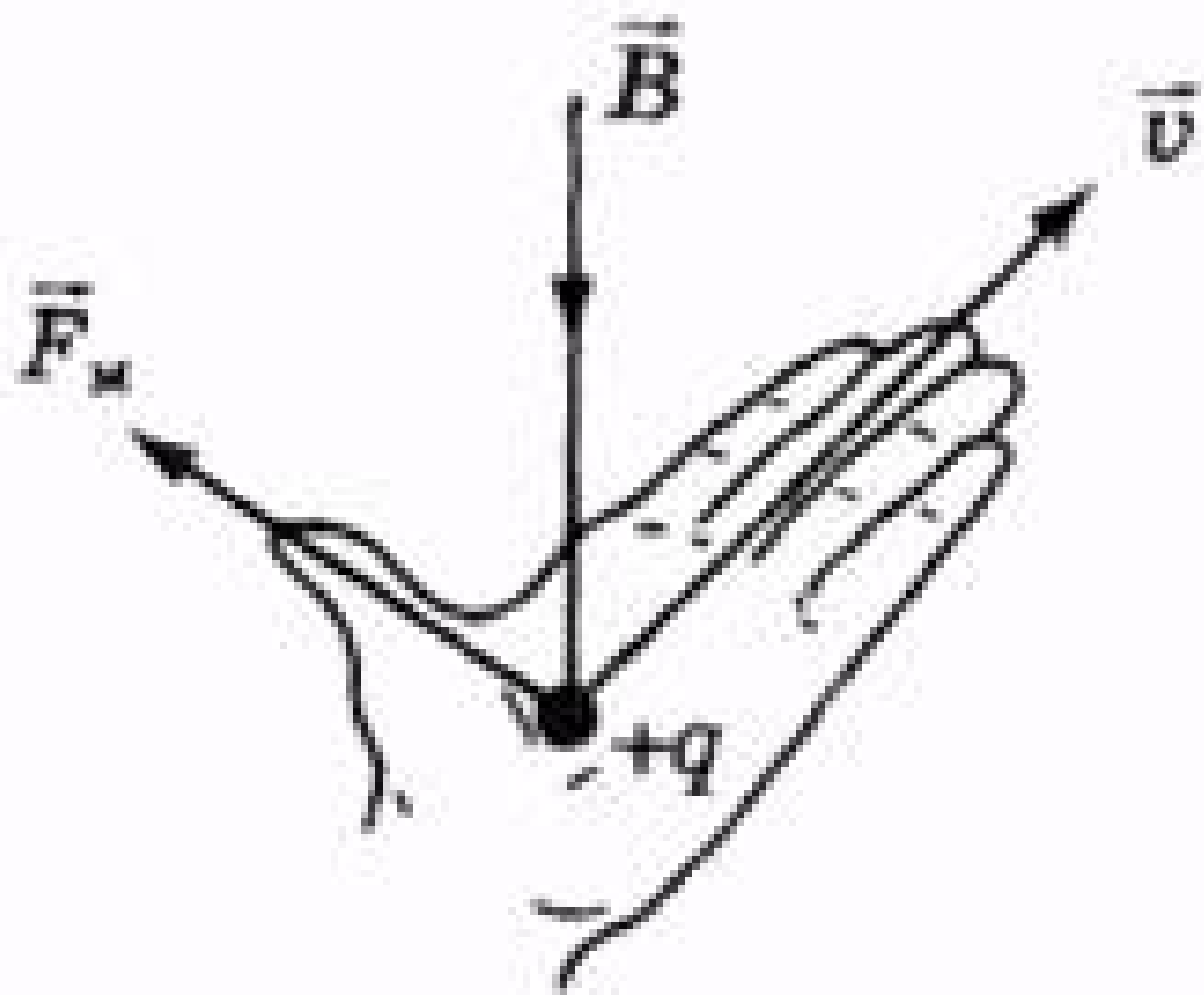
Мал. 2.140



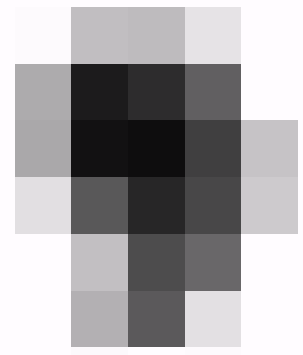
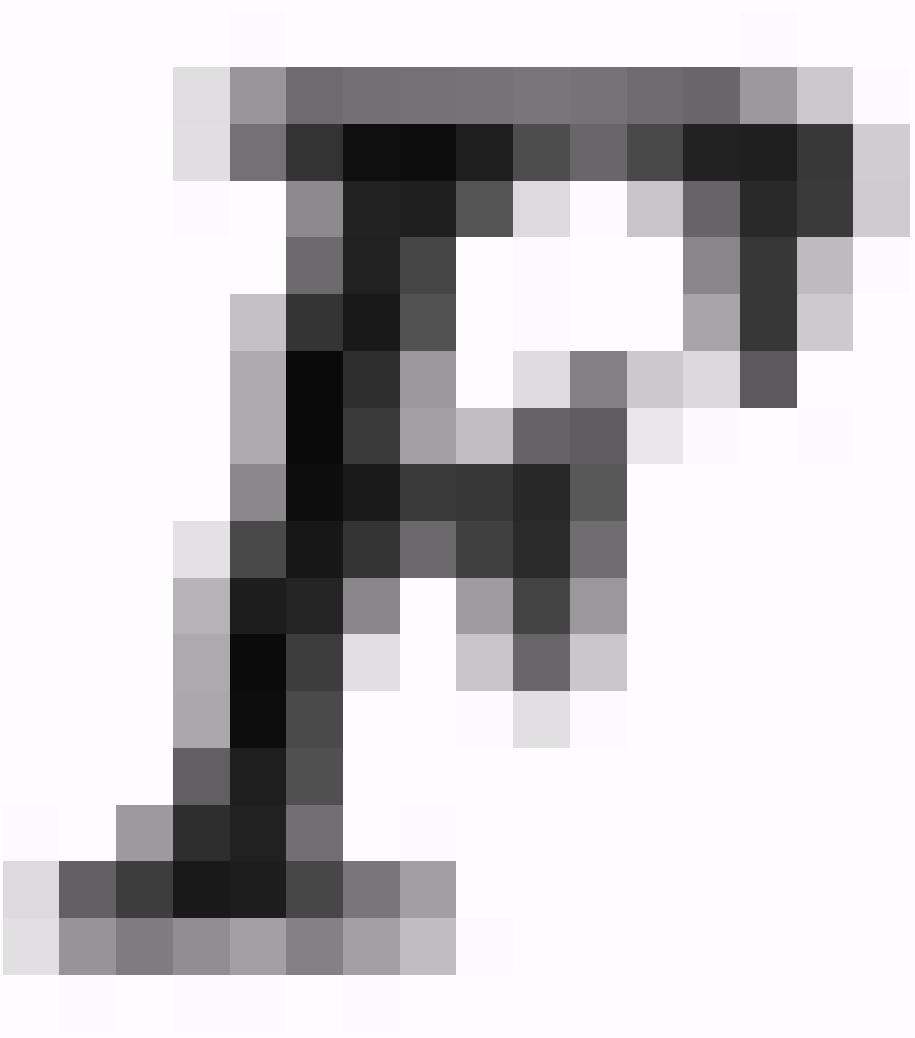
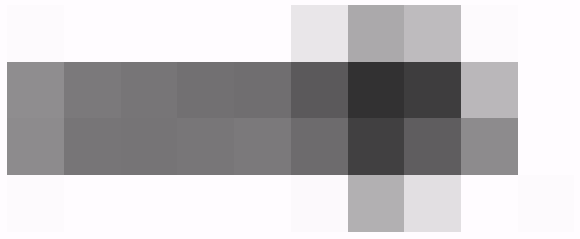


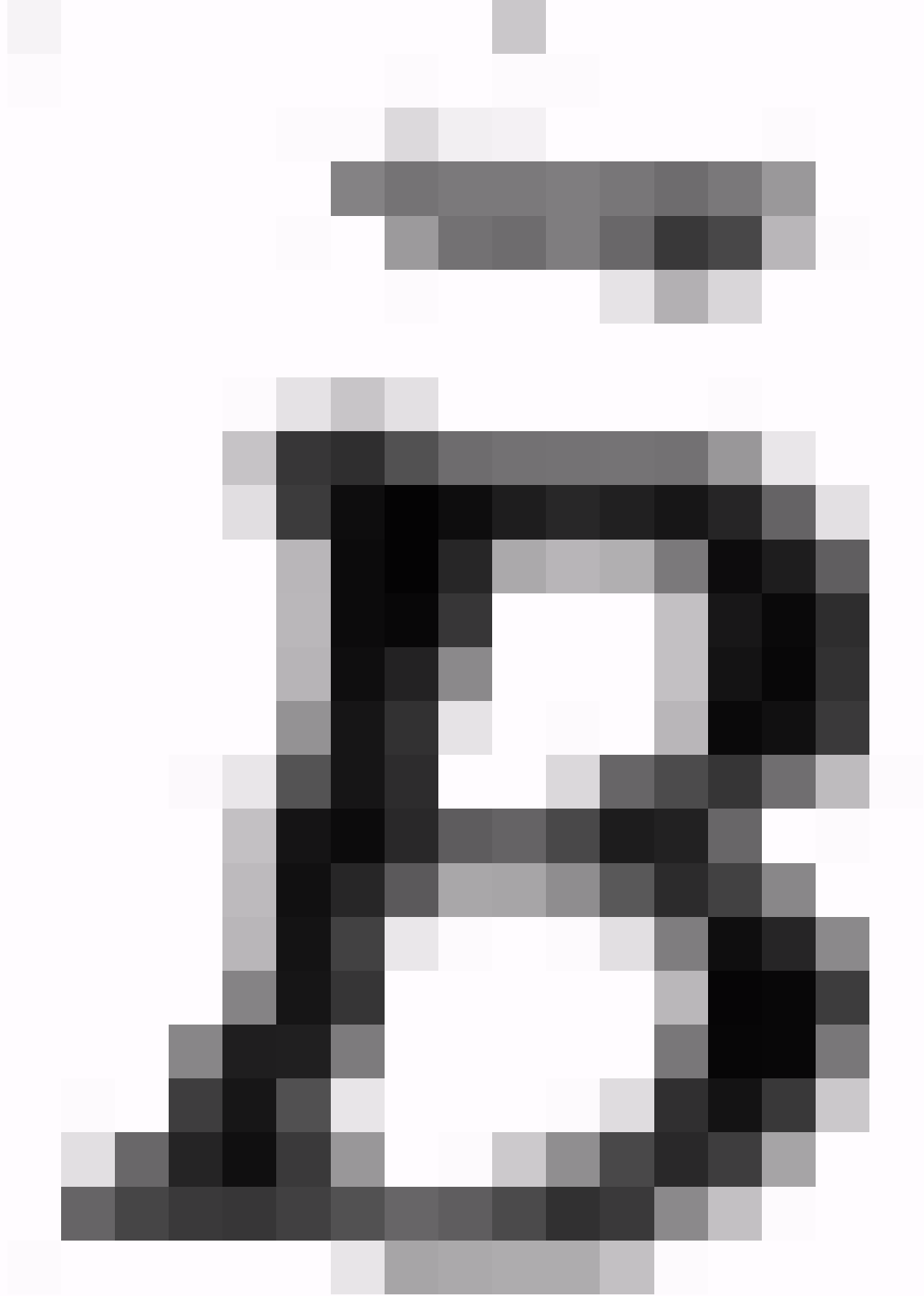
Мал. 2.140



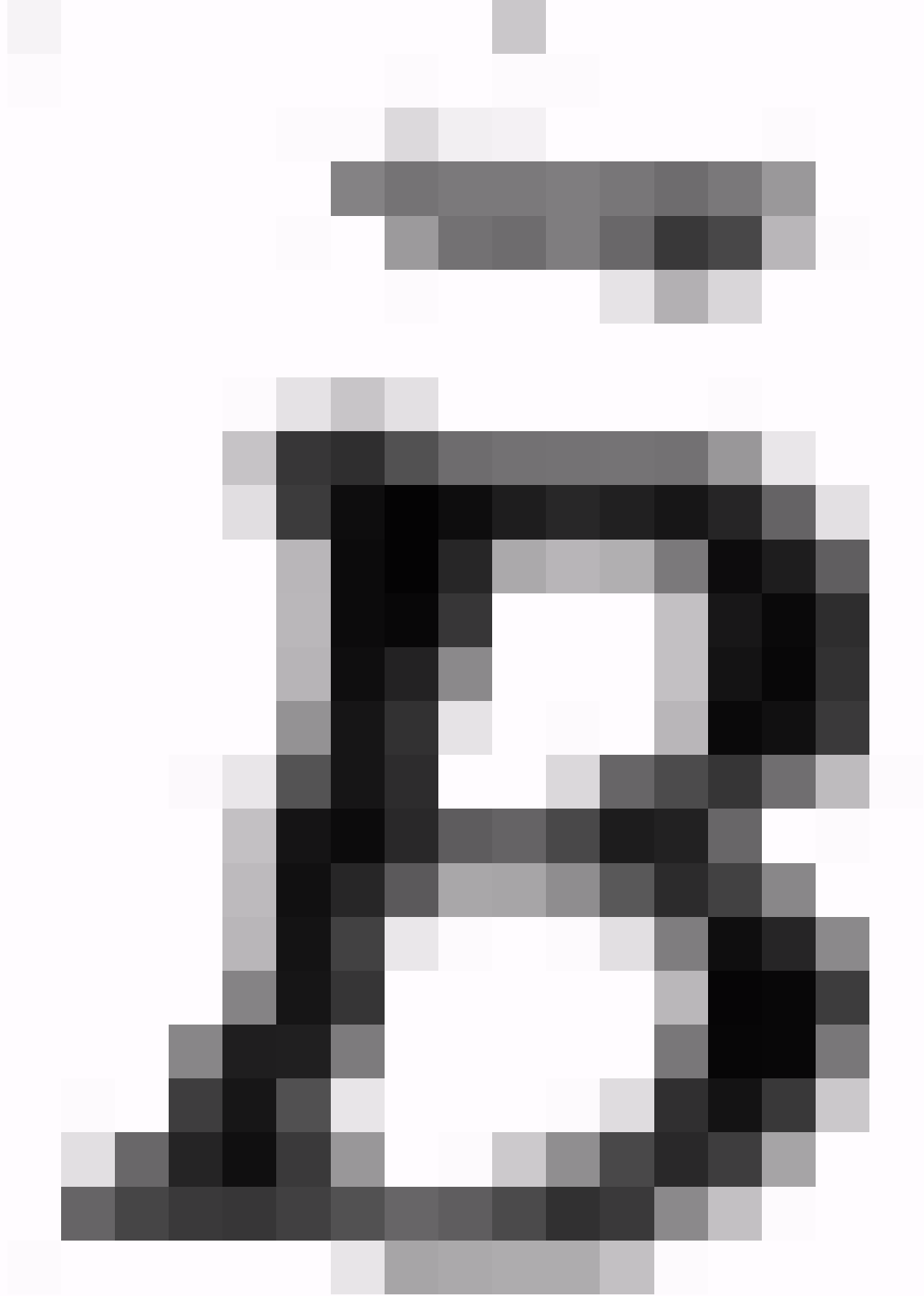


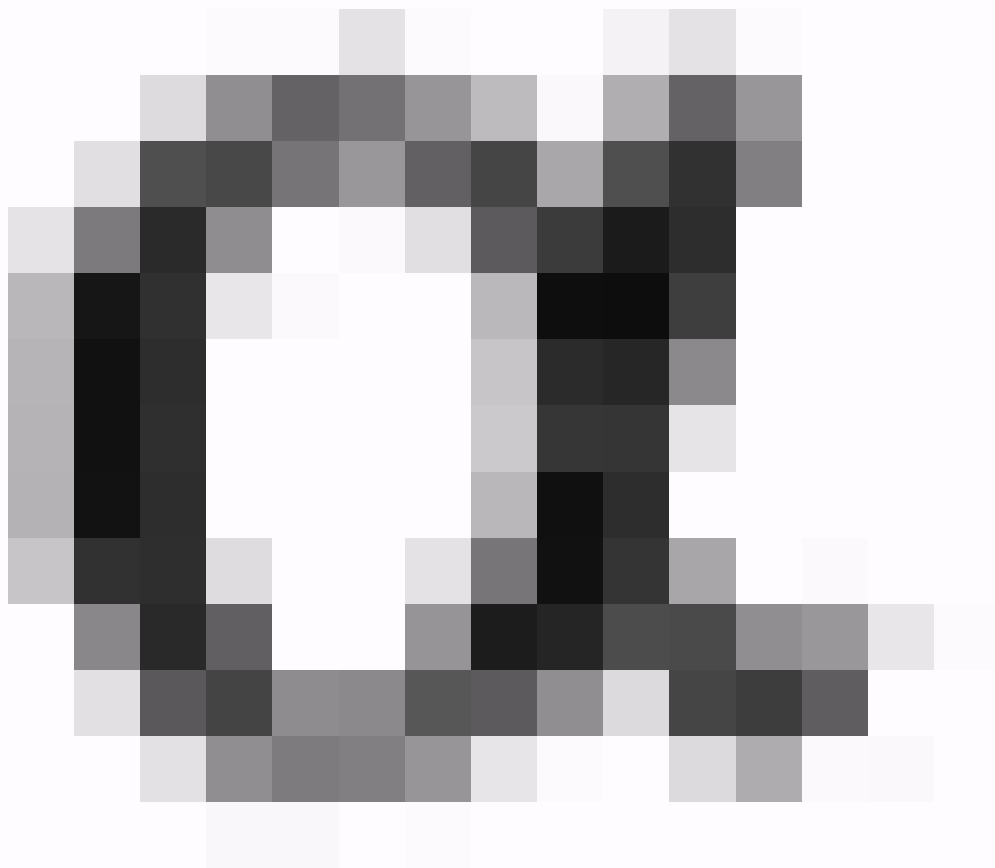
Mat. 2.140

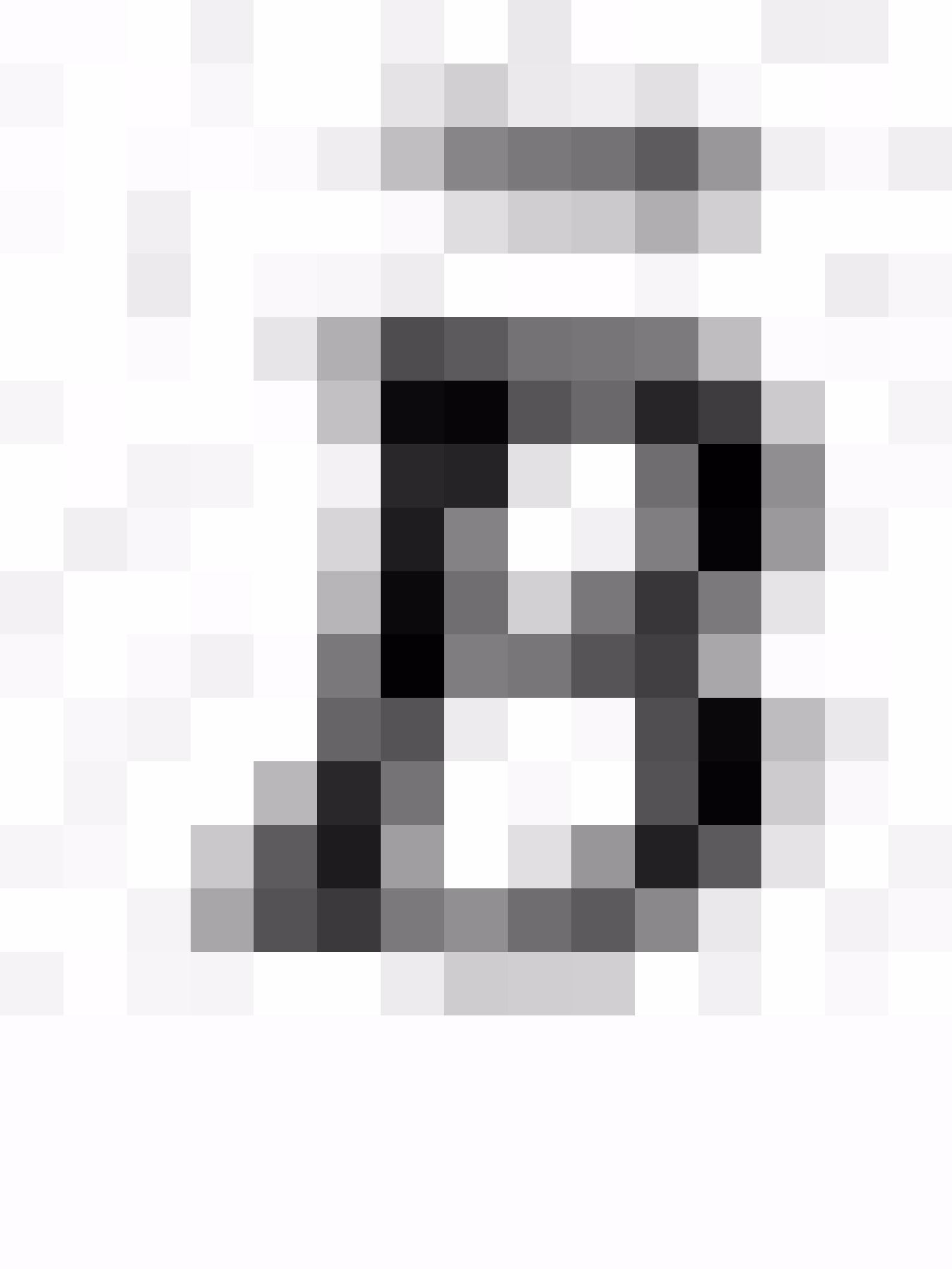


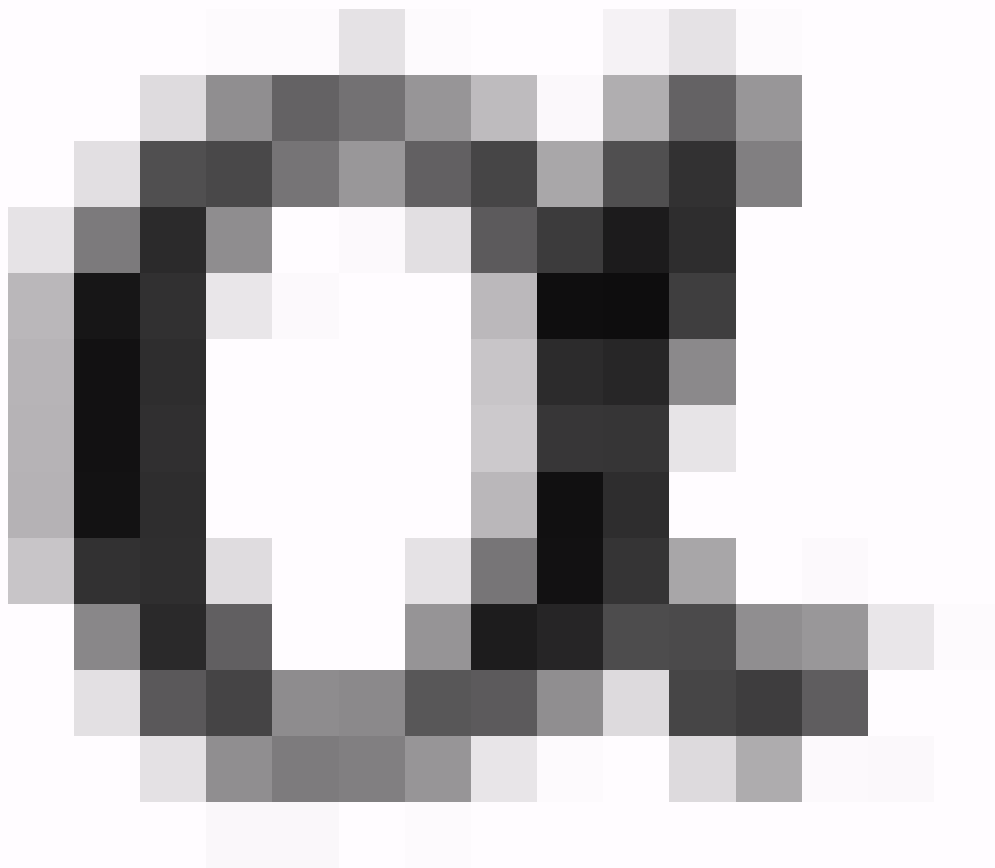


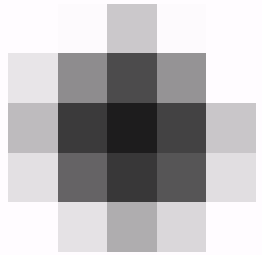
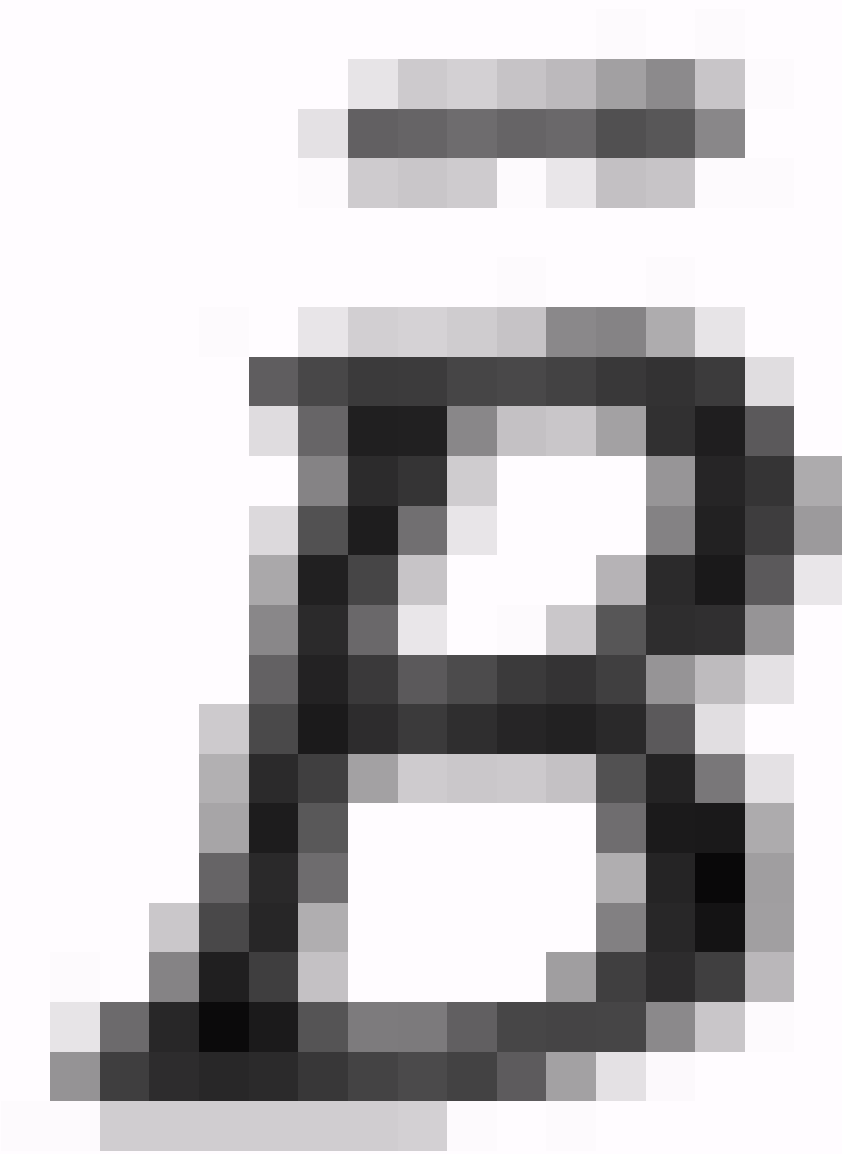


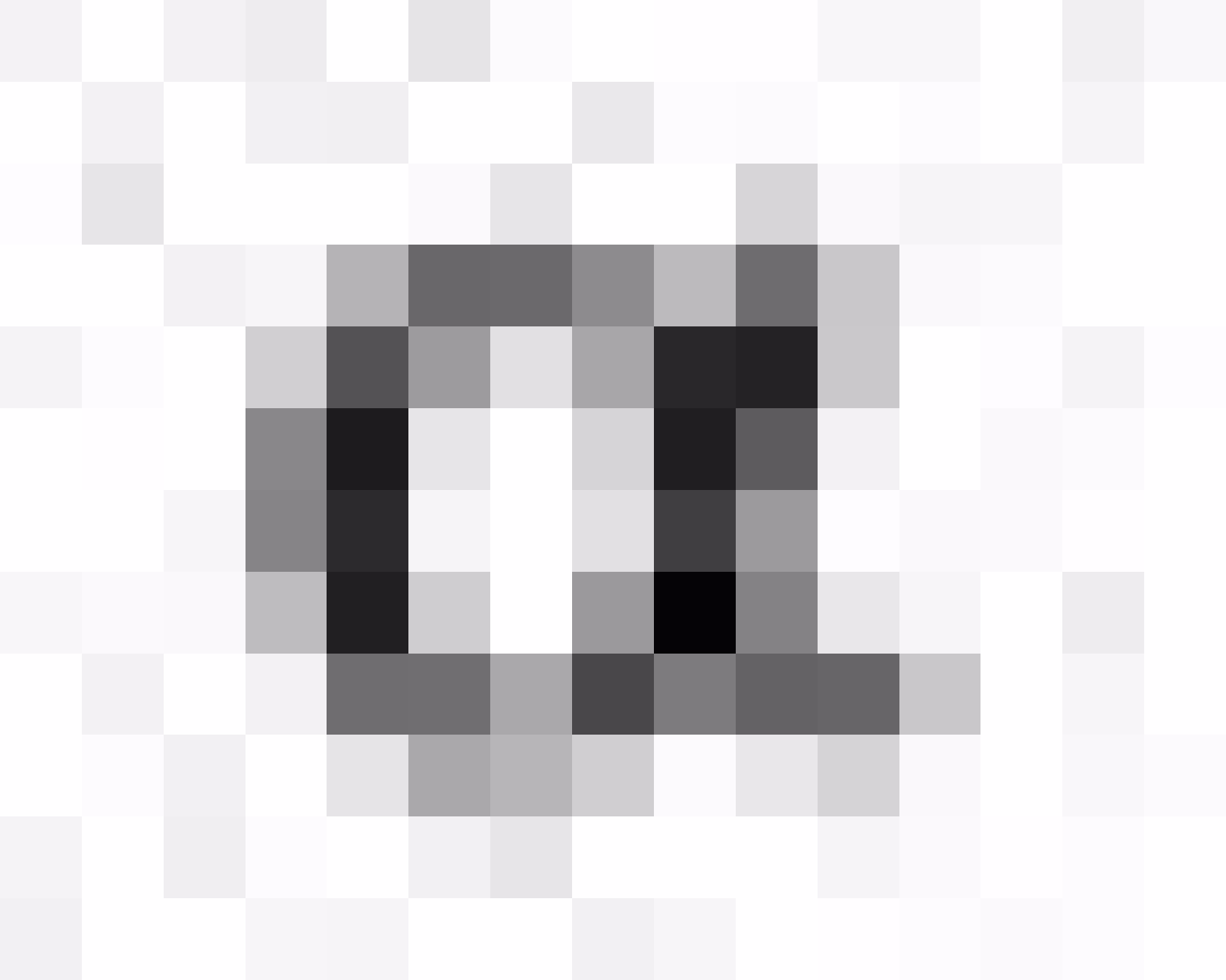


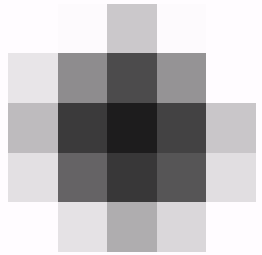
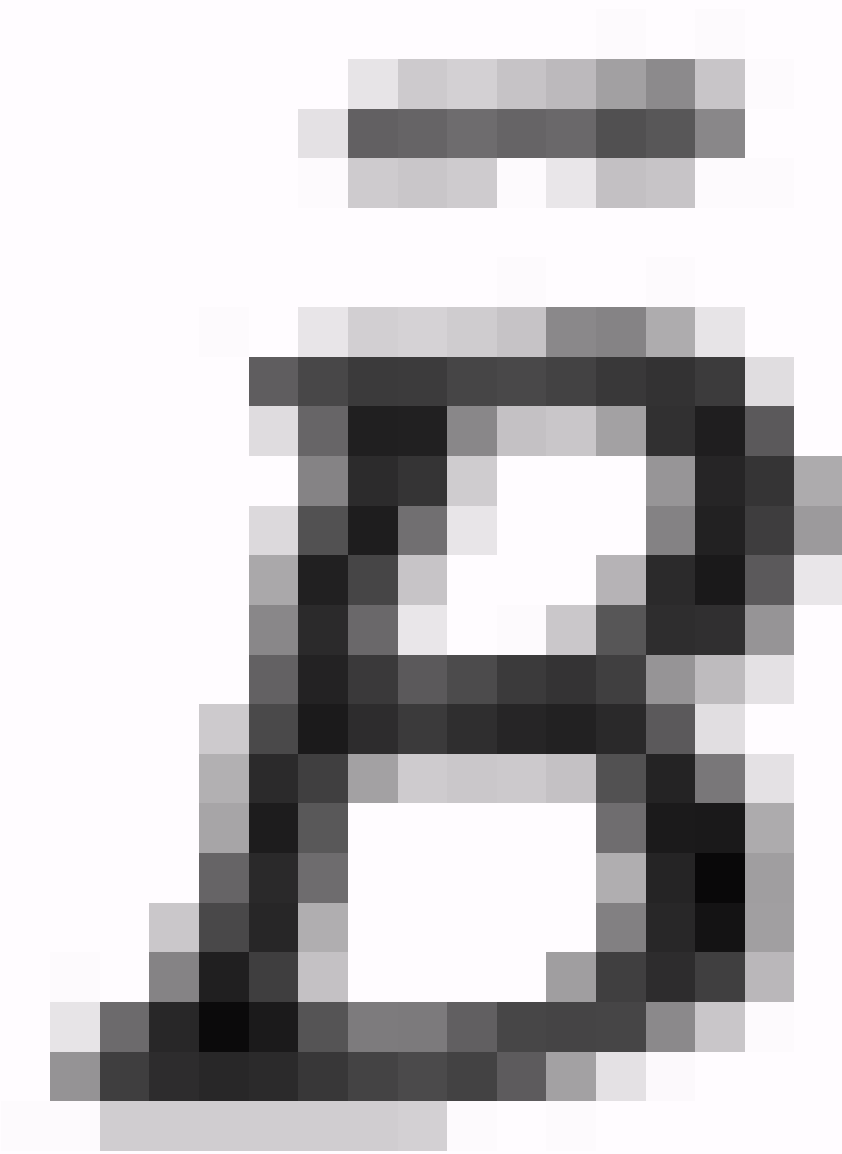


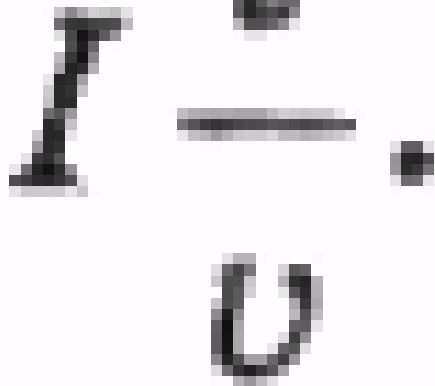
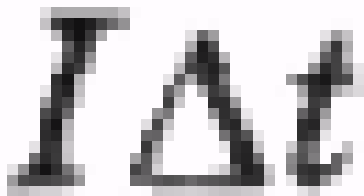




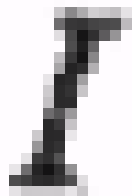
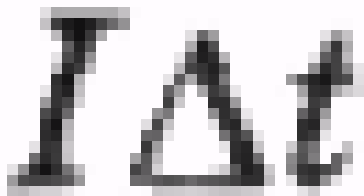


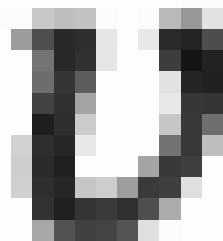
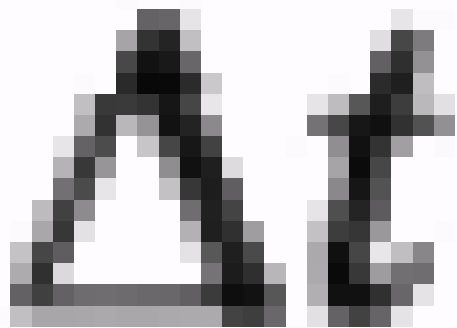




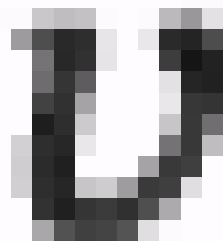
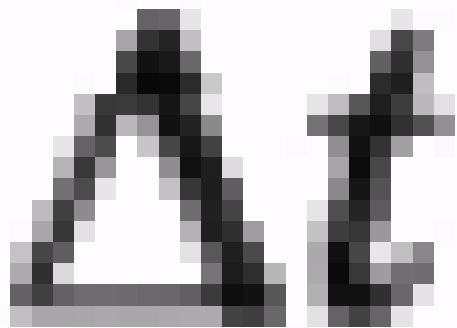










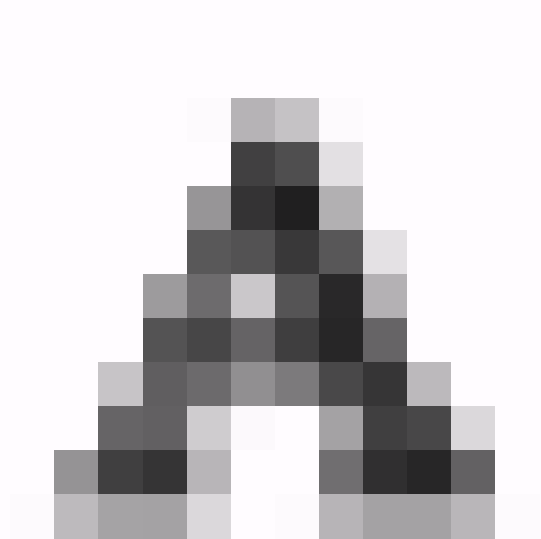
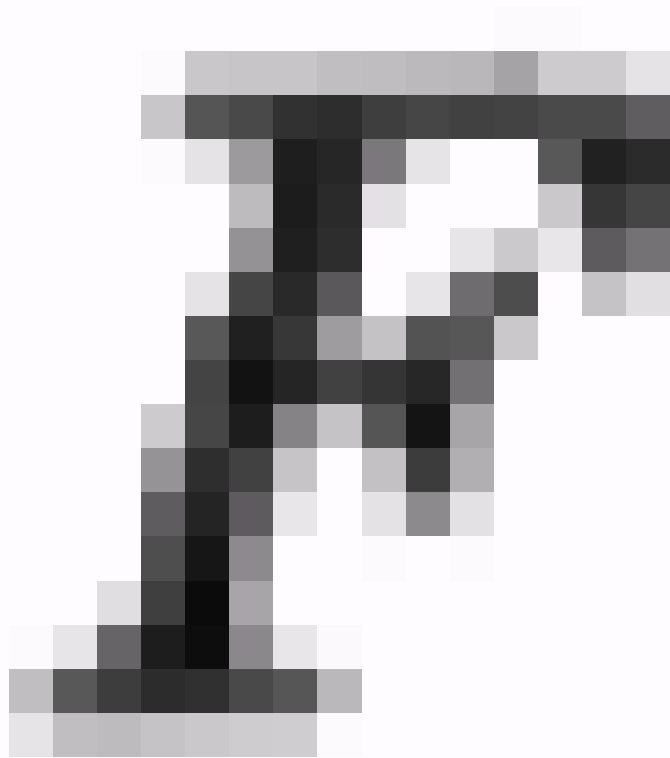


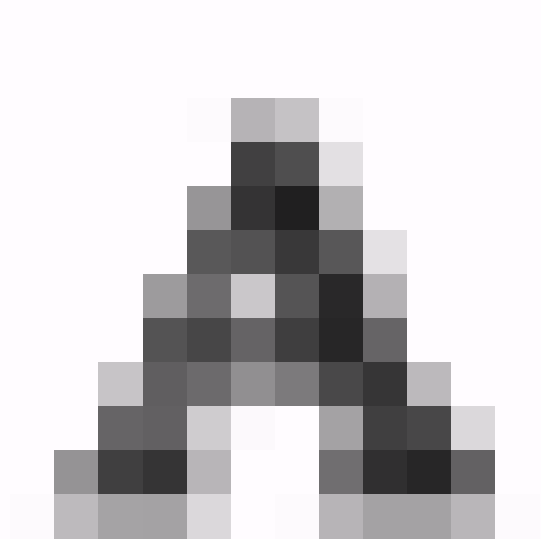
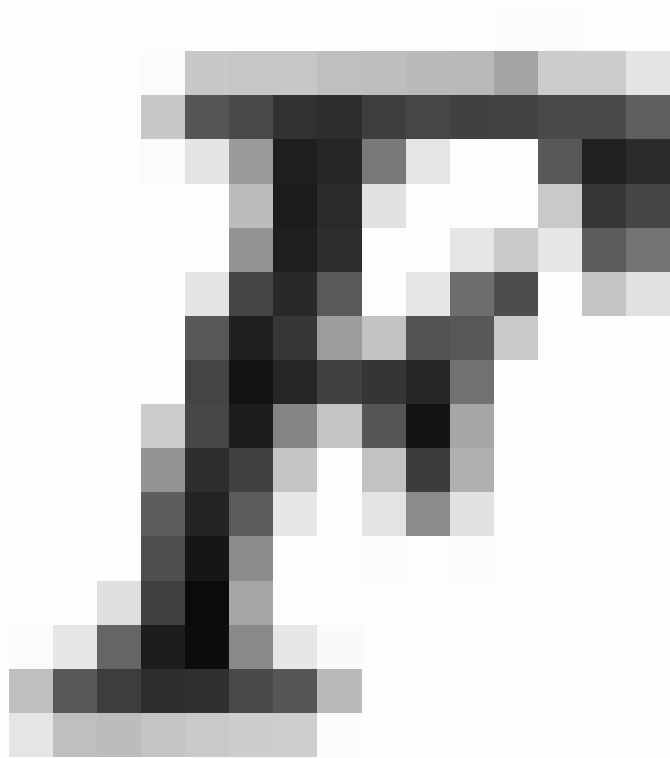
$$F = qBv \sin \alpha \equiv I \frac{L}{v} Bv \sin \alpha = IBL \sin \alpha.$$

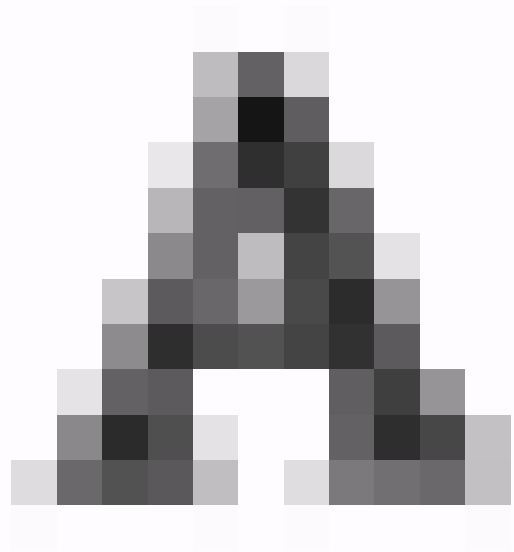


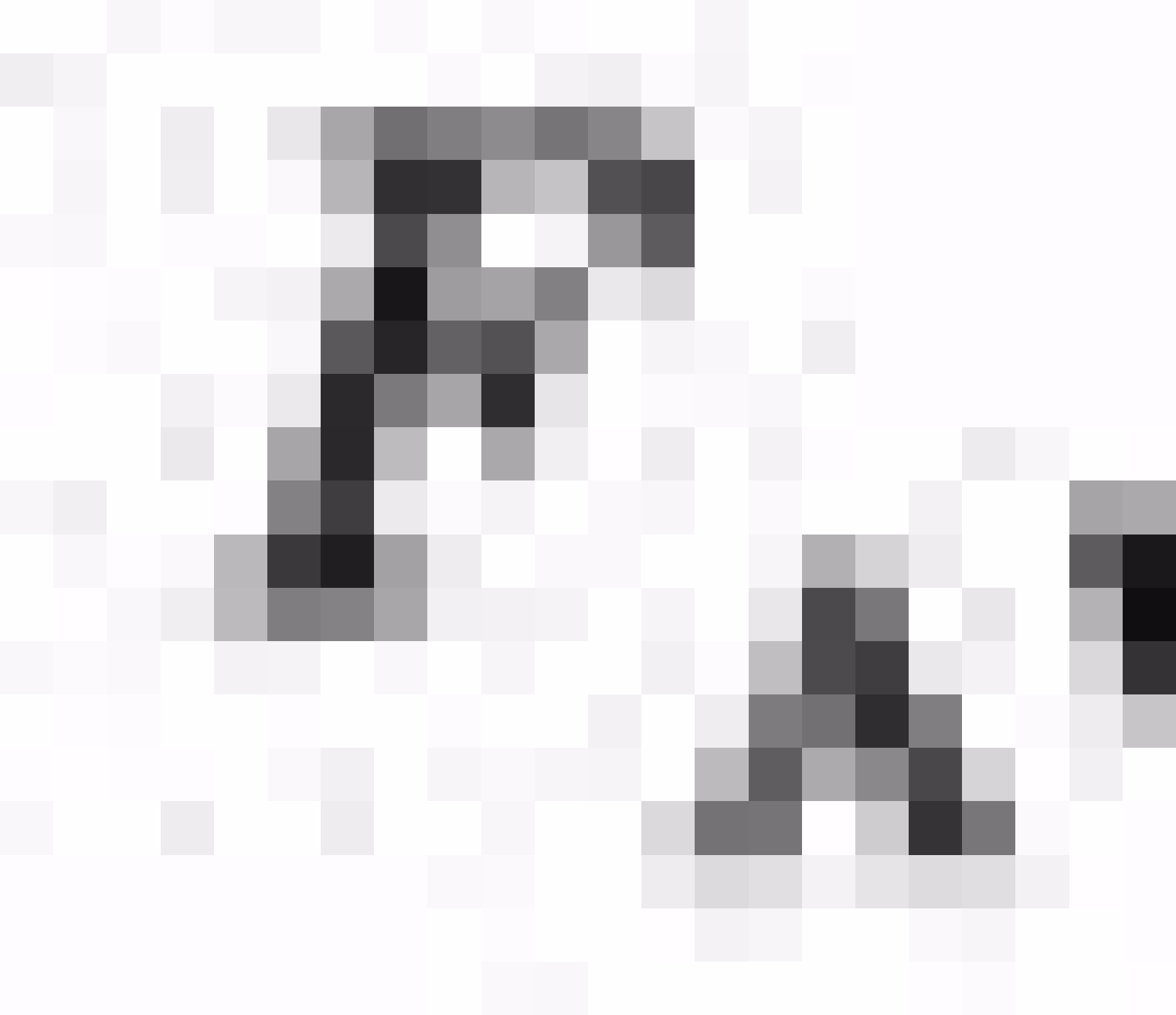
$$F = qBv \sin \alpha \equiv I \frac{L}{v} Bv \sin \alpha = IBL \sin \alpha.$$

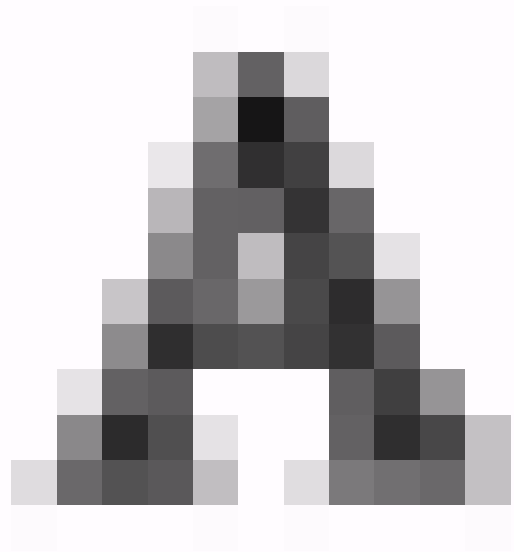
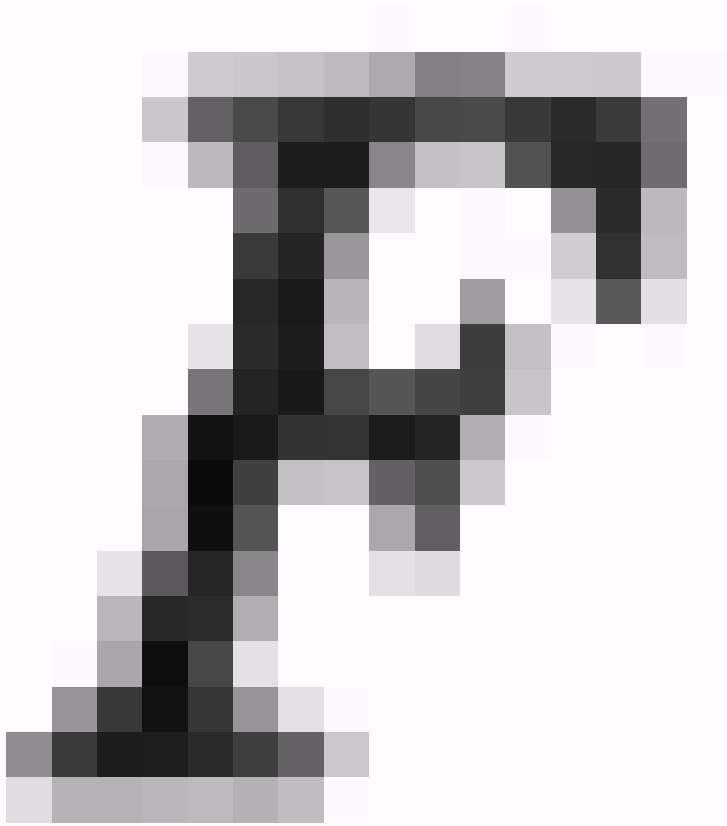


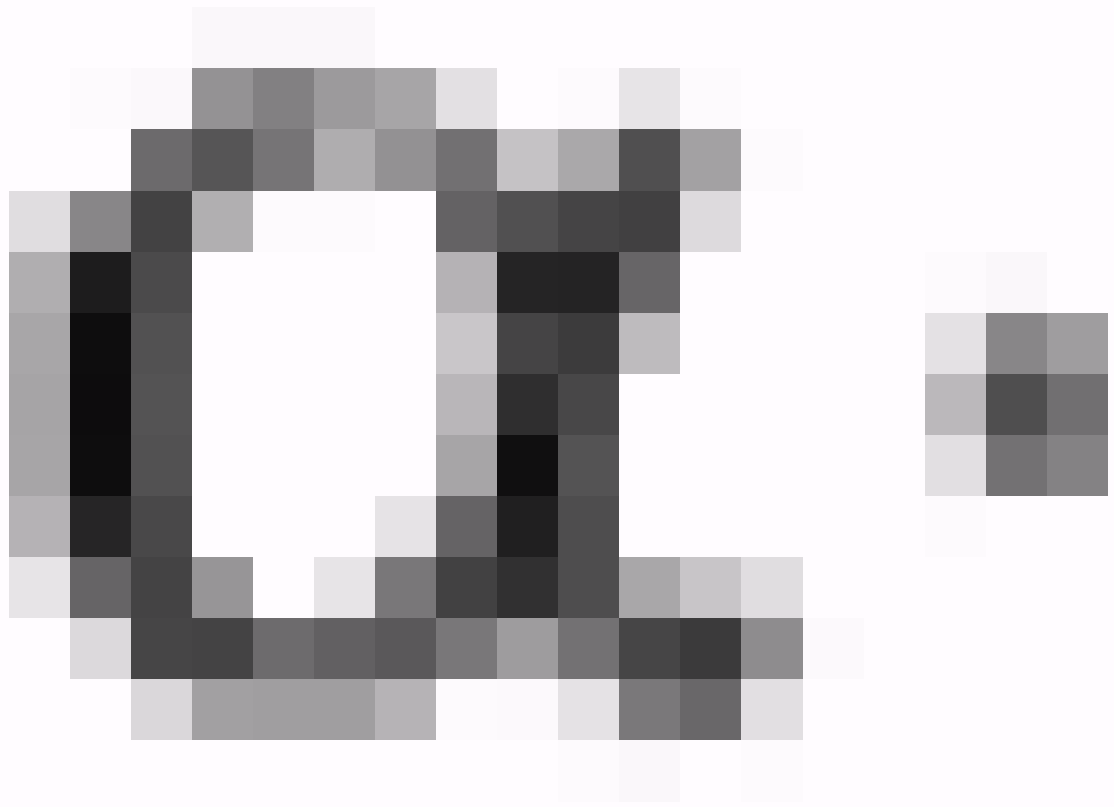


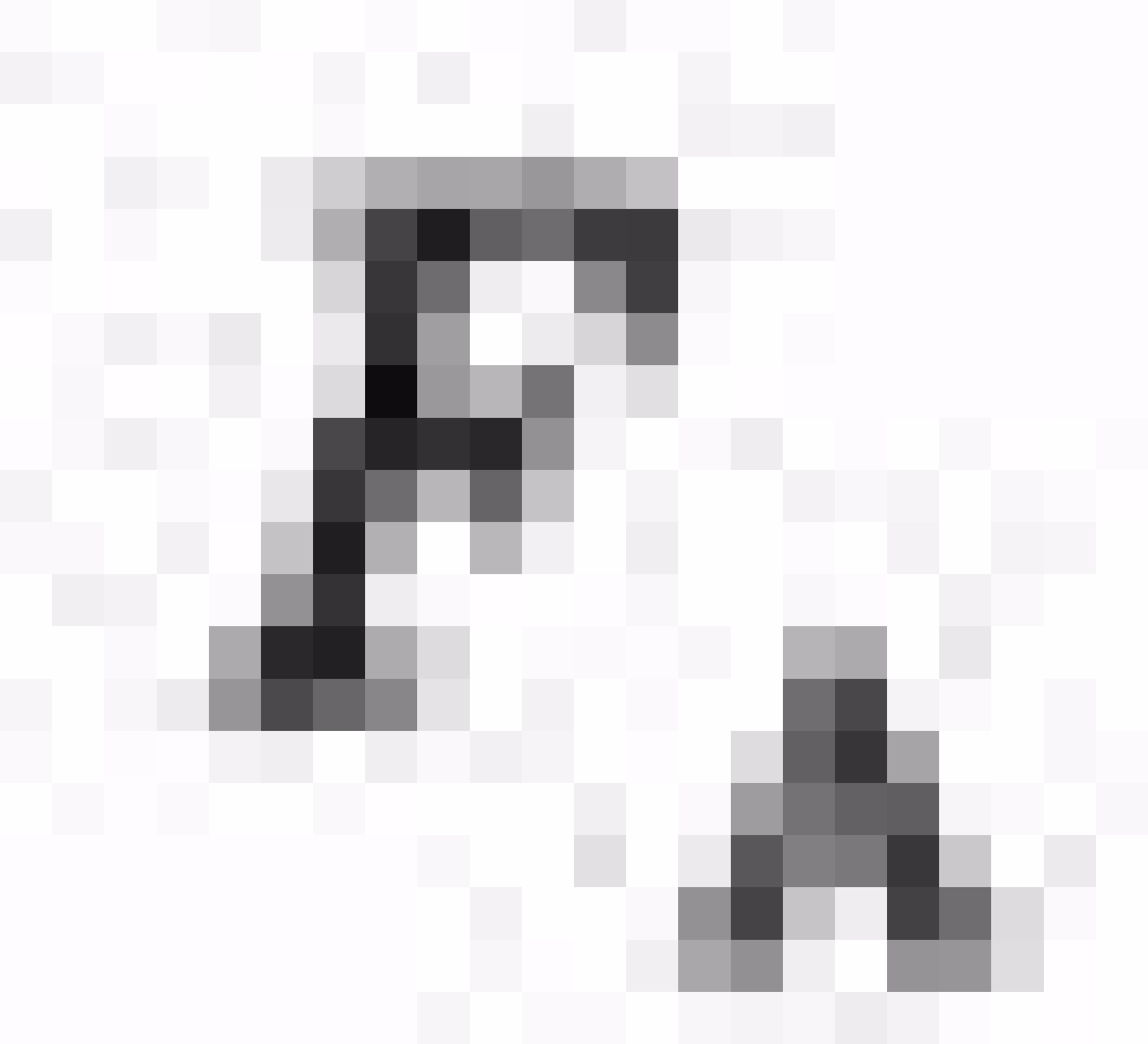


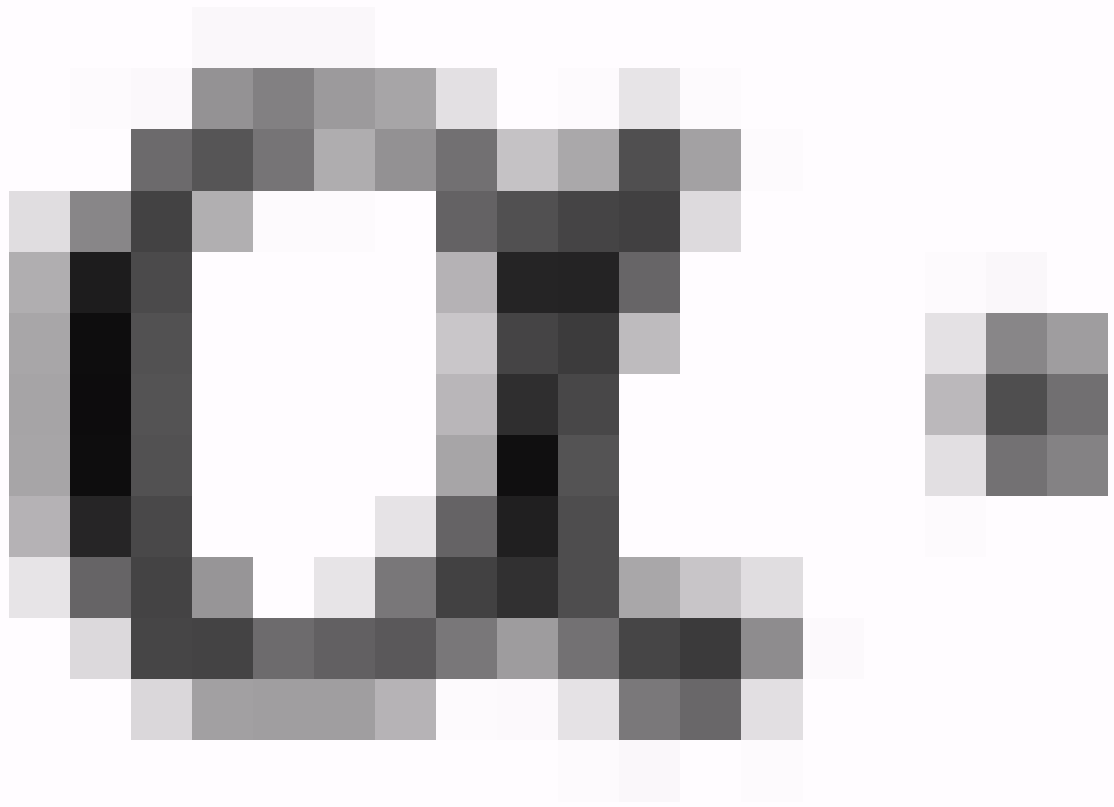


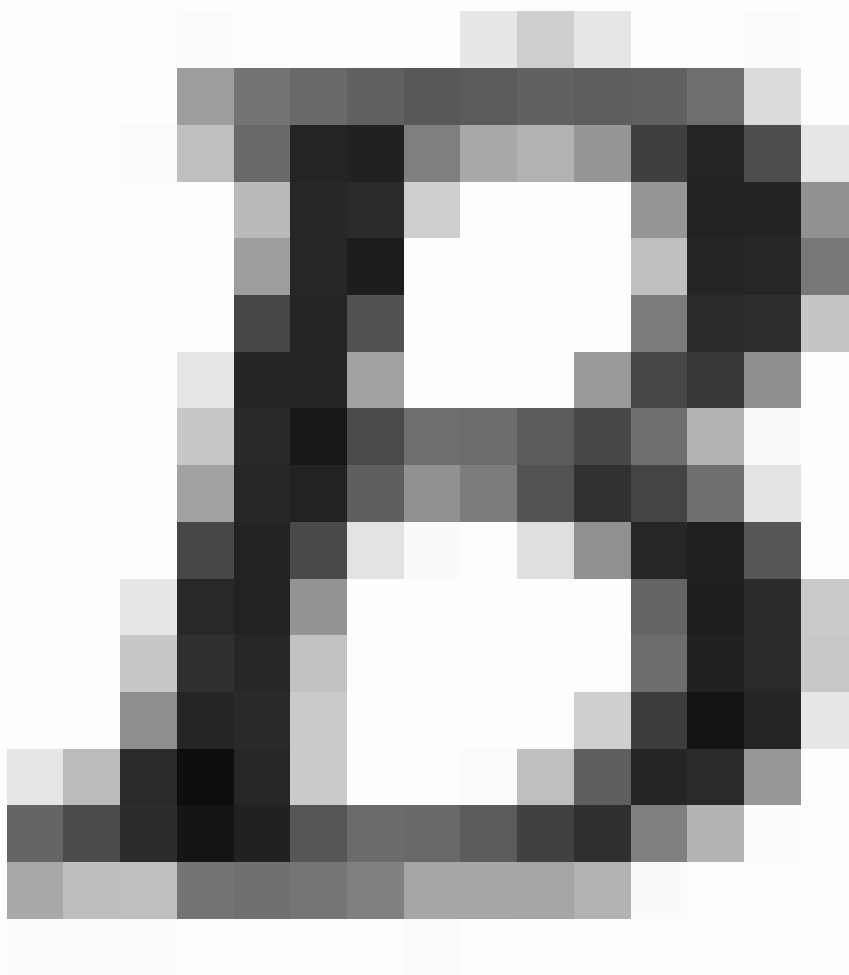
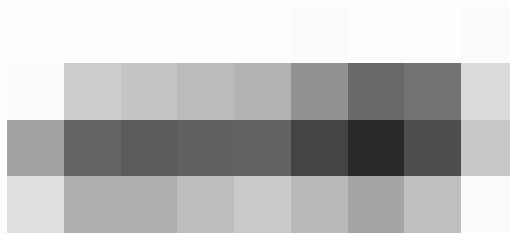


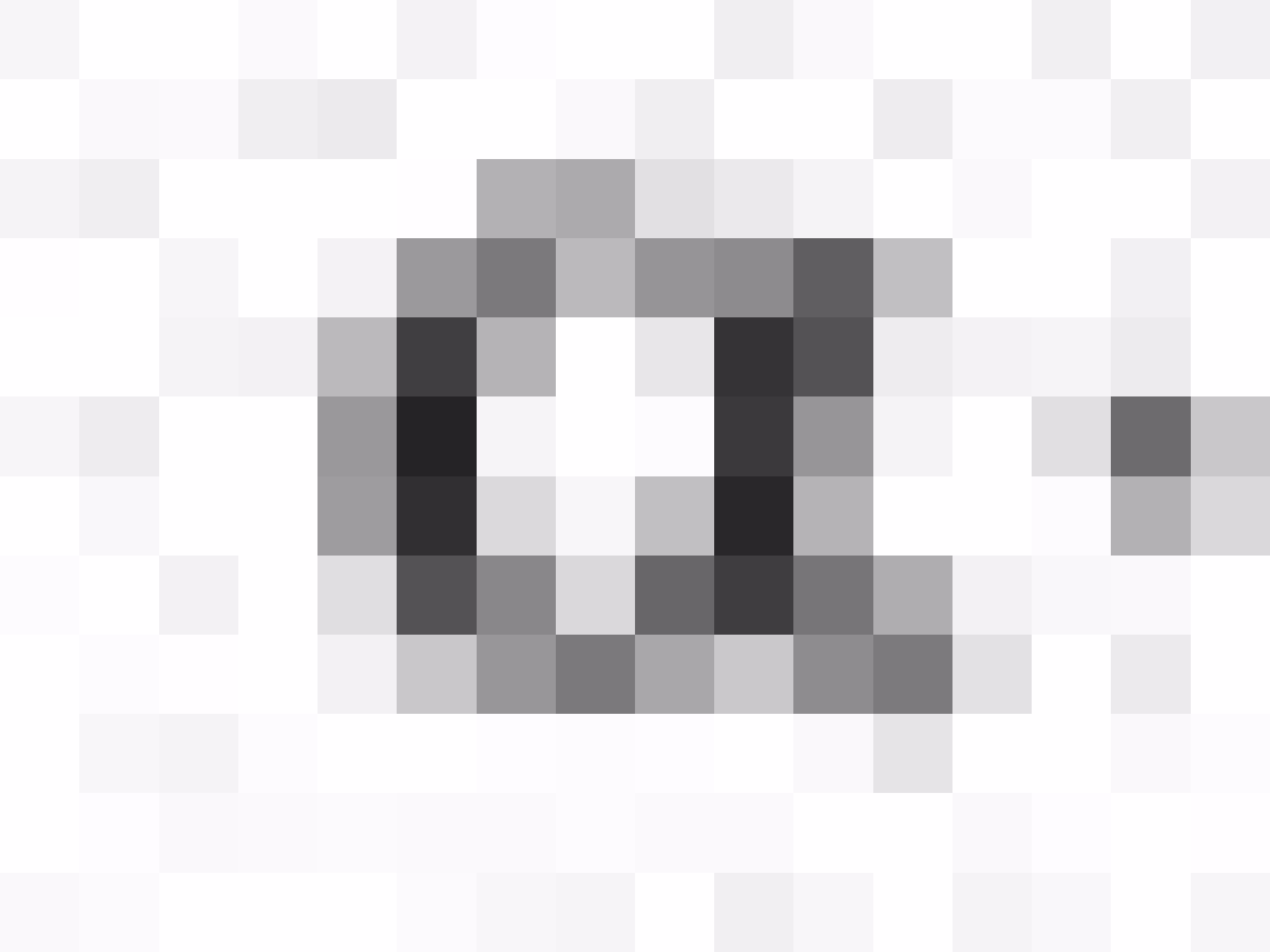


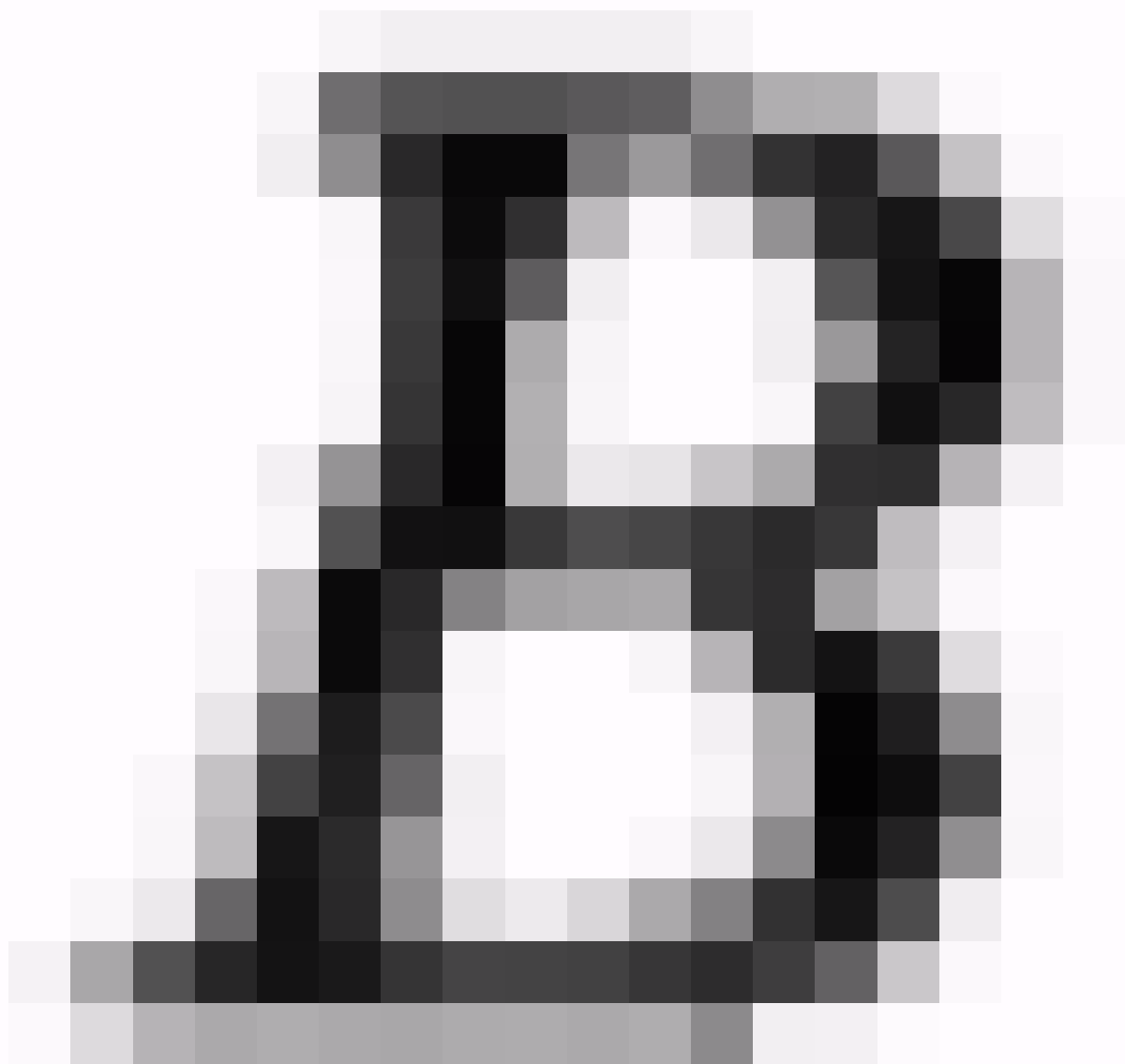
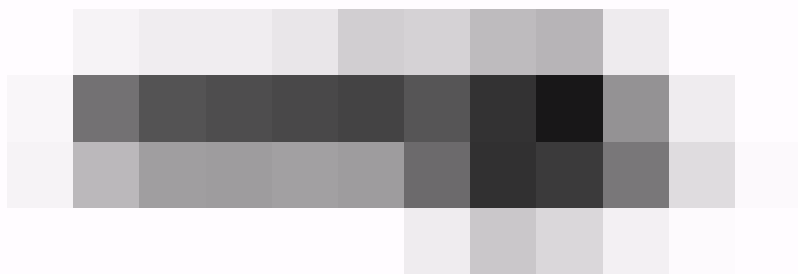










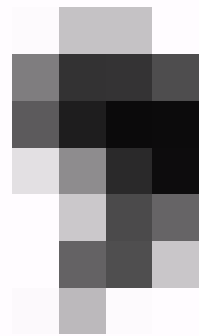
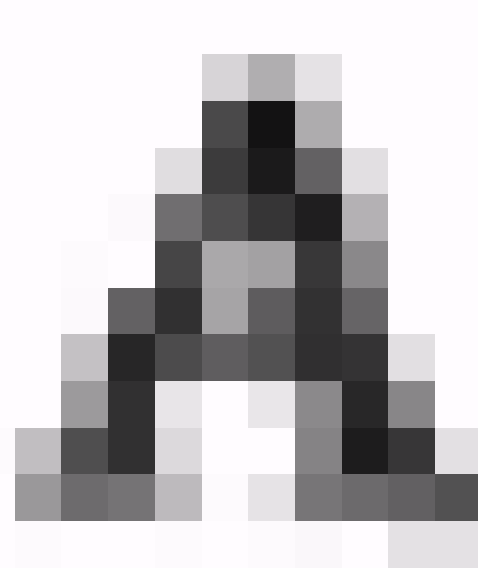


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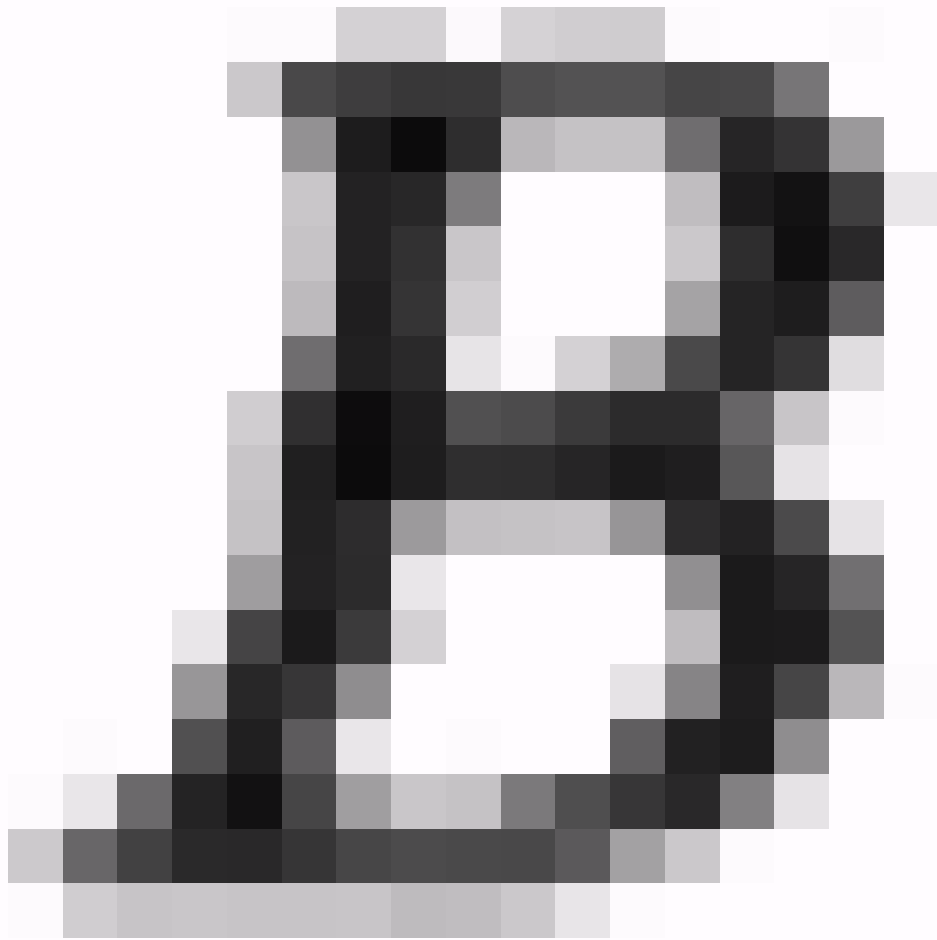
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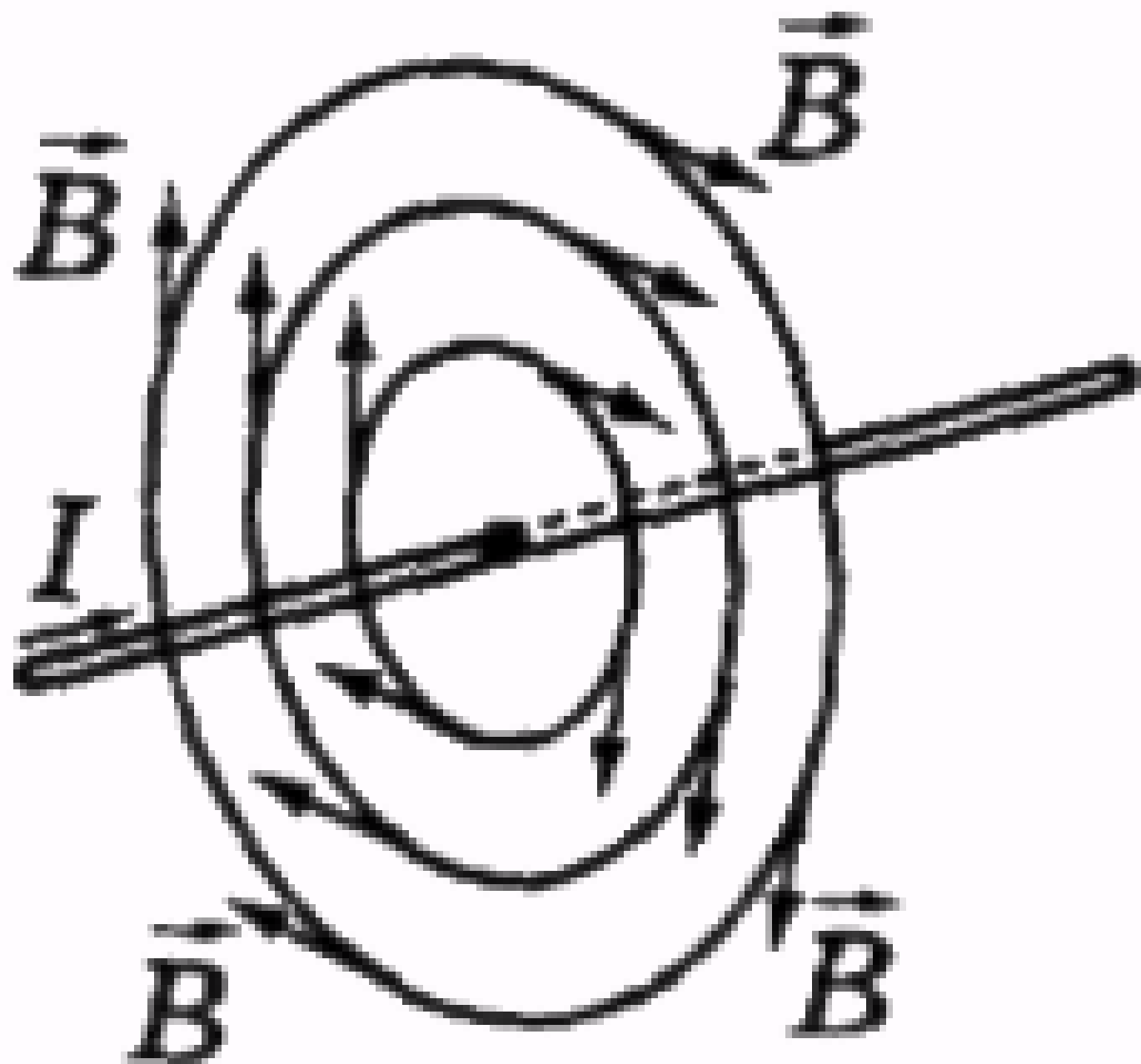
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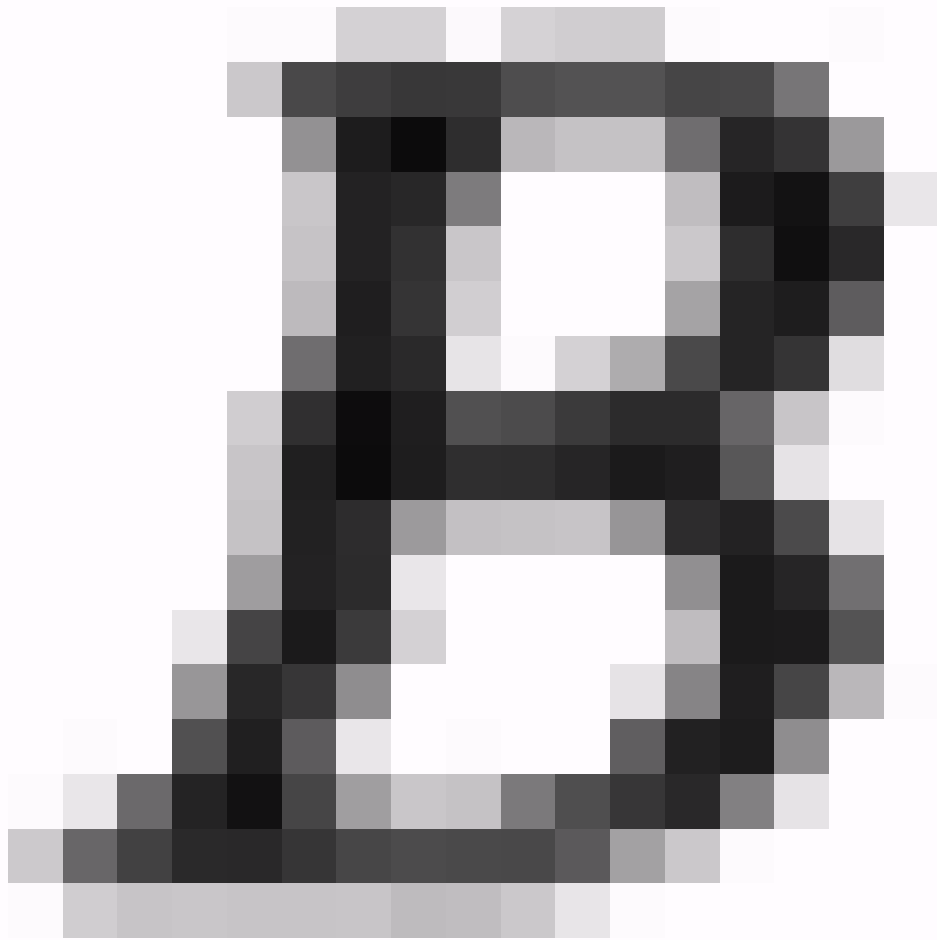
$$B = \frac{FA}{l \sin \alpha}, \quad \Gamma \pi = \frac{1H}{1A \cdot 1N}.$$

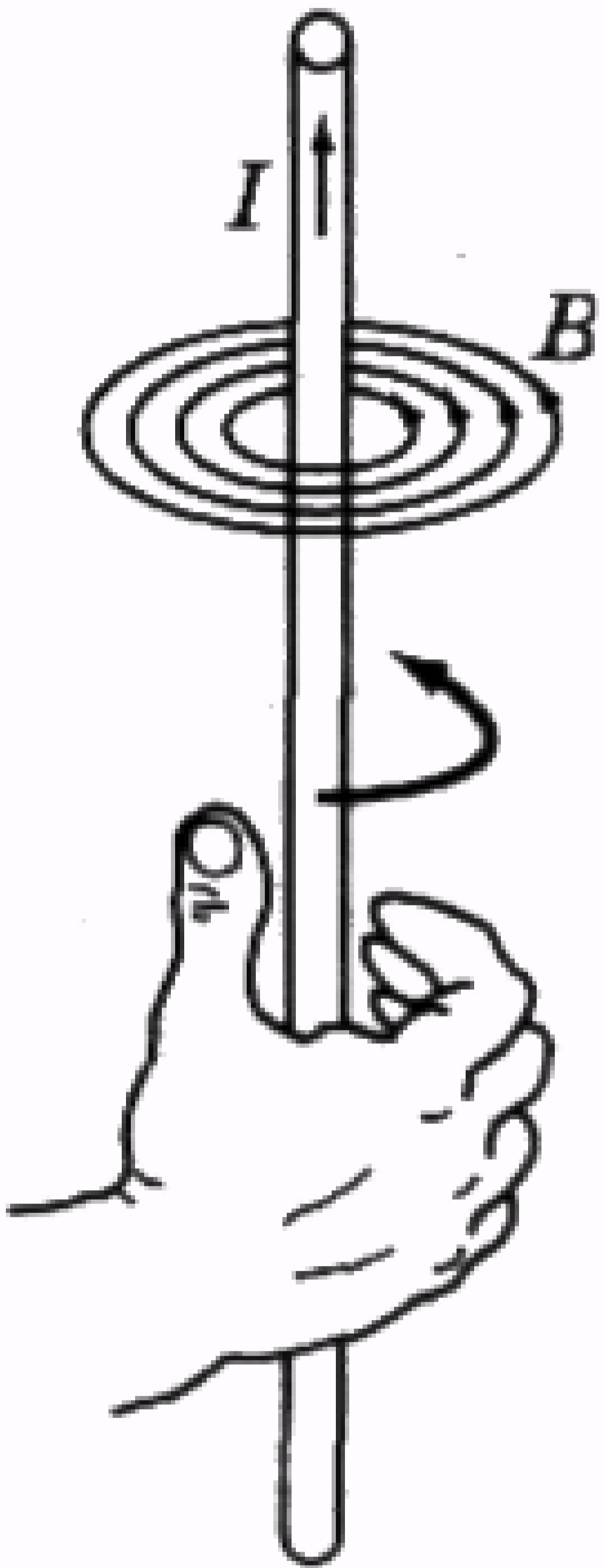




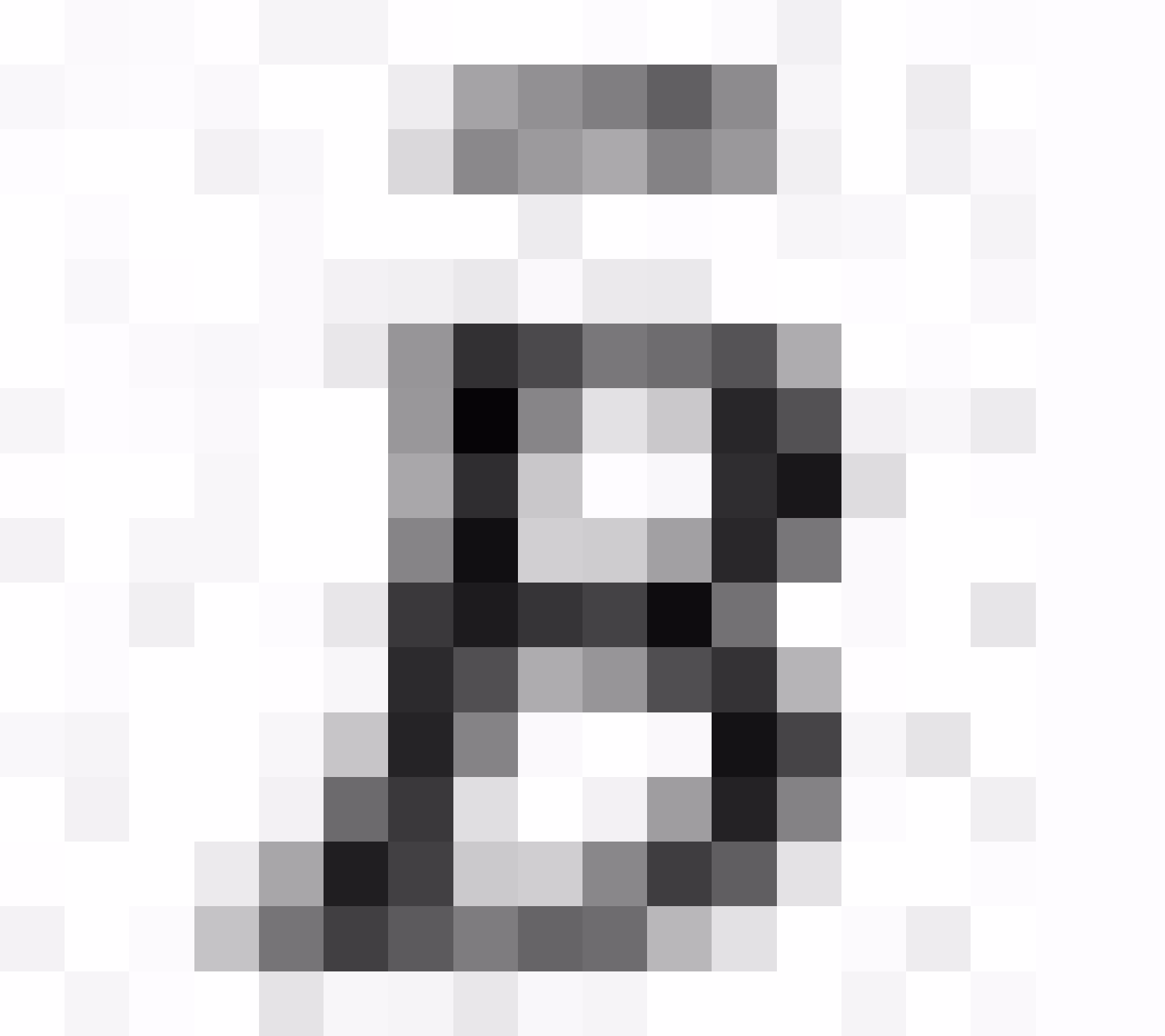
Мал. 2.141

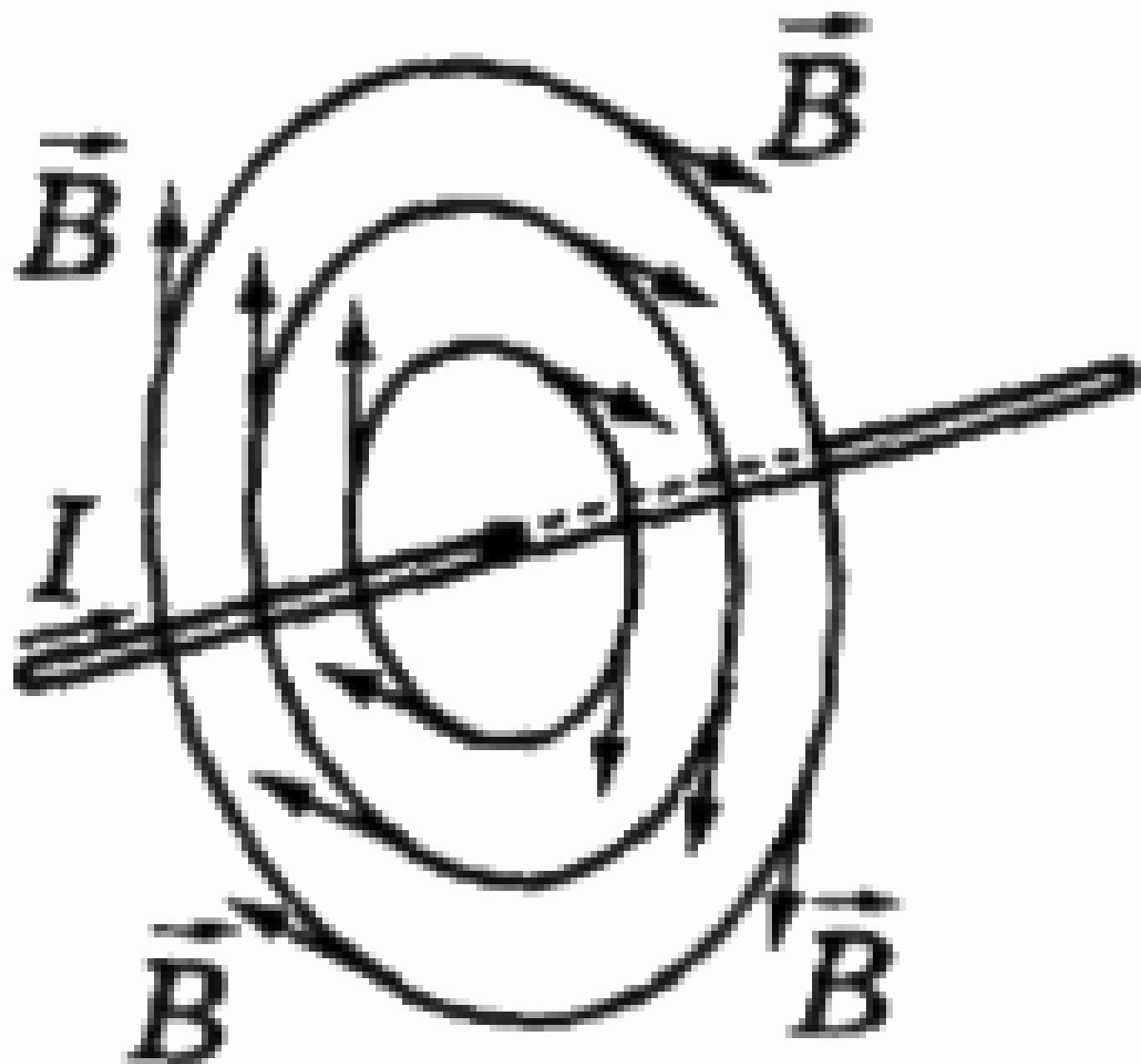
THE UNIVERSITY OF
MICHIGAN LIBRARY





Mar. 2.142

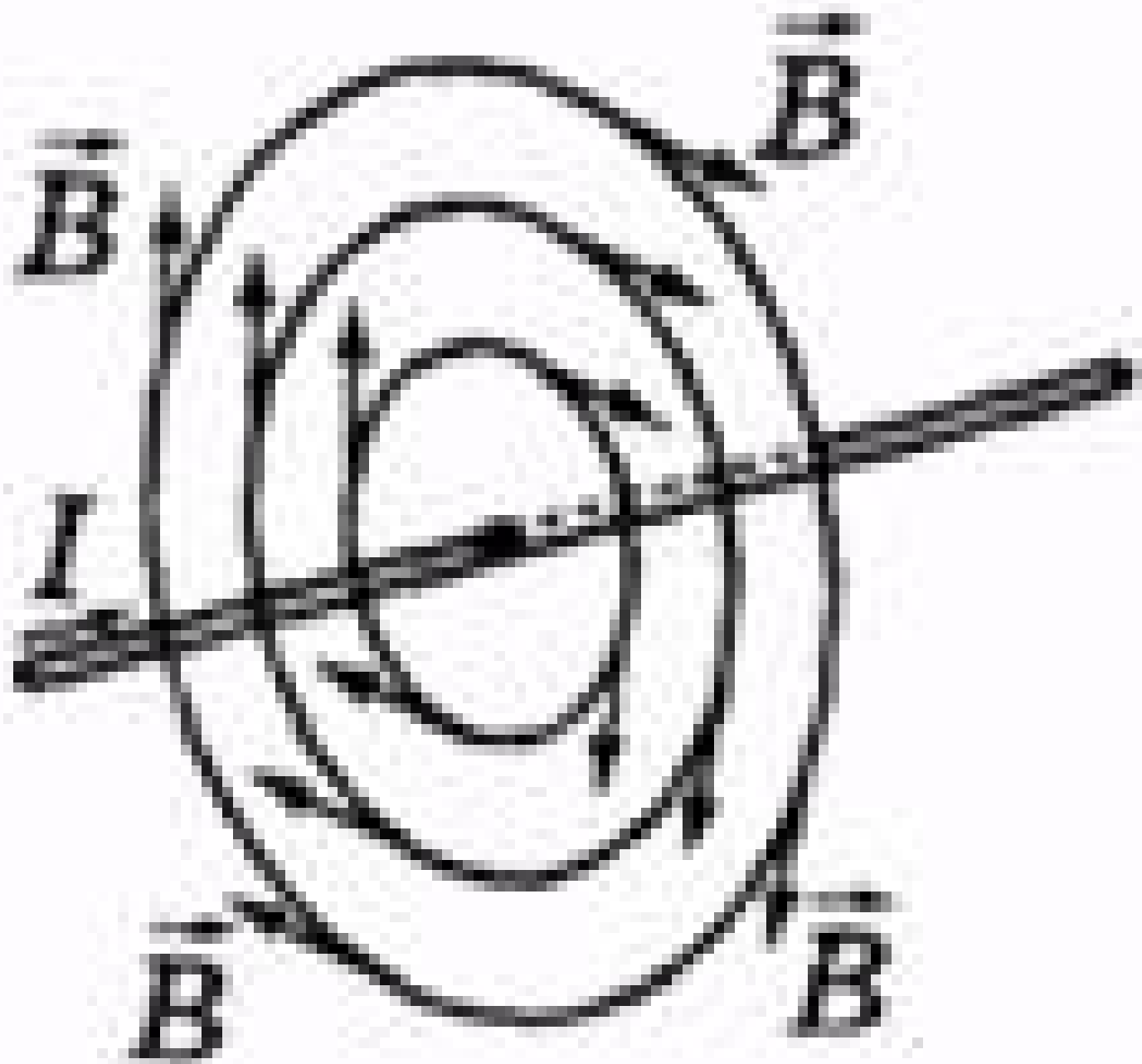




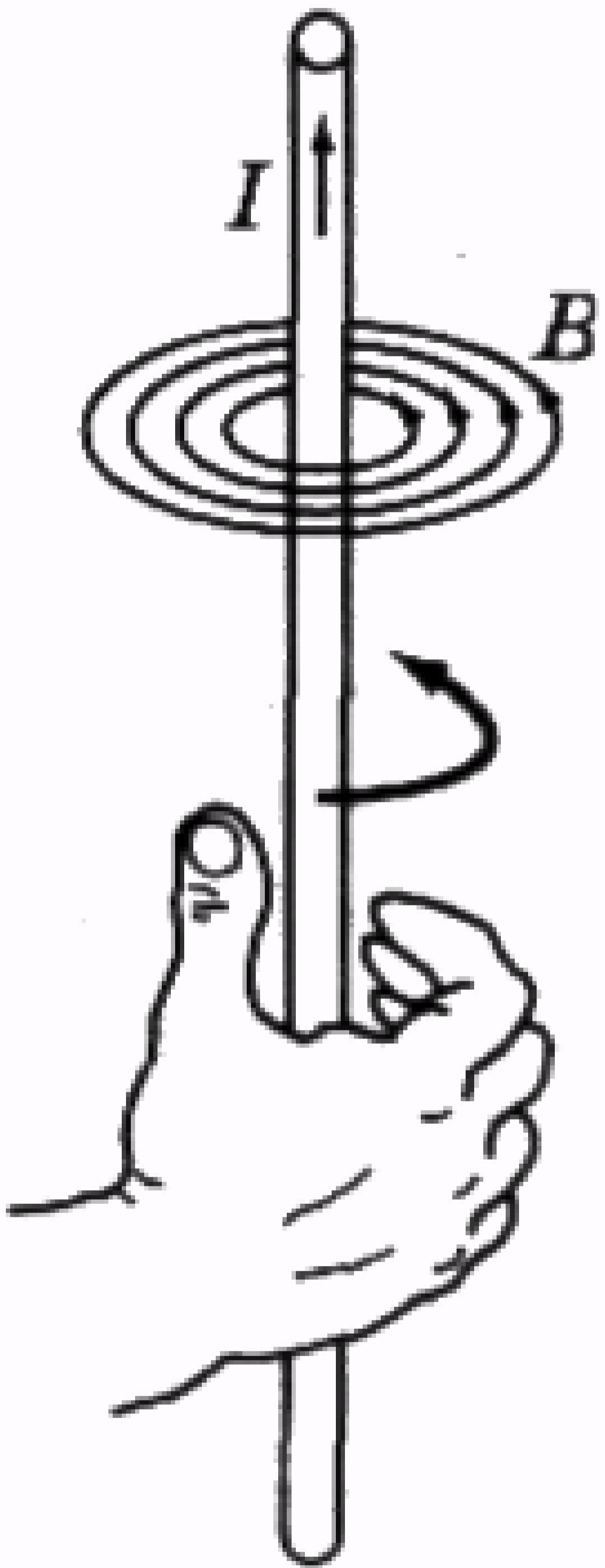
Мал. 2.141

$$B = R \cdot \frac{I}{R}$$

(43.2)



MOA. 2-141



Mar. 2.142

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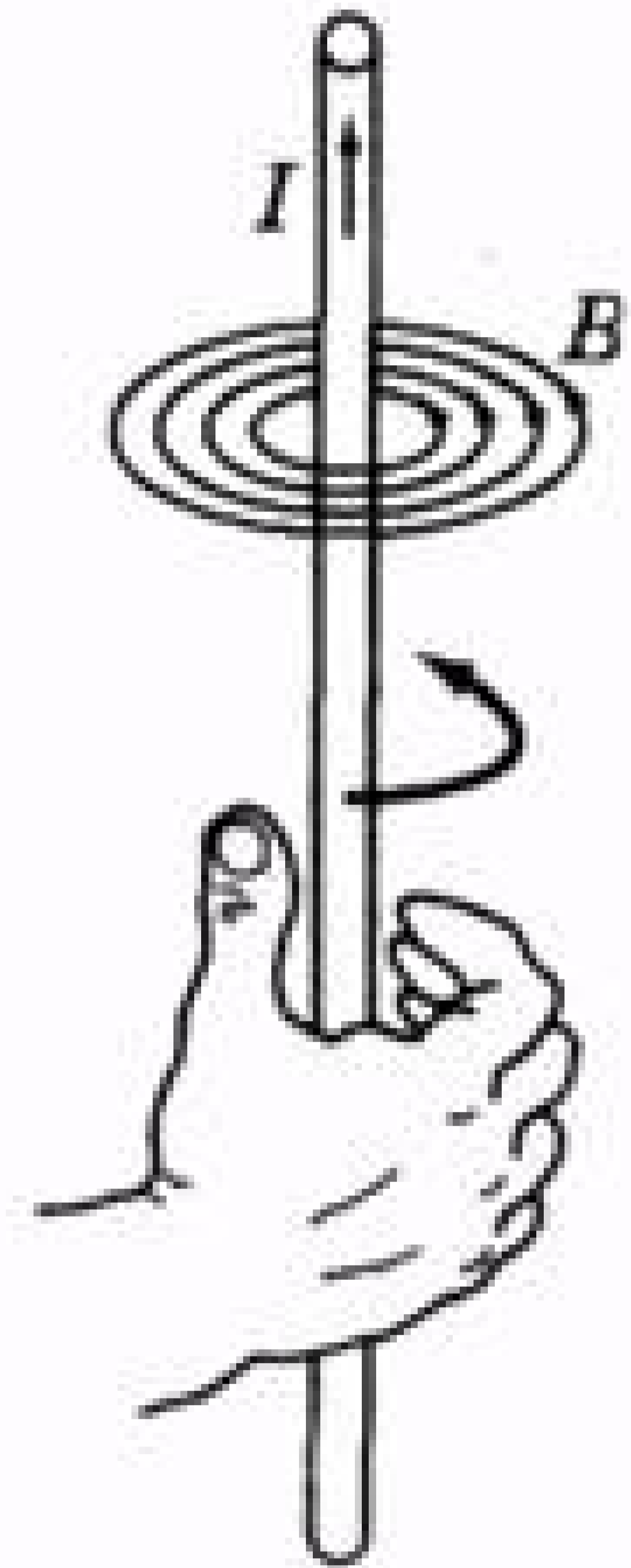
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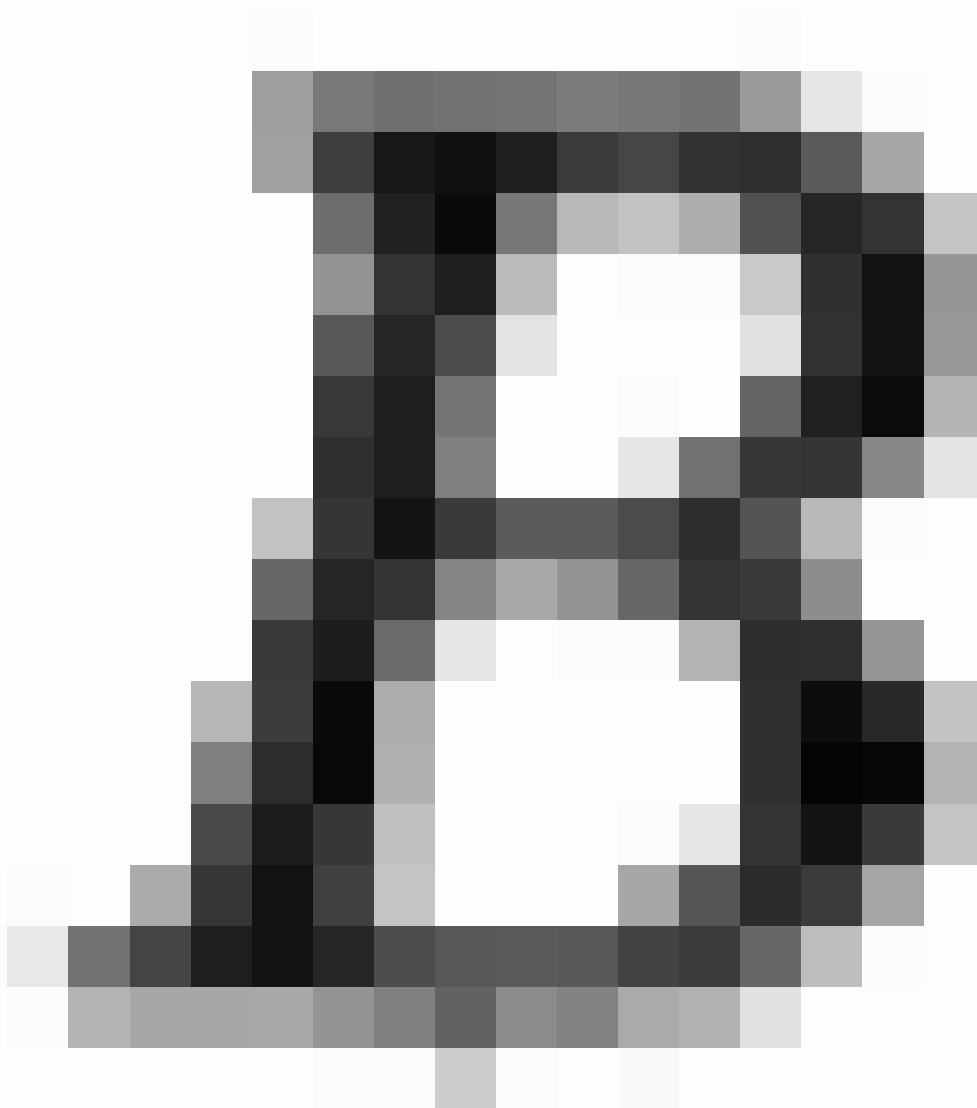
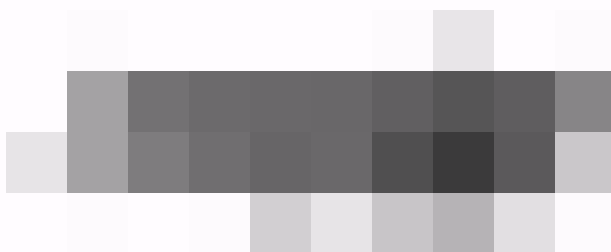
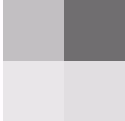
RE



Mar. 2, 1912

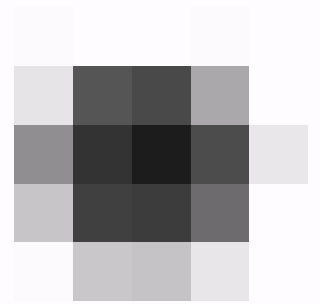
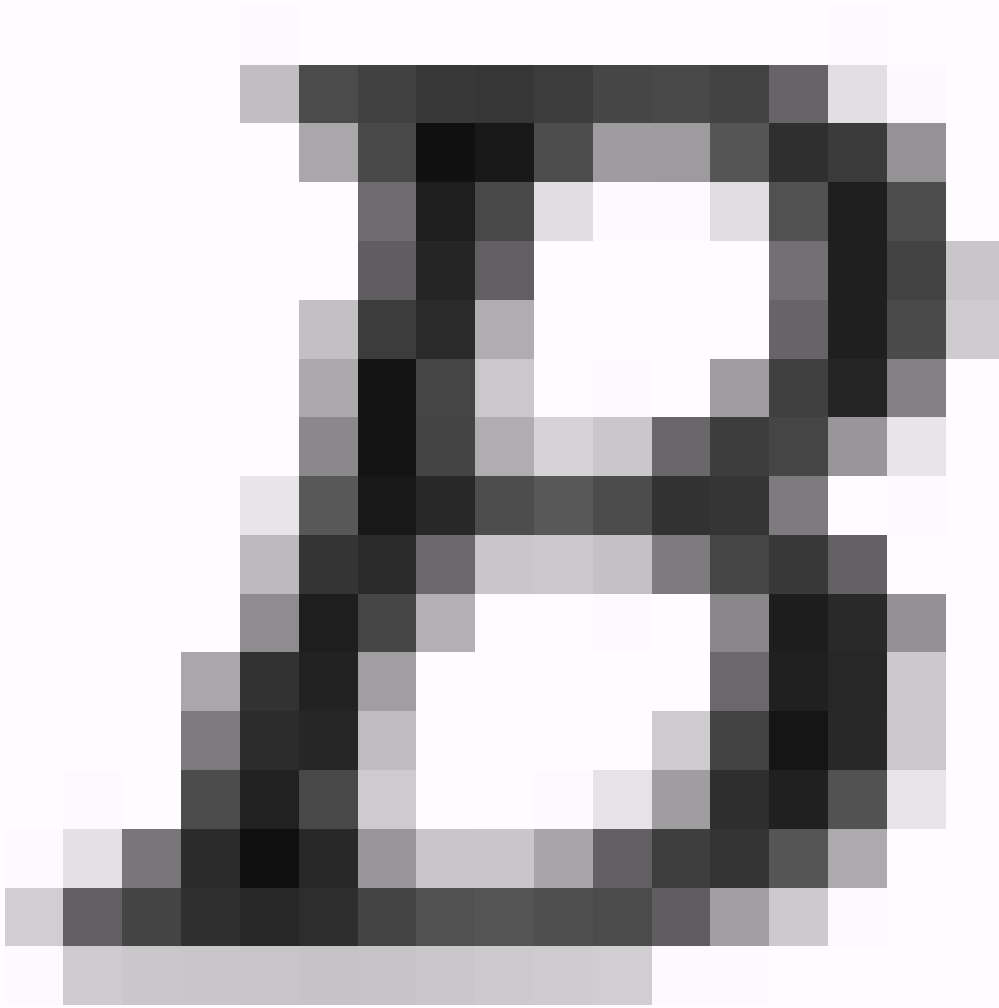
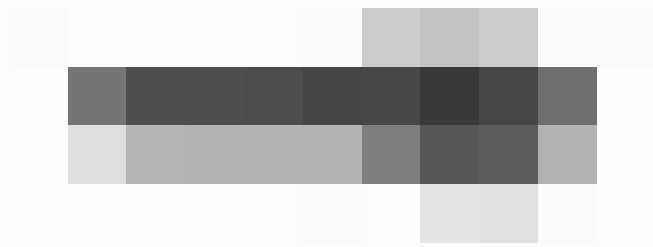
$$B = R \cdot \frac{I}{R}$$

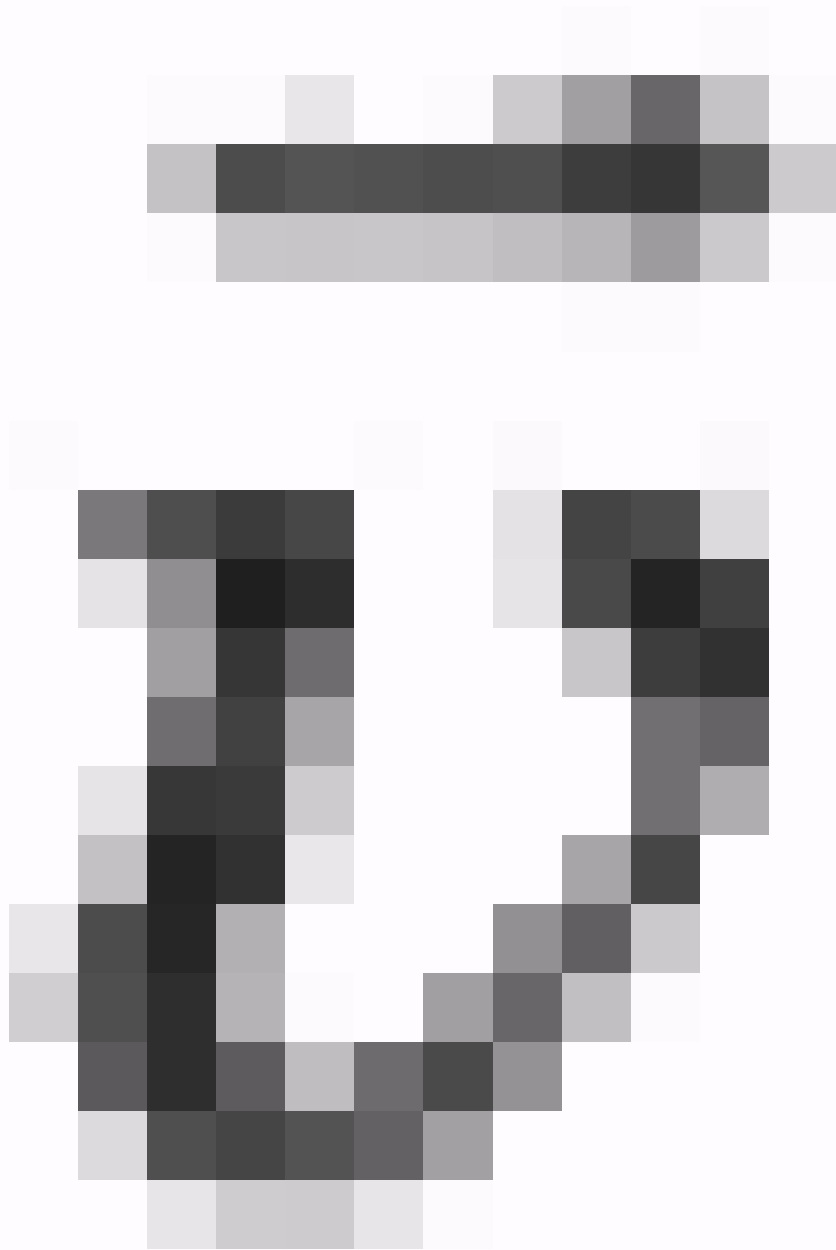
(43.2)

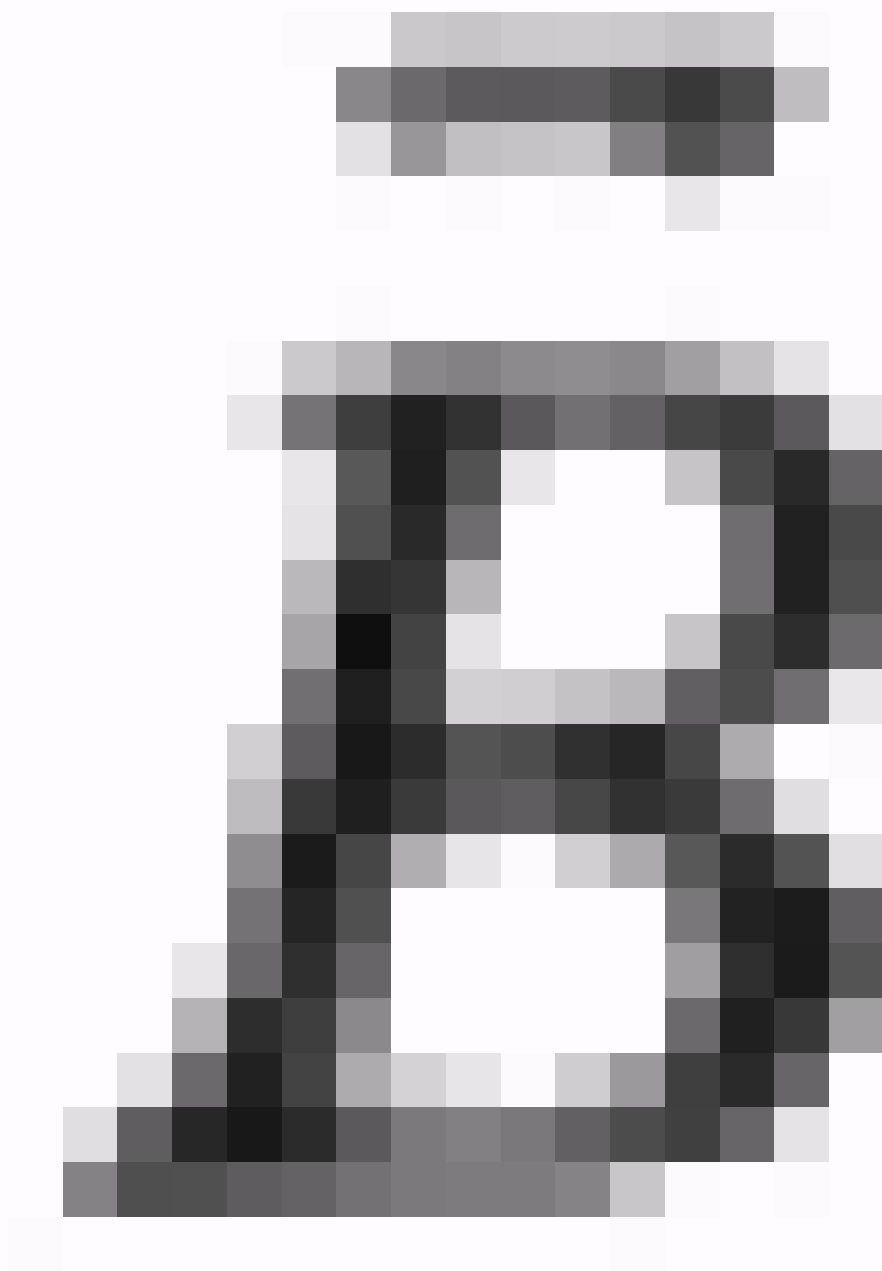


$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$





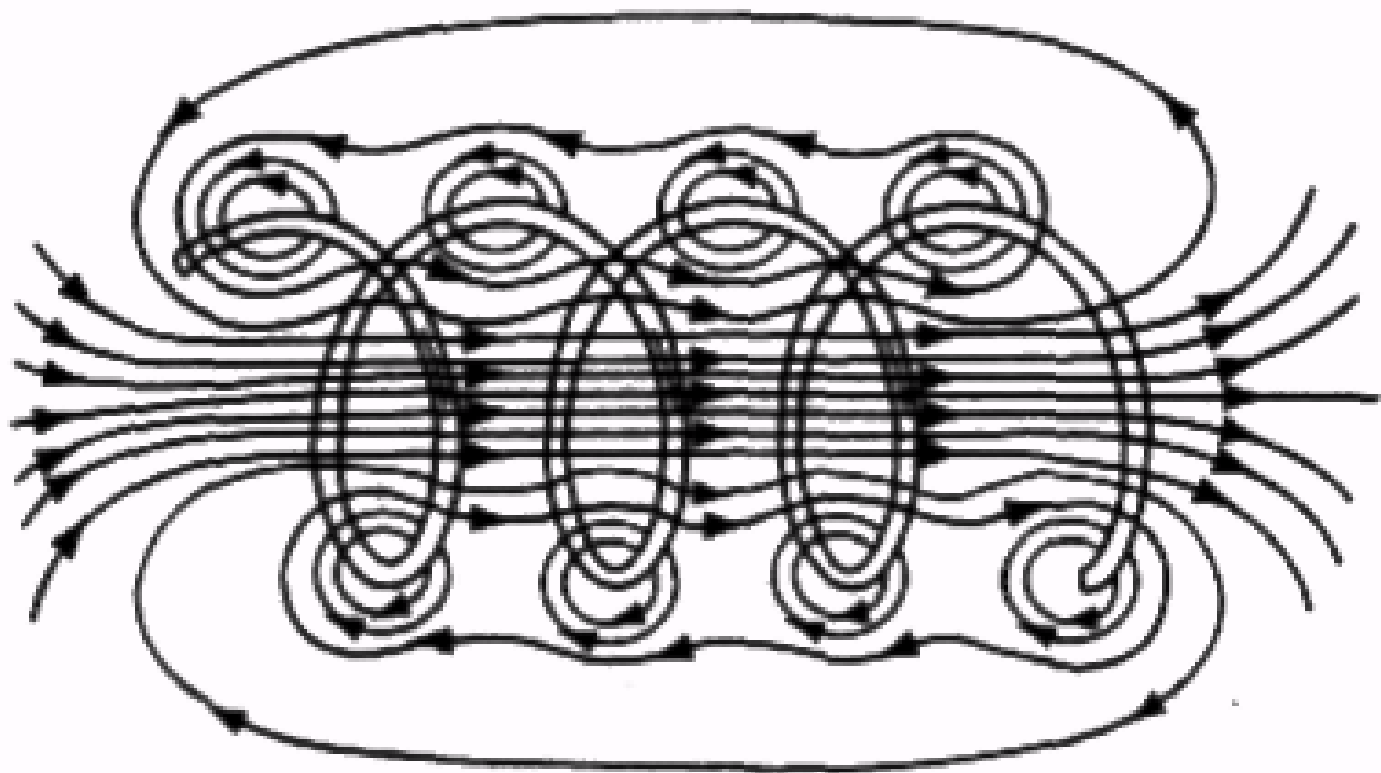


Q B

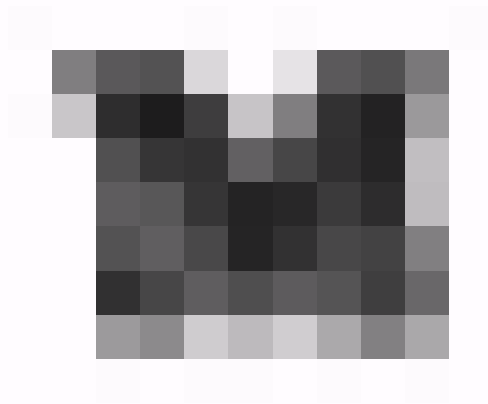
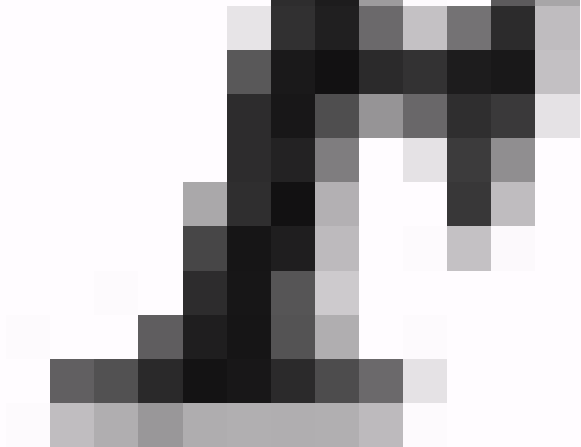
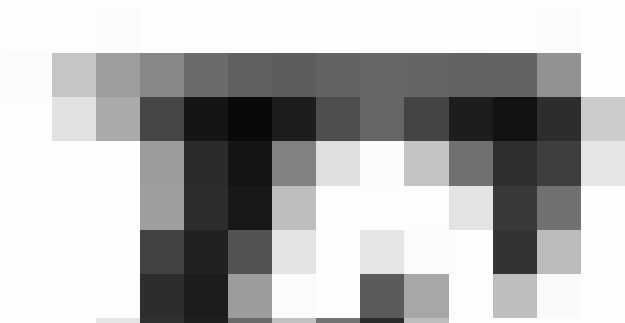
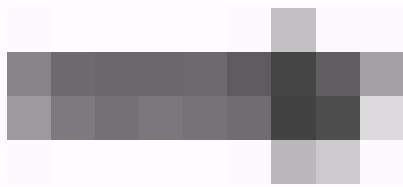
F =

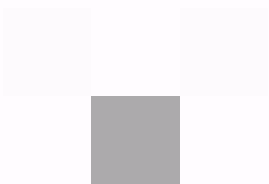
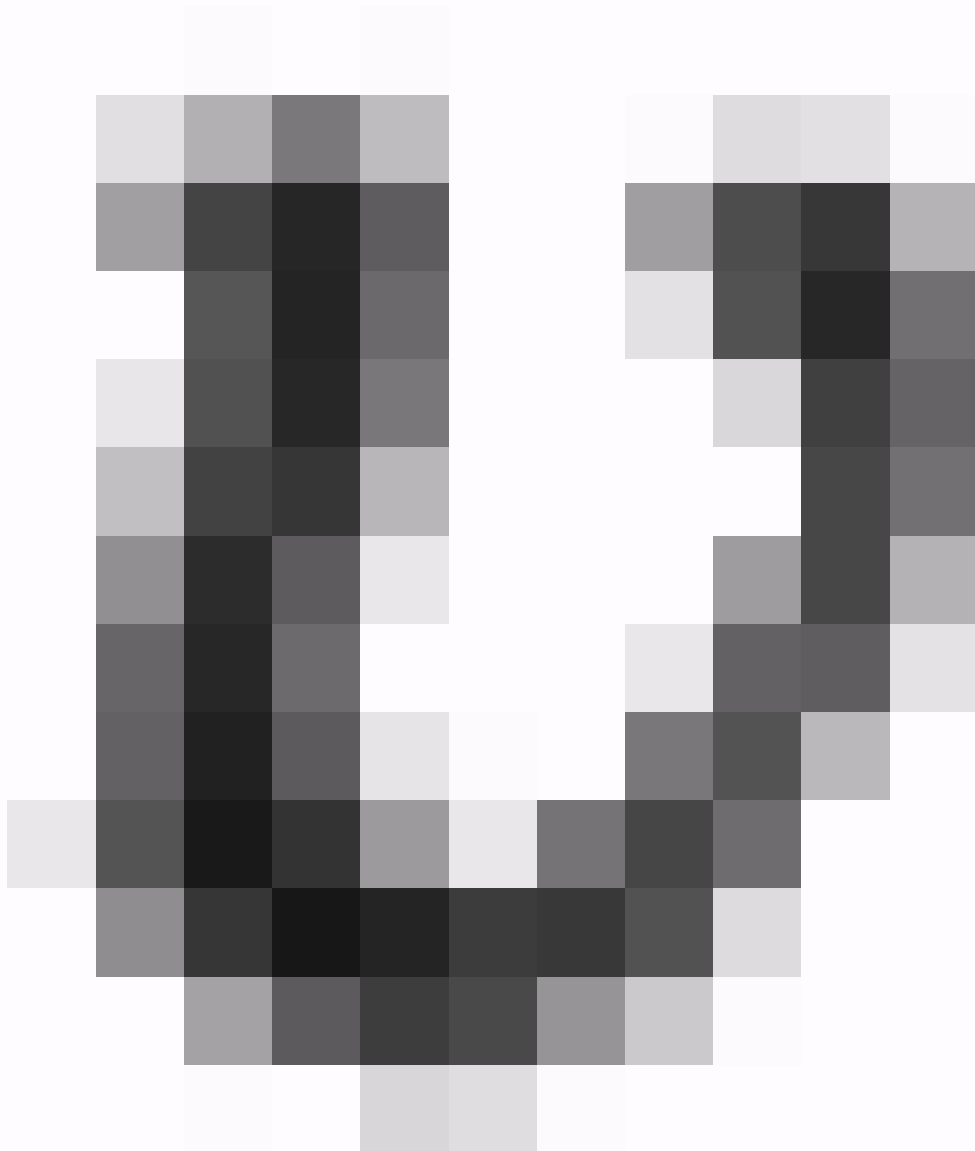
Q B v

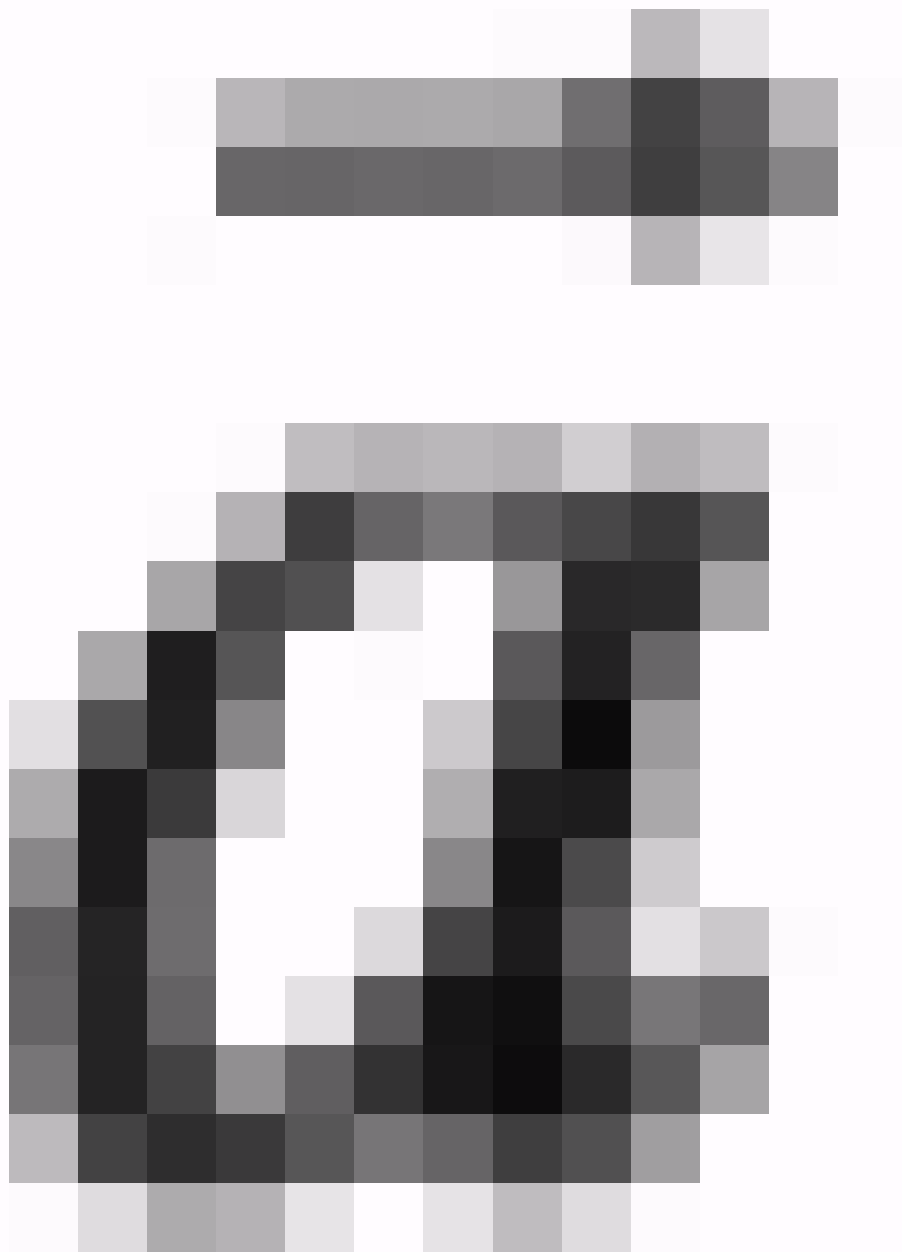
(43.4)



Мал. 2.143

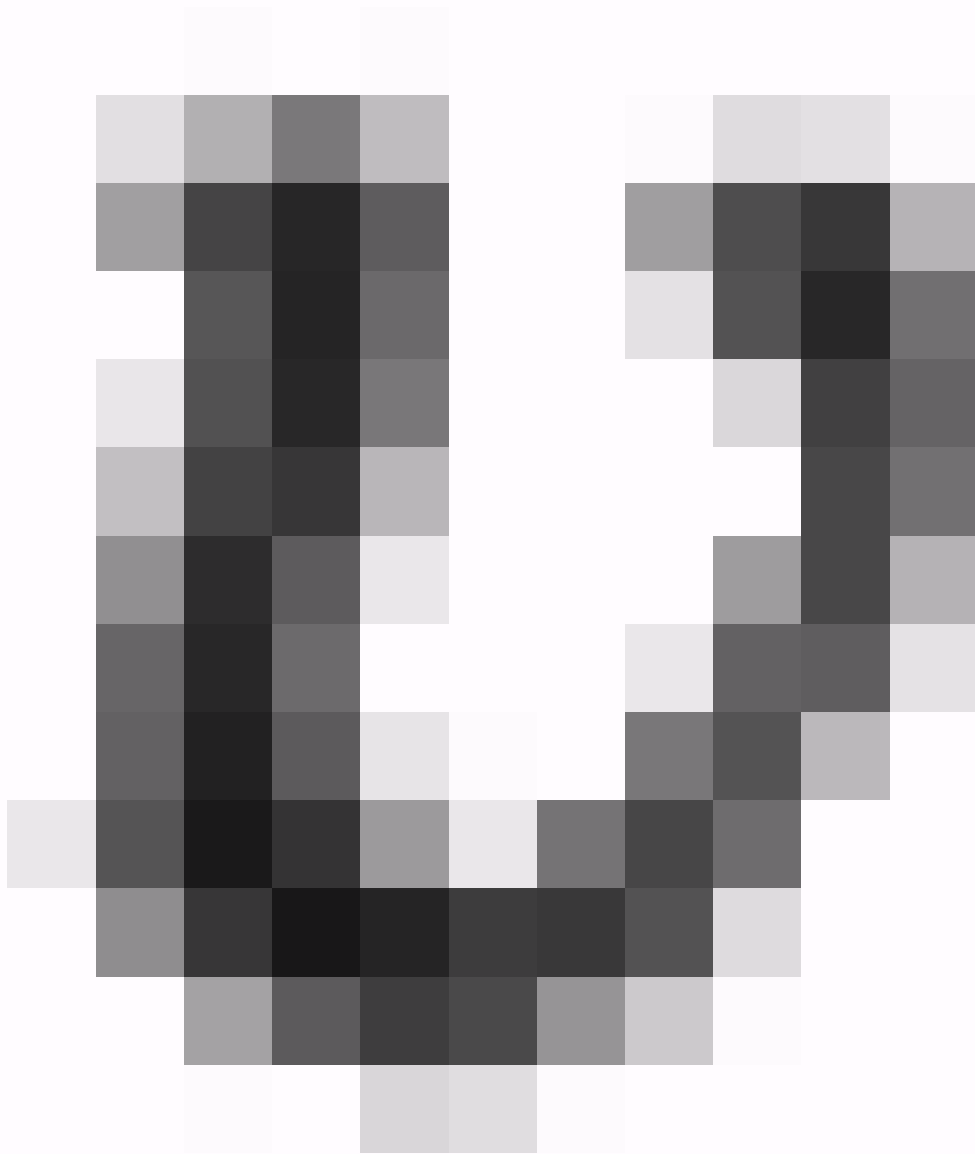
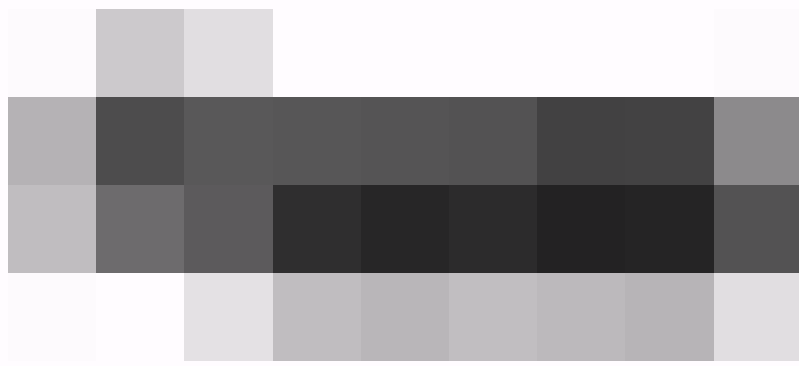


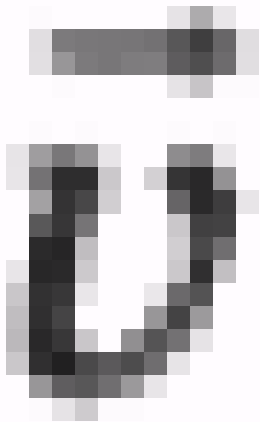
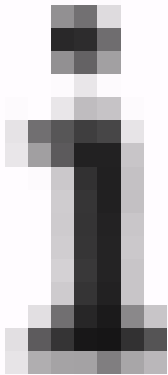
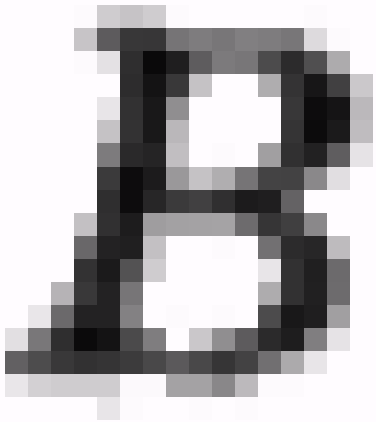


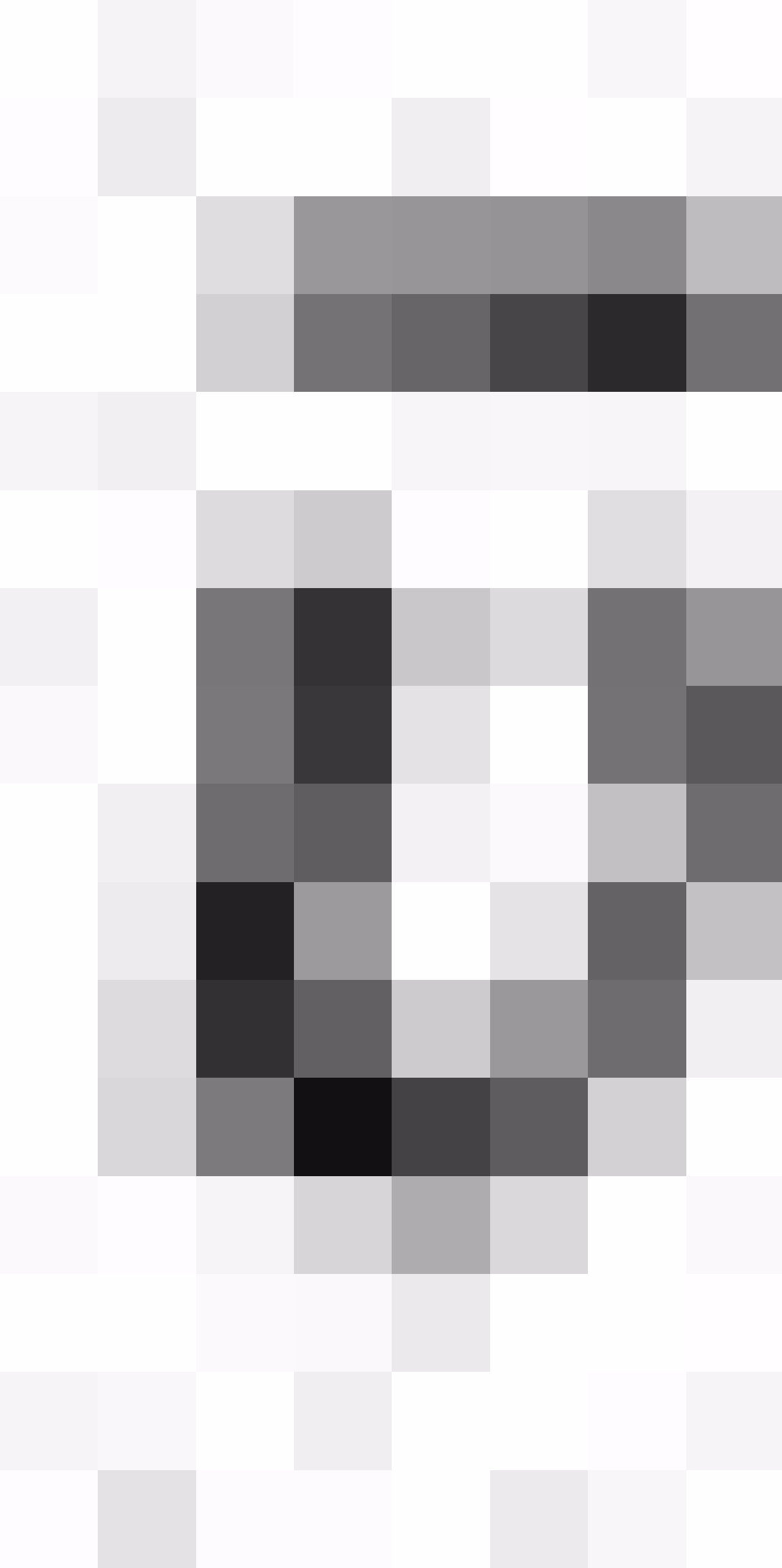


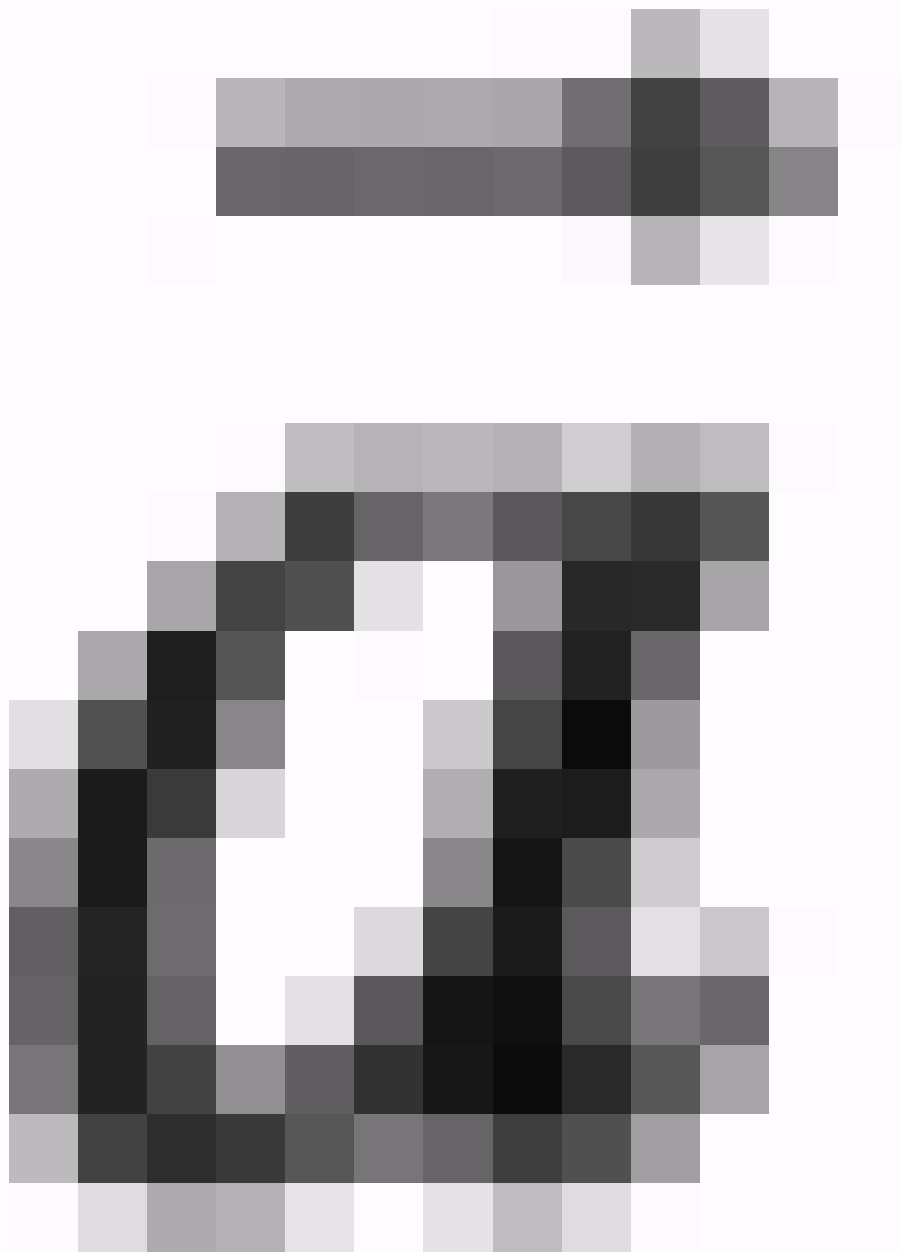
$$a = \frac{F}{m} = \frac{qBv}{m} \quad (43.5)$$

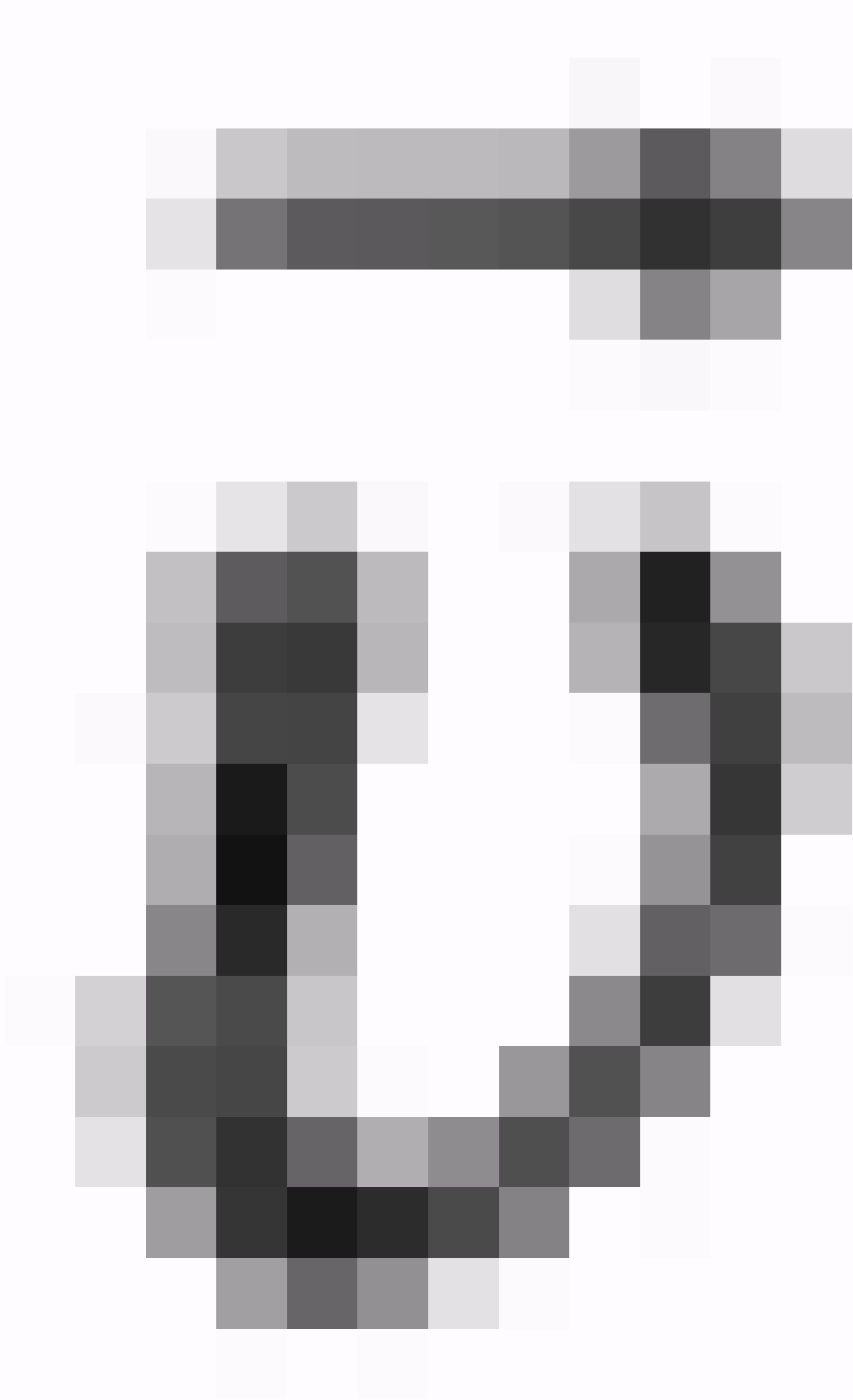


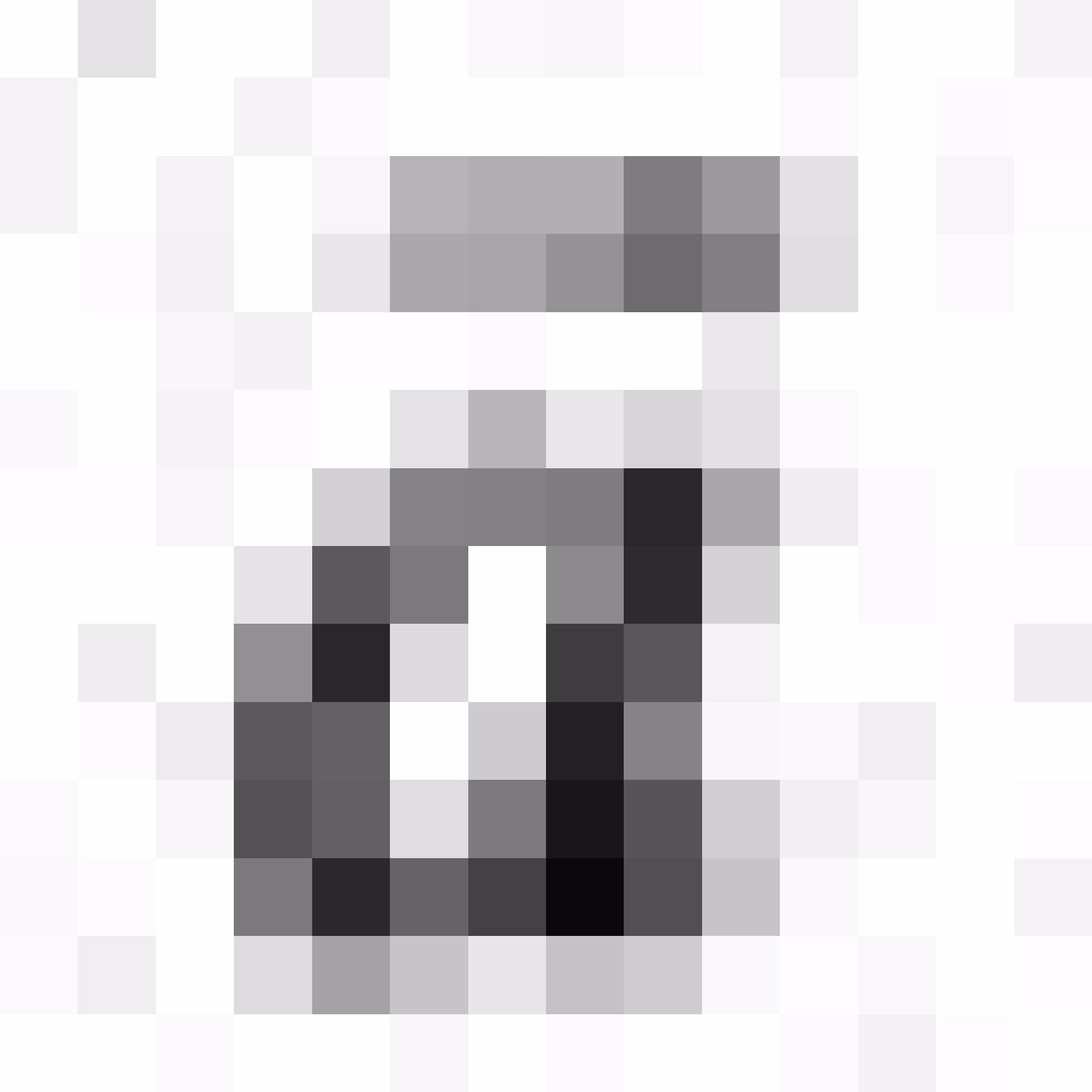


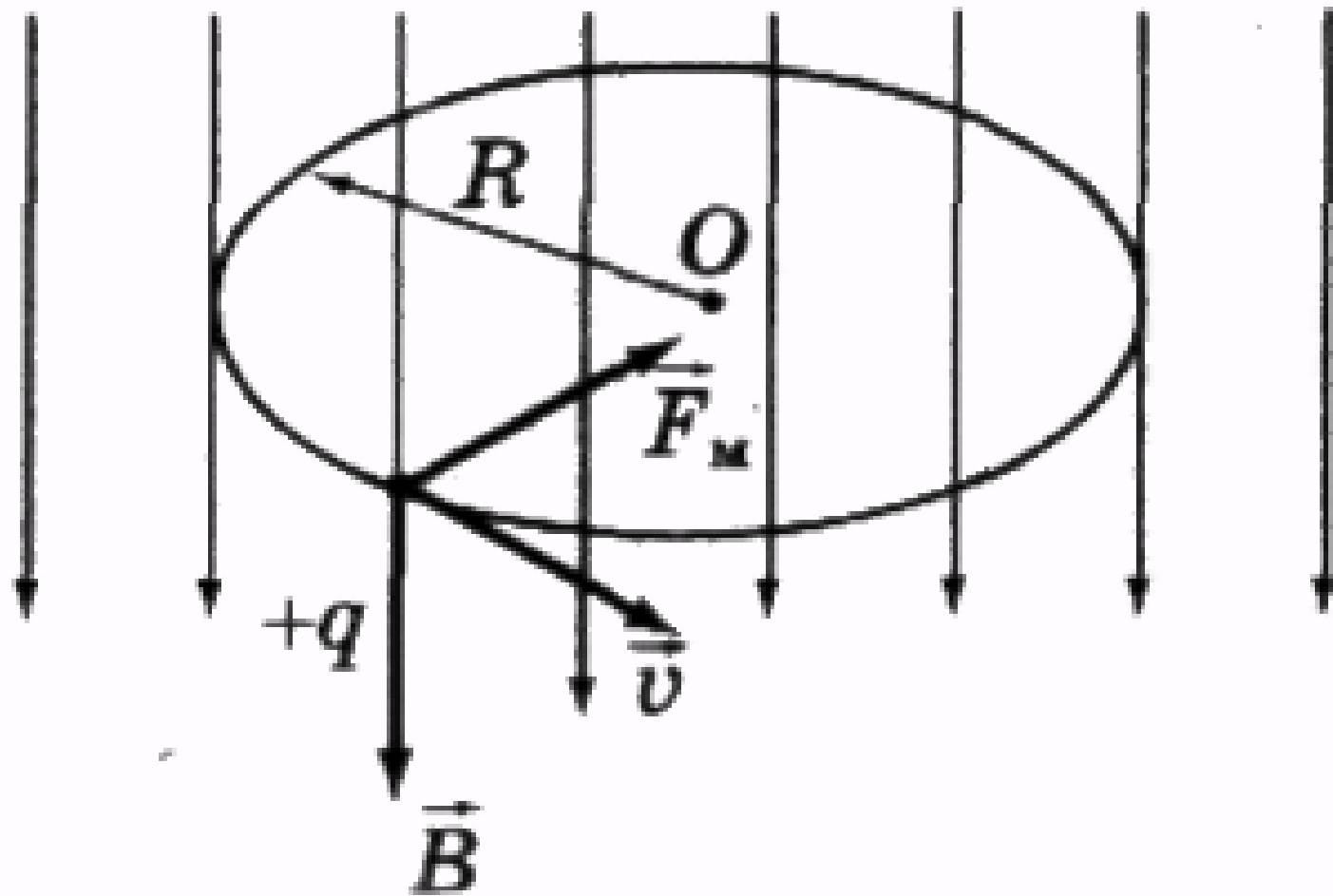










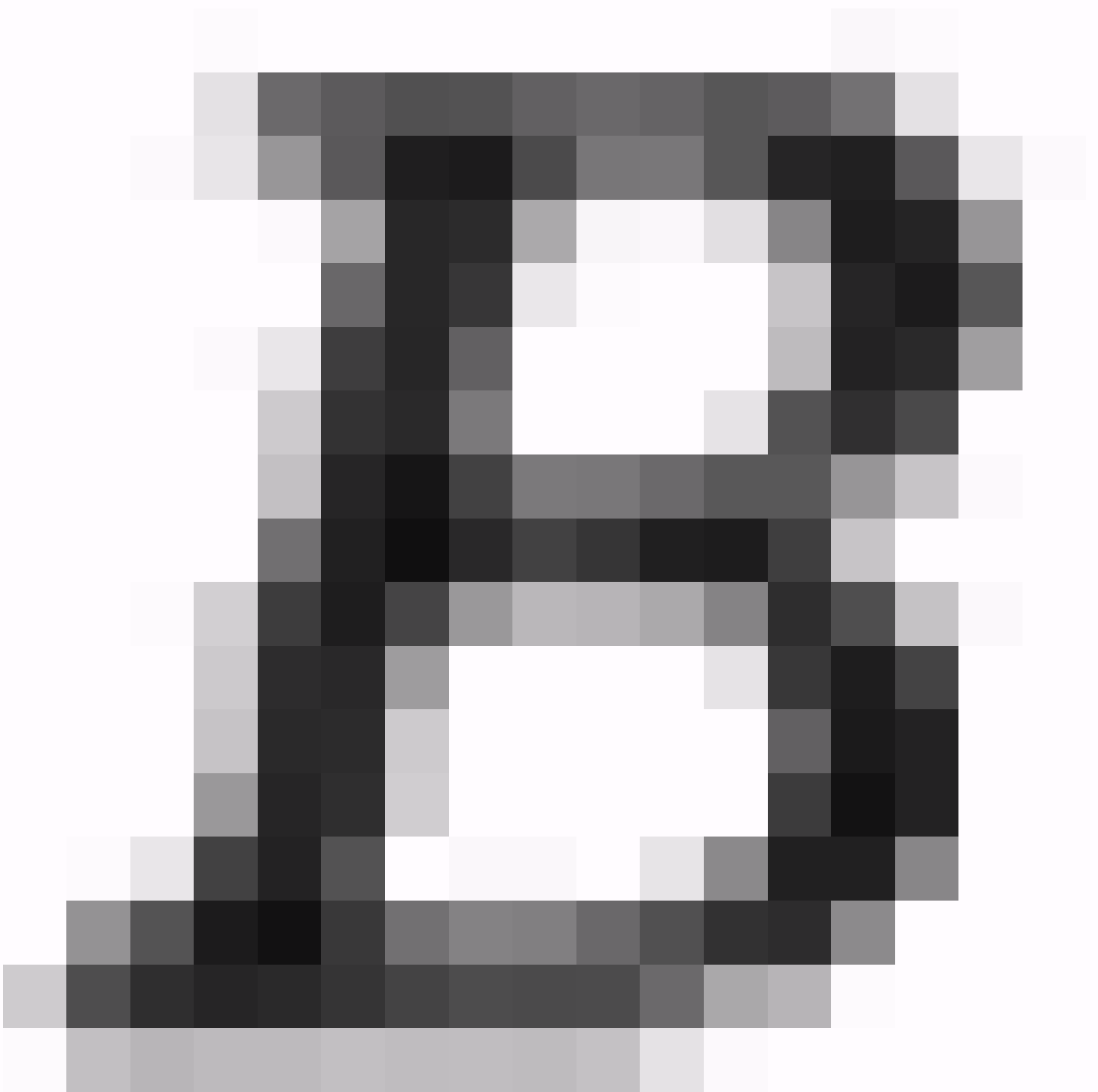
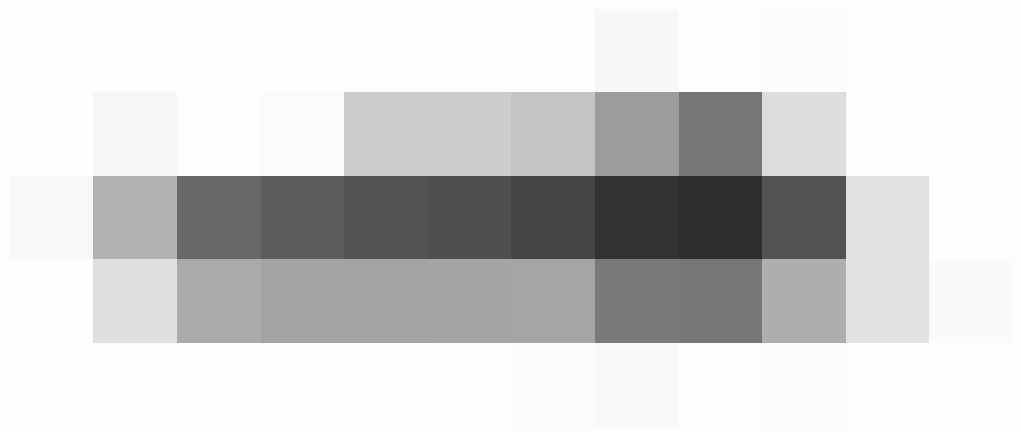


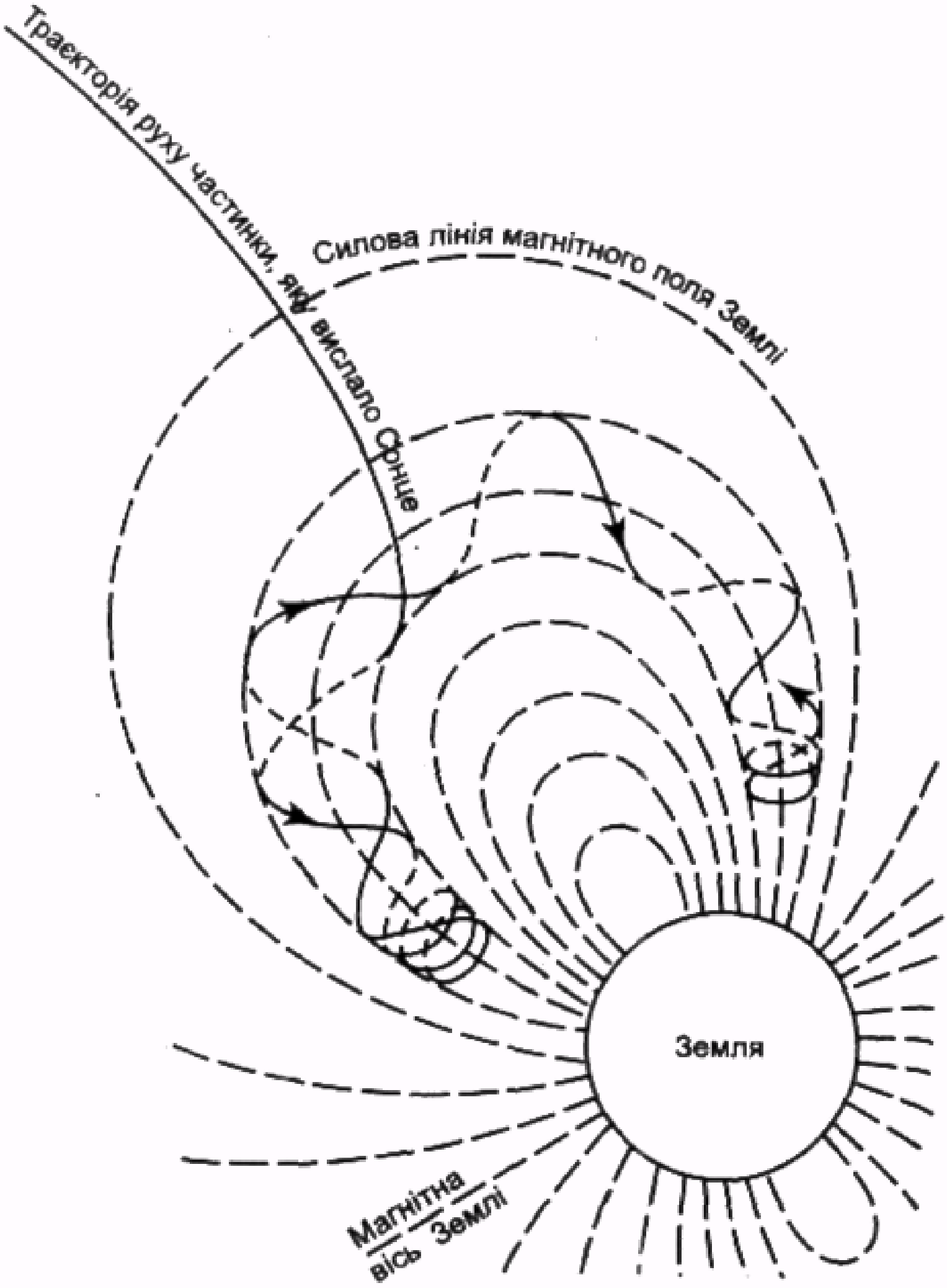
Мал. 2.144

$$a = \frac{v^2}{R} = \frac{qBv}{m} ,$$

$$R = \frac{mV}{qB} \quad (43.6)$$

$$T = \frac{2\pi R}{v} = \frac{2\pi Mv}{vqB} = \frac{2\pi M}{qB} \quad (43.7)$$

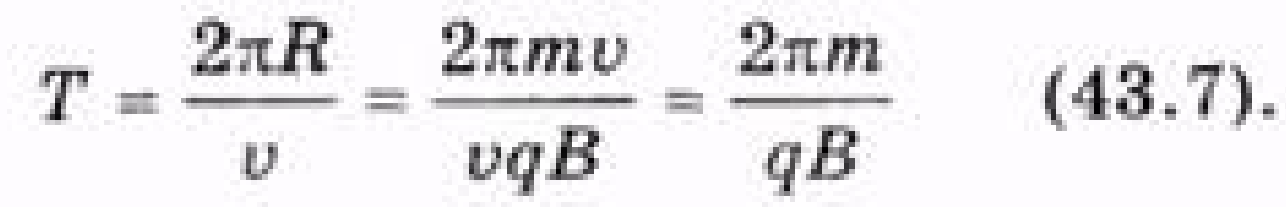




Мал. 2.145





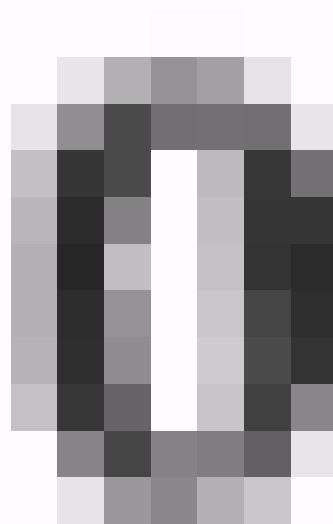
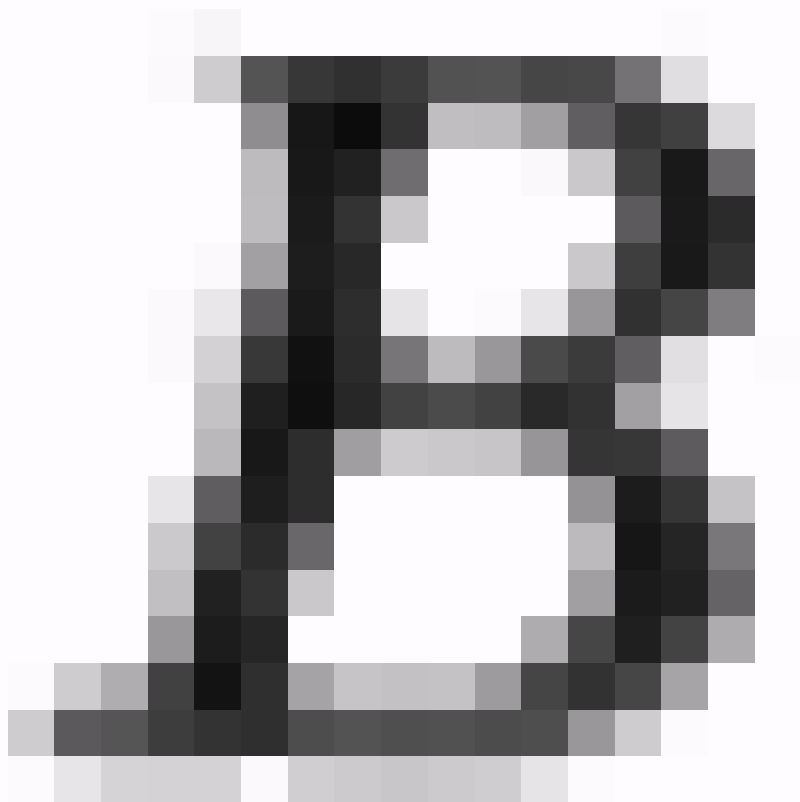




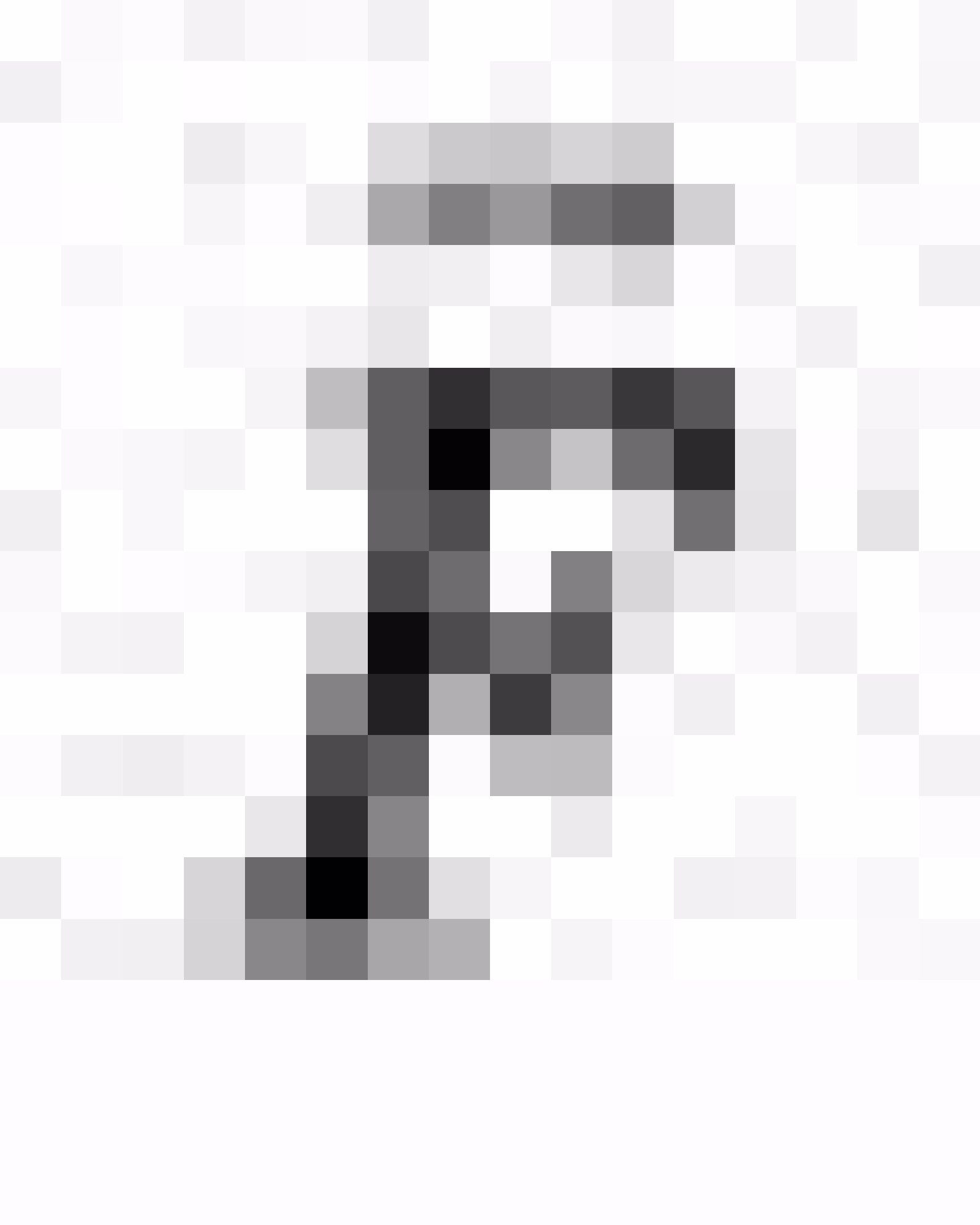
13.11.2019

$\frac{1}{2} = \frac{1}{2} + \frac{1}{2}$

(43.8)







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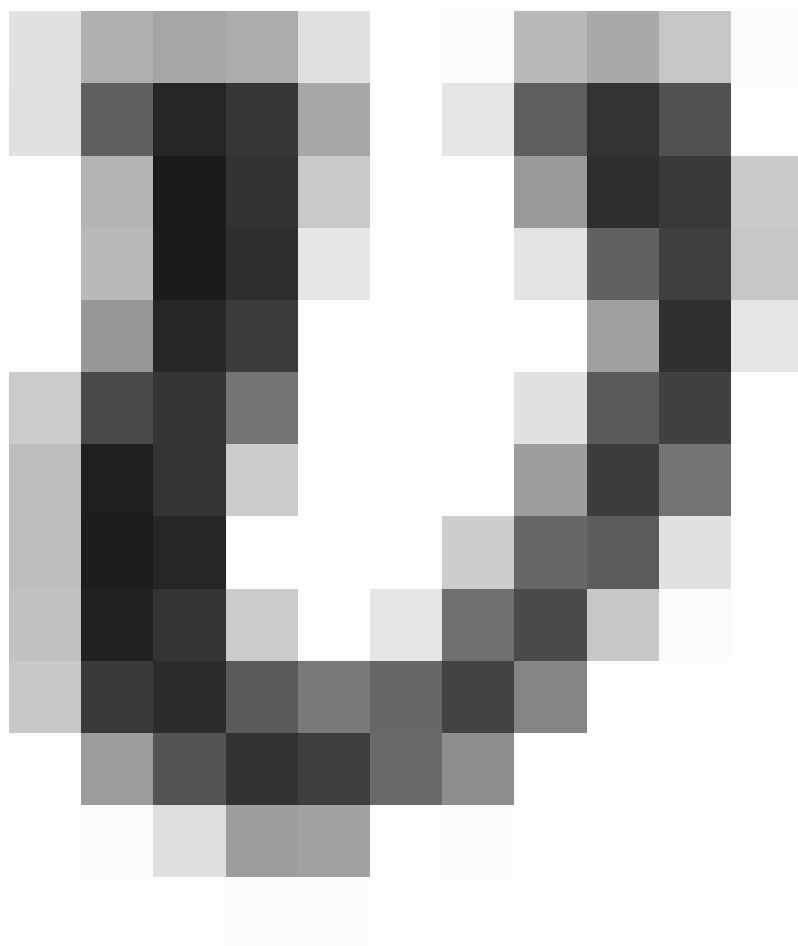
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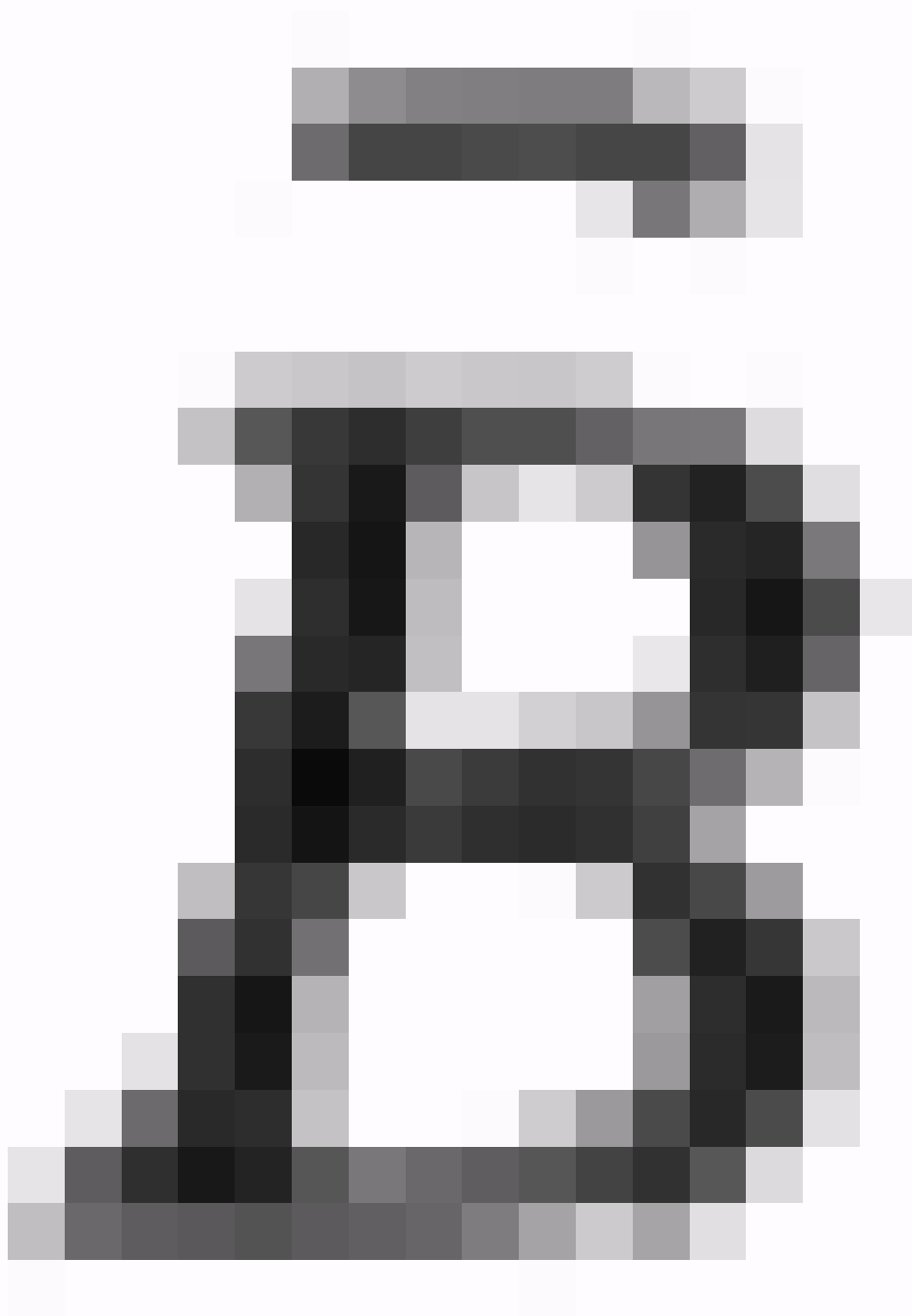
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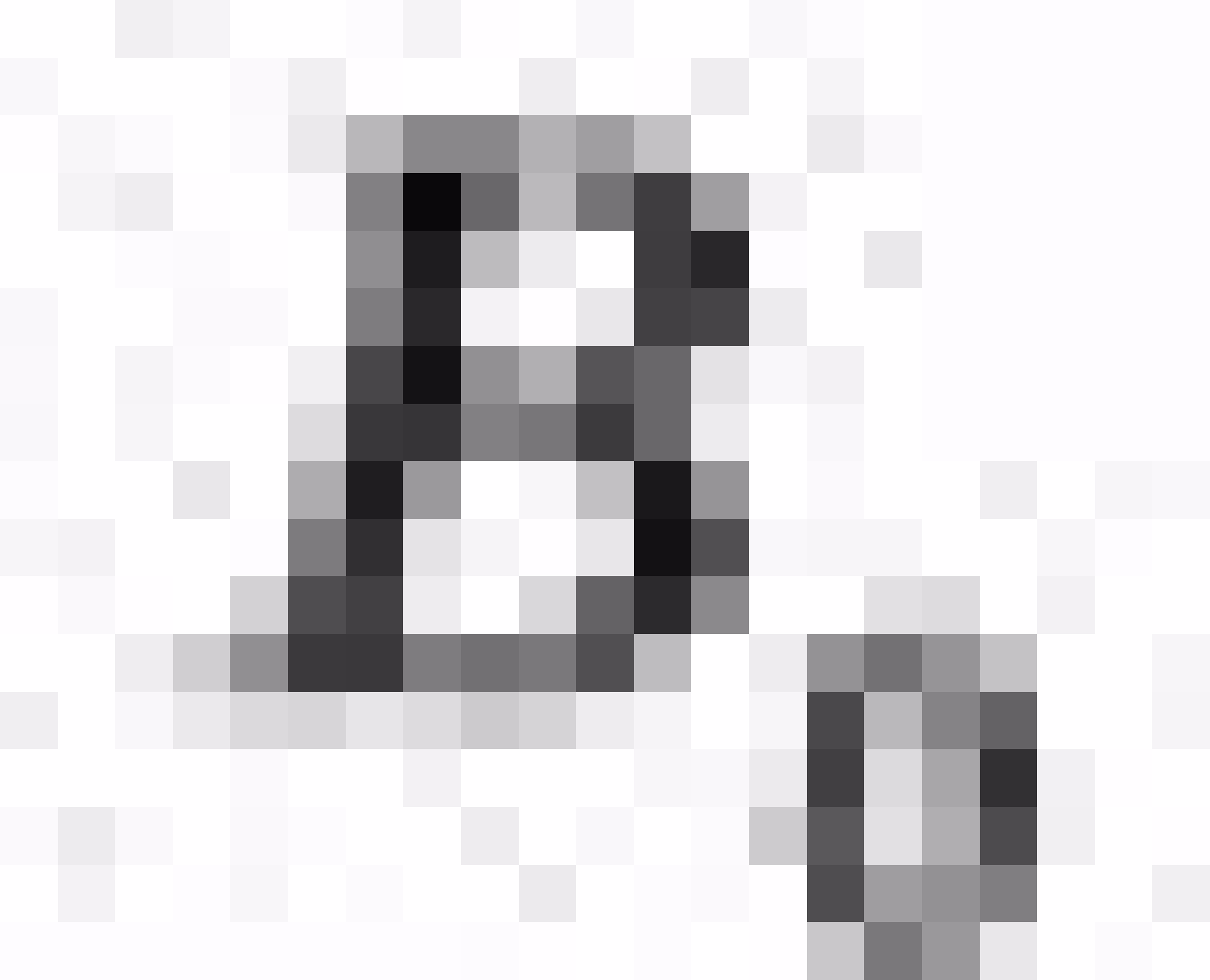
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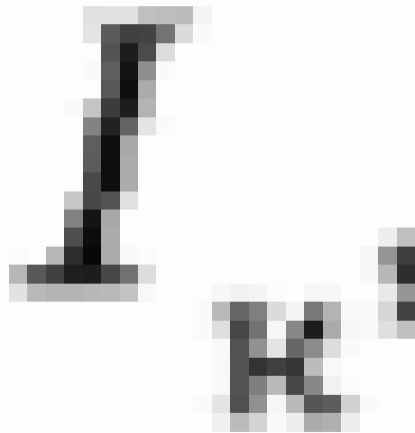
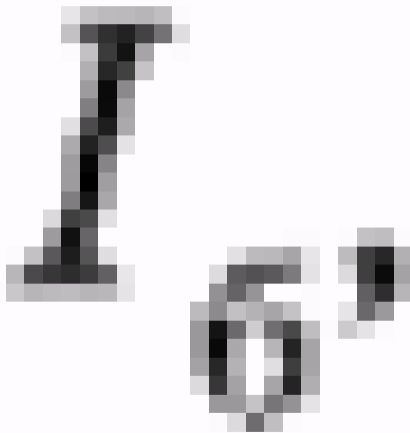
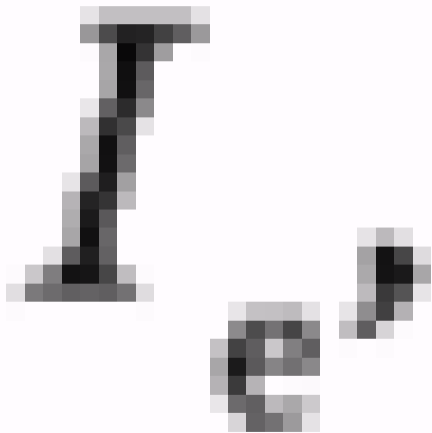
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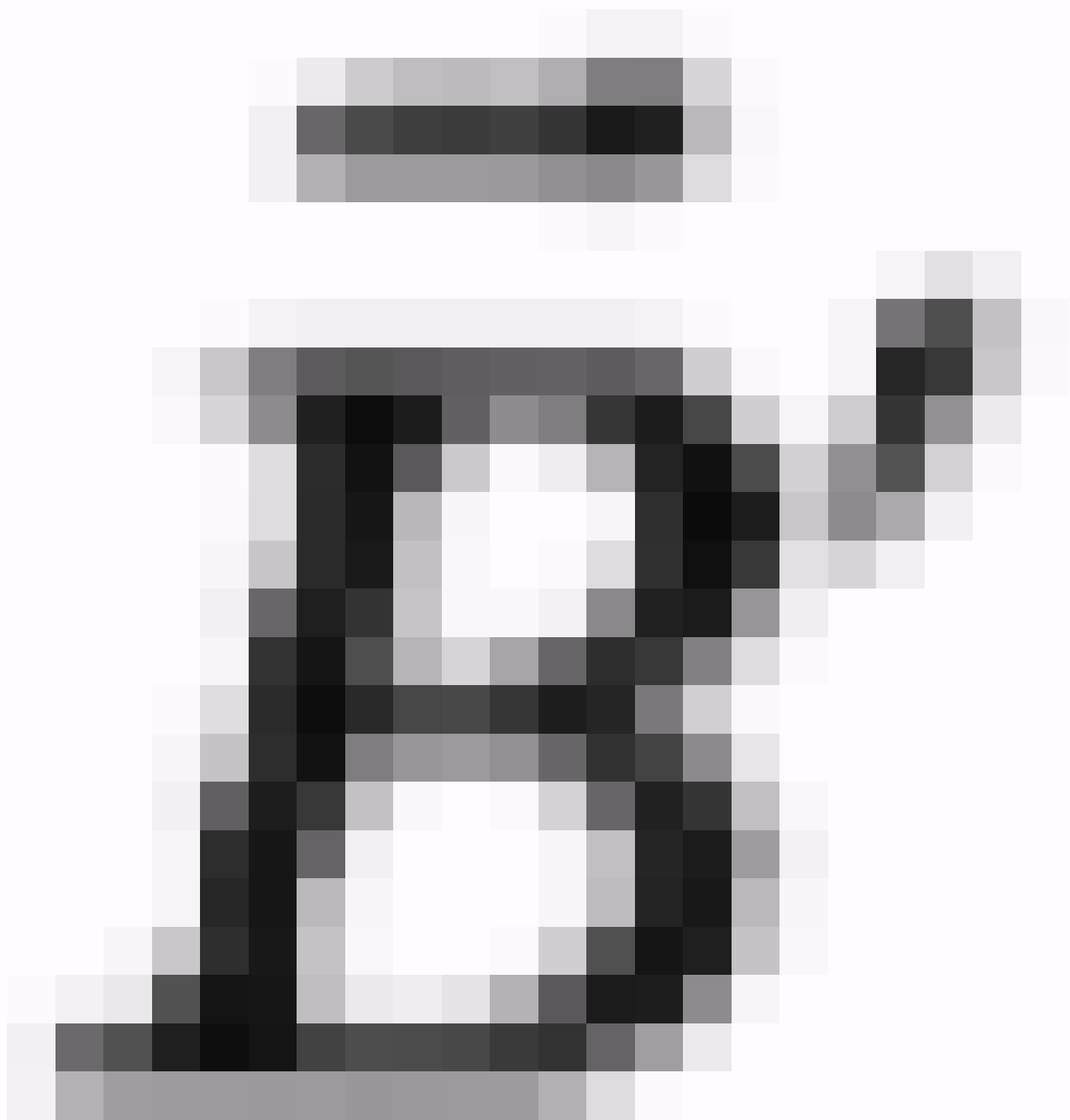


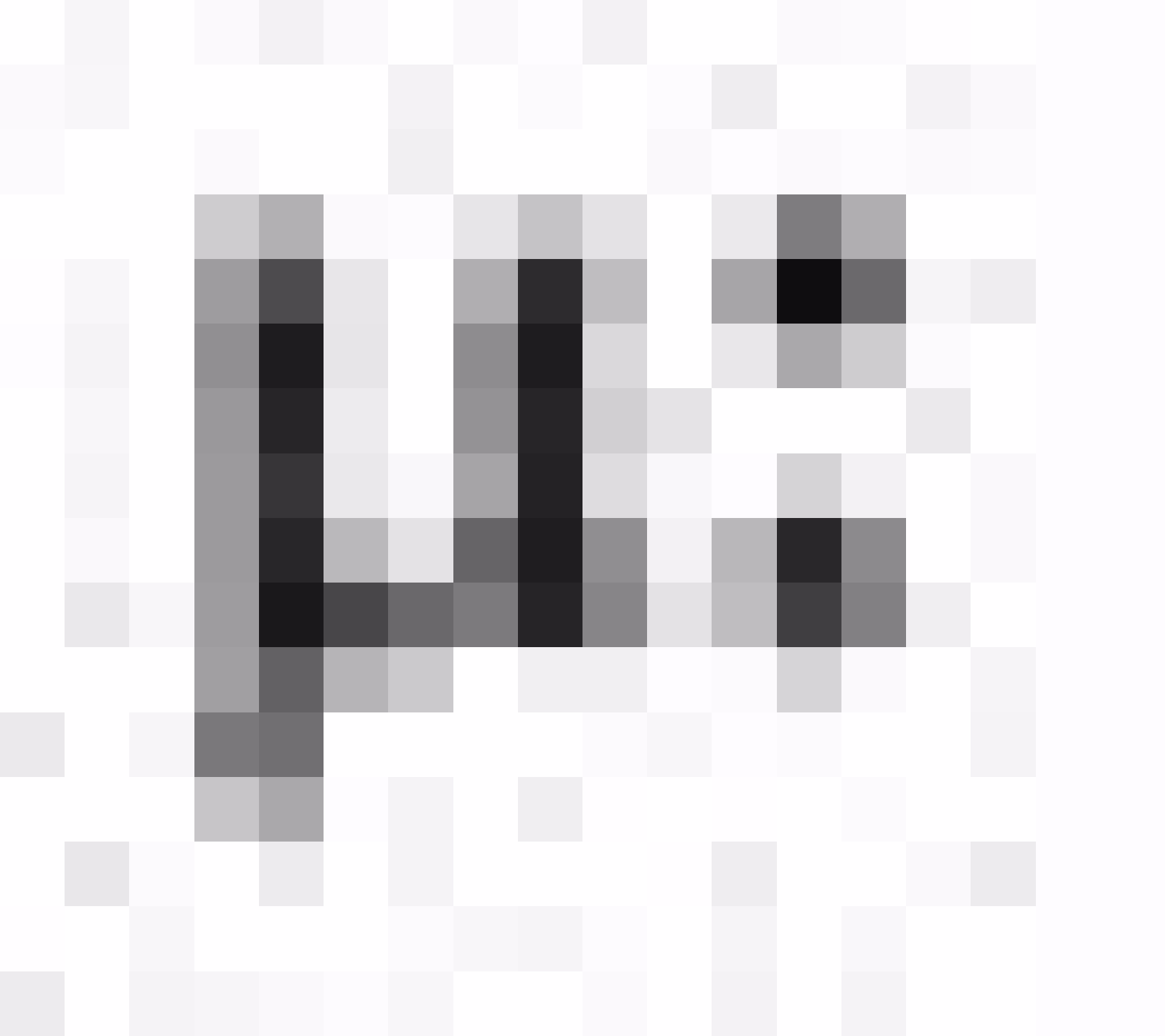




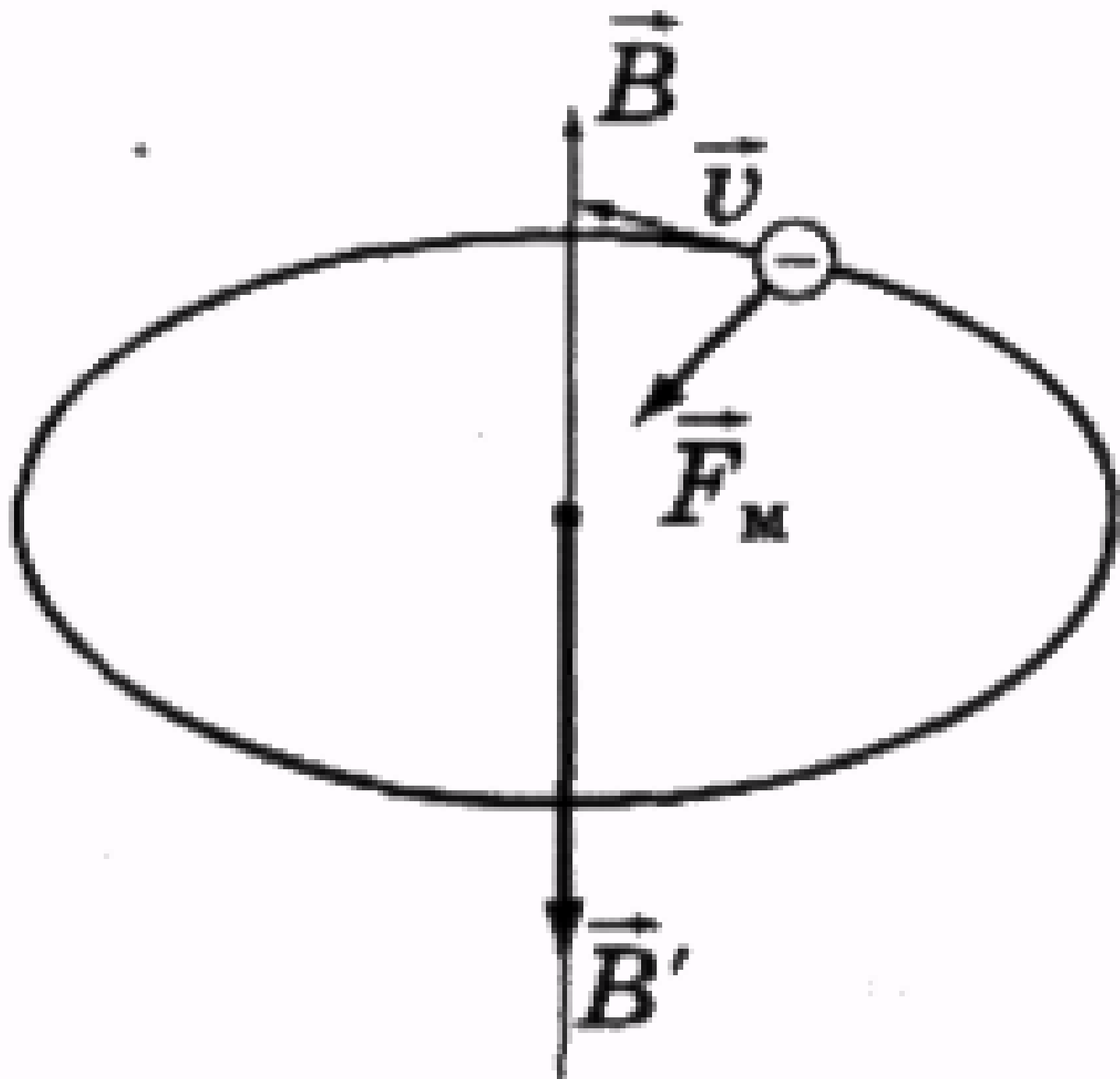












Мал. 2.146



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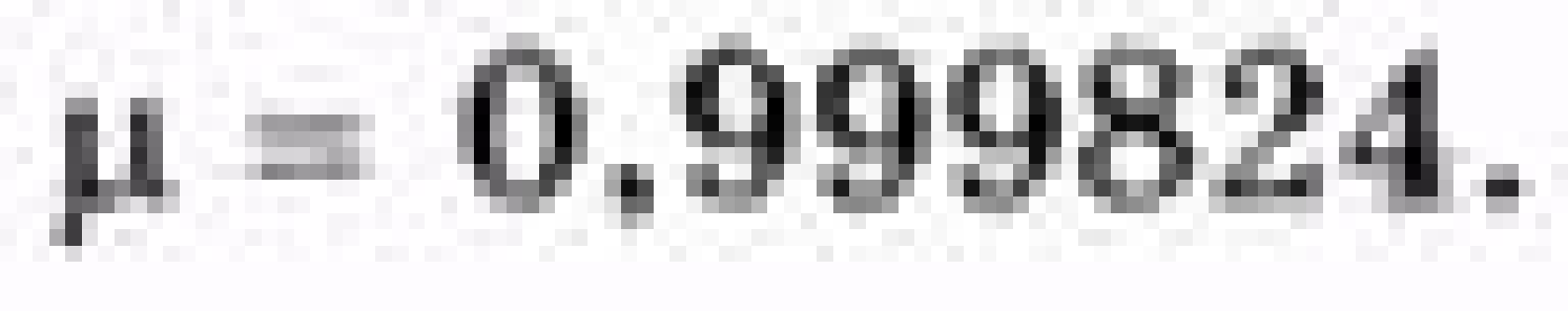
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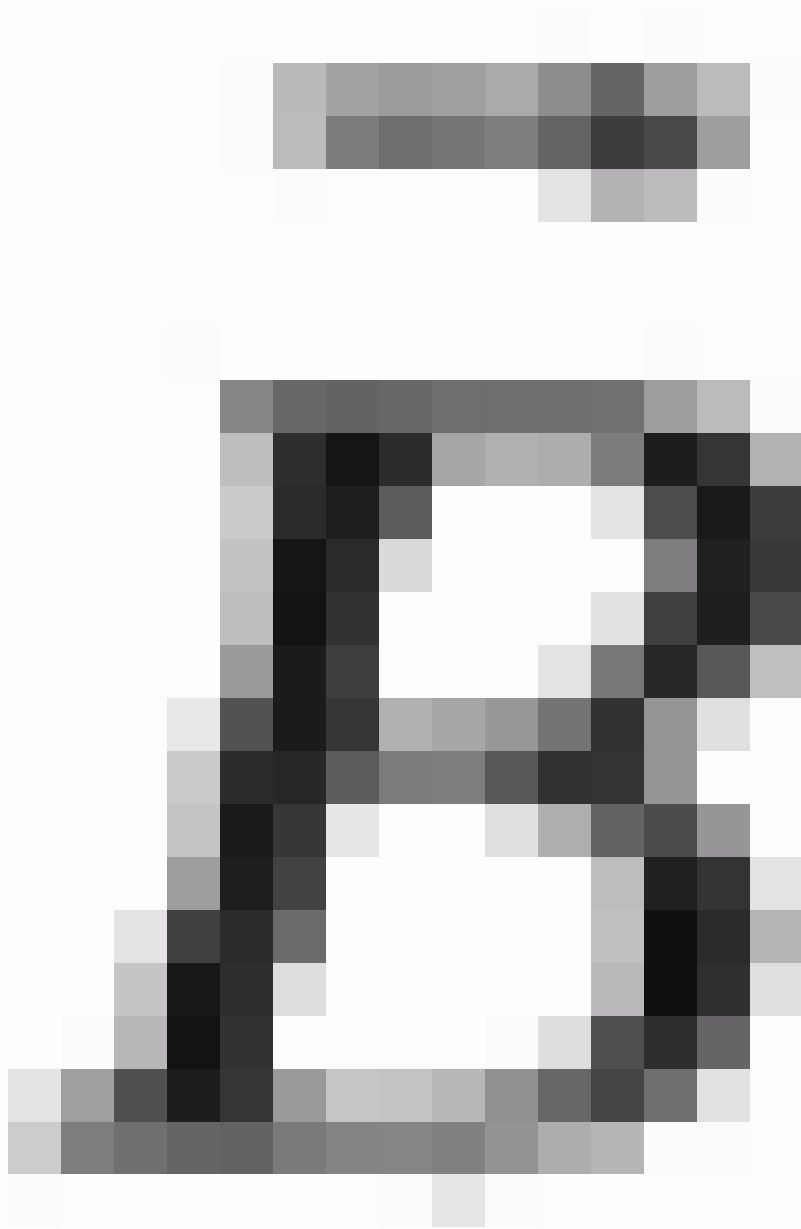
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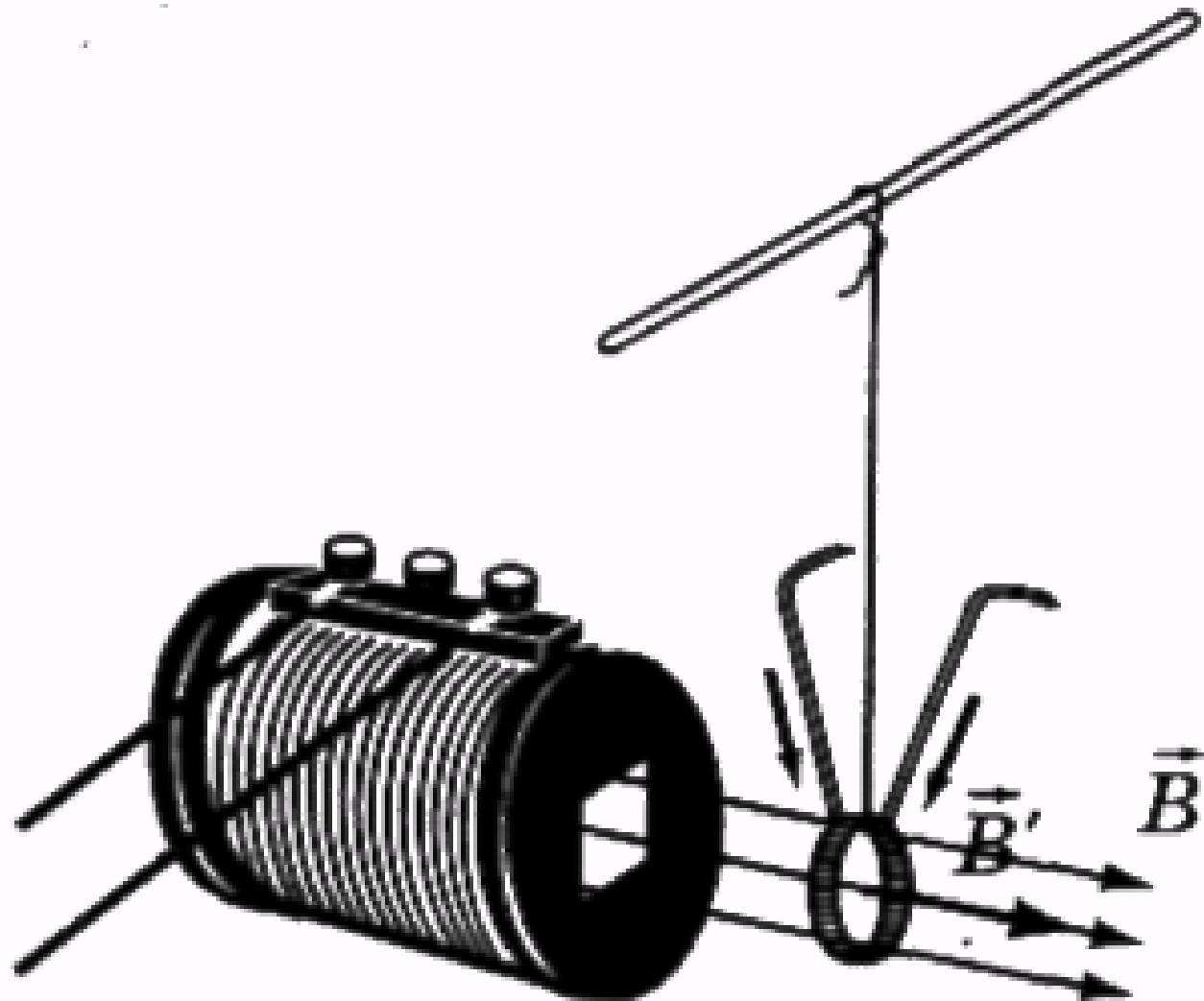
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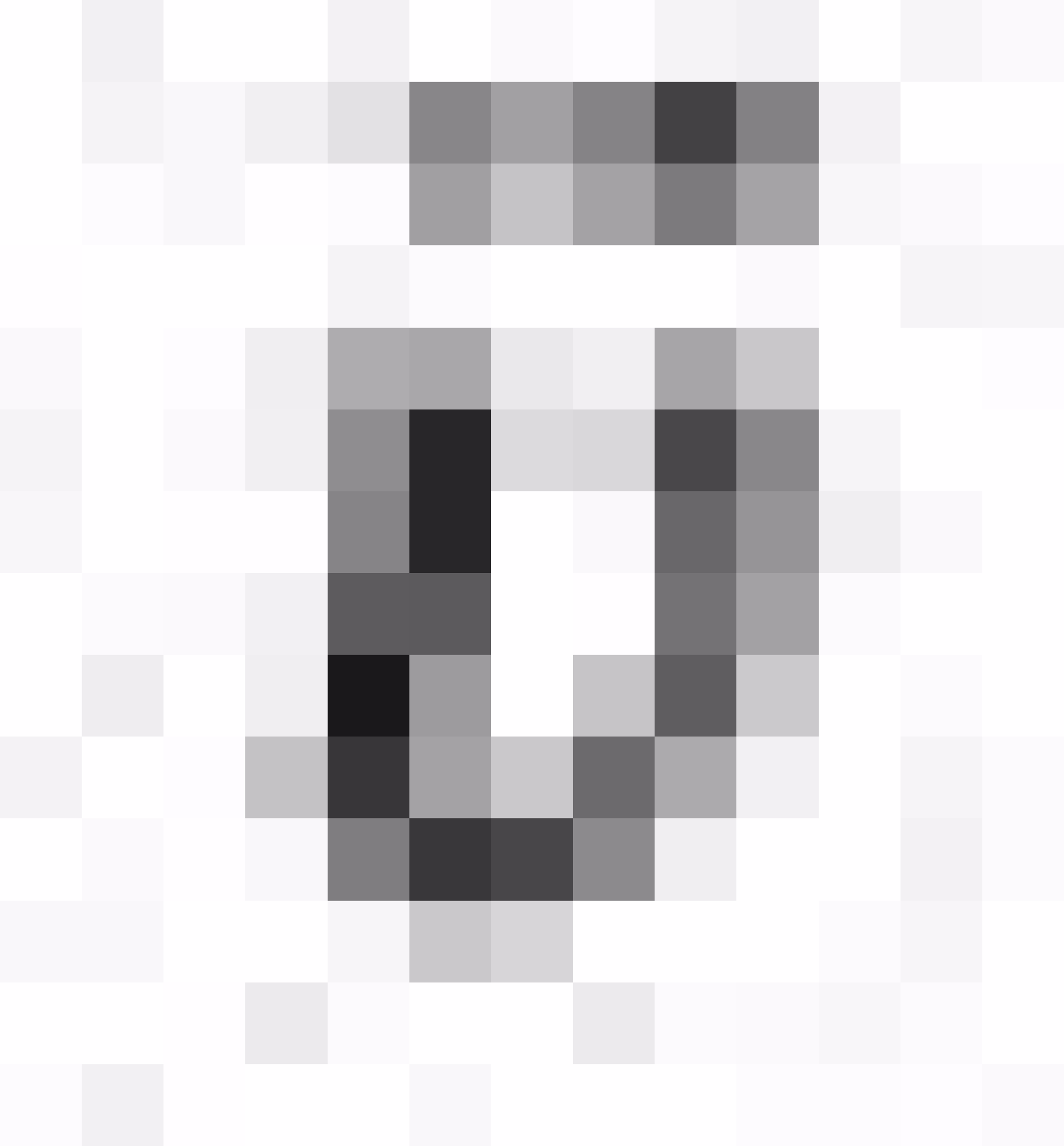


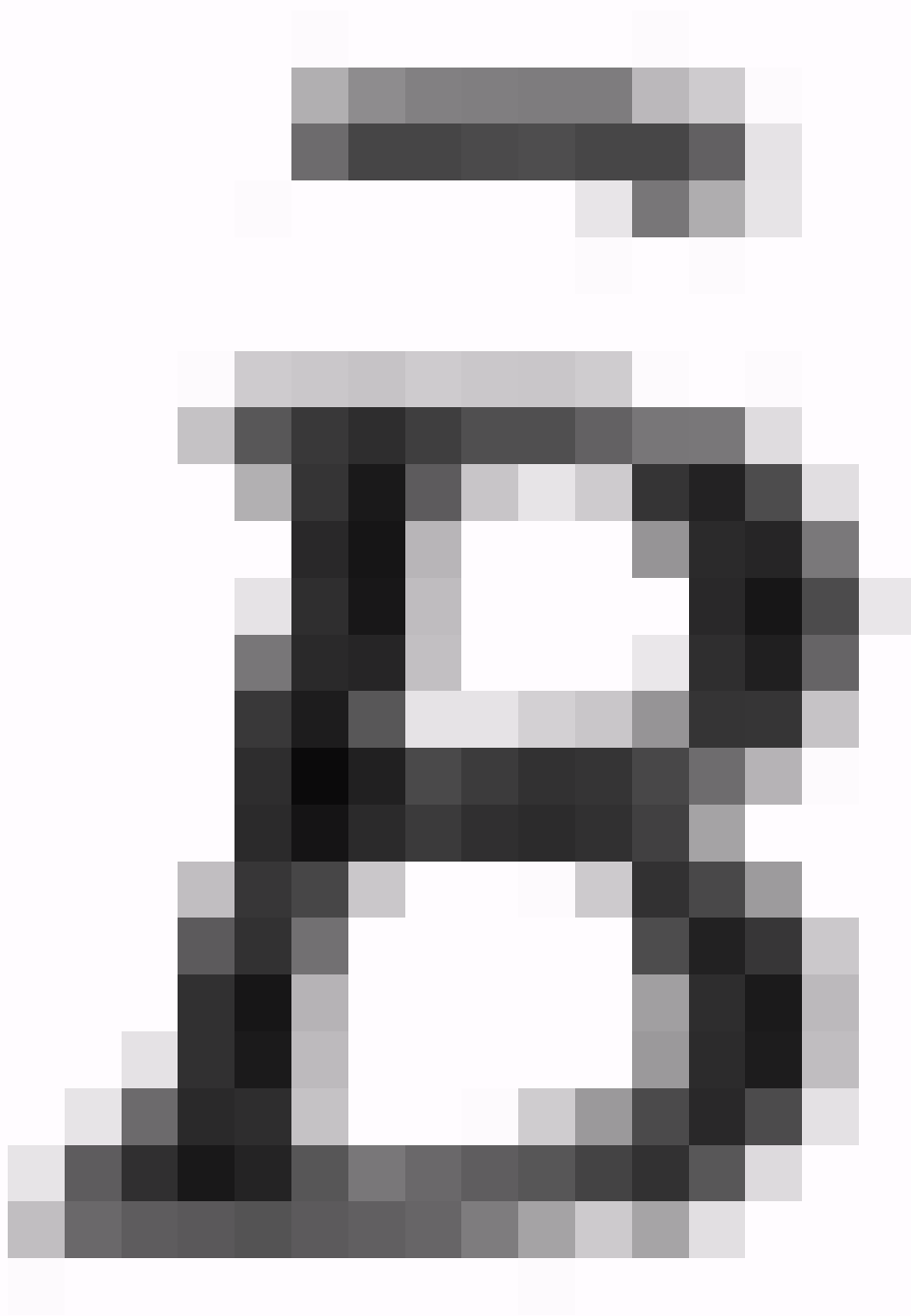




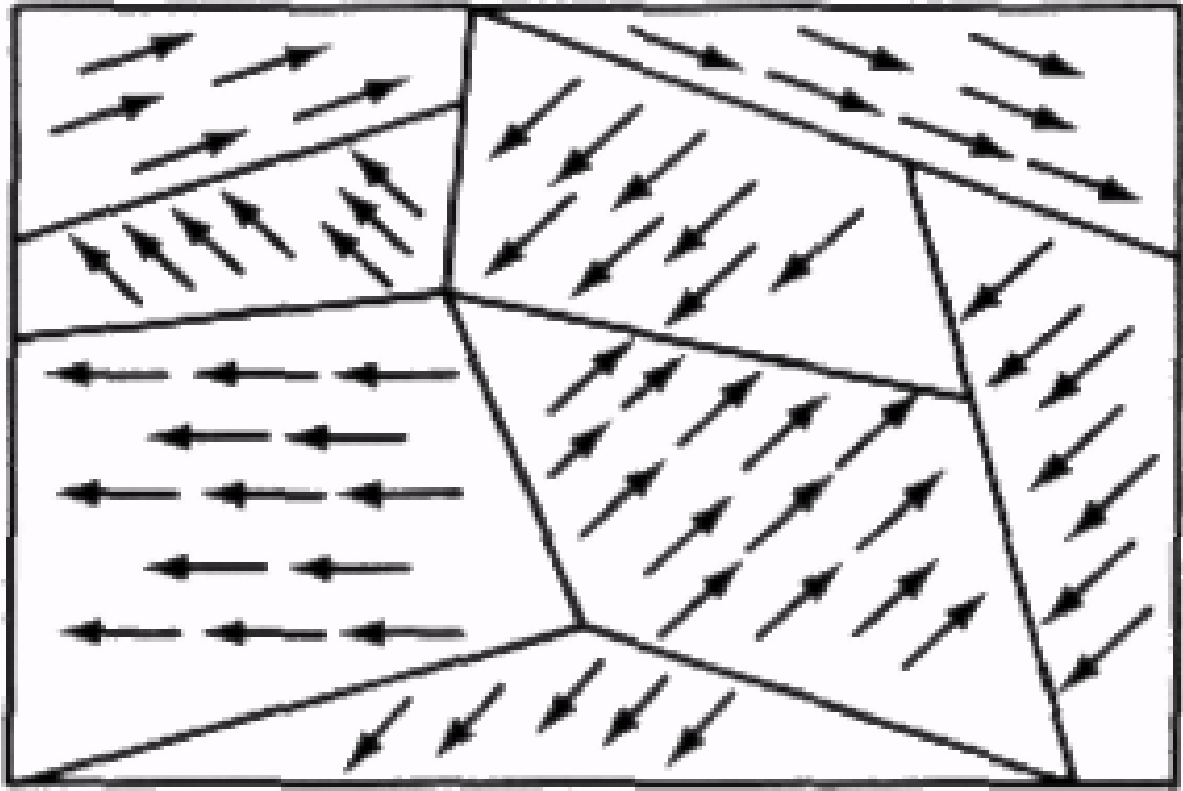


Мал. 2.147

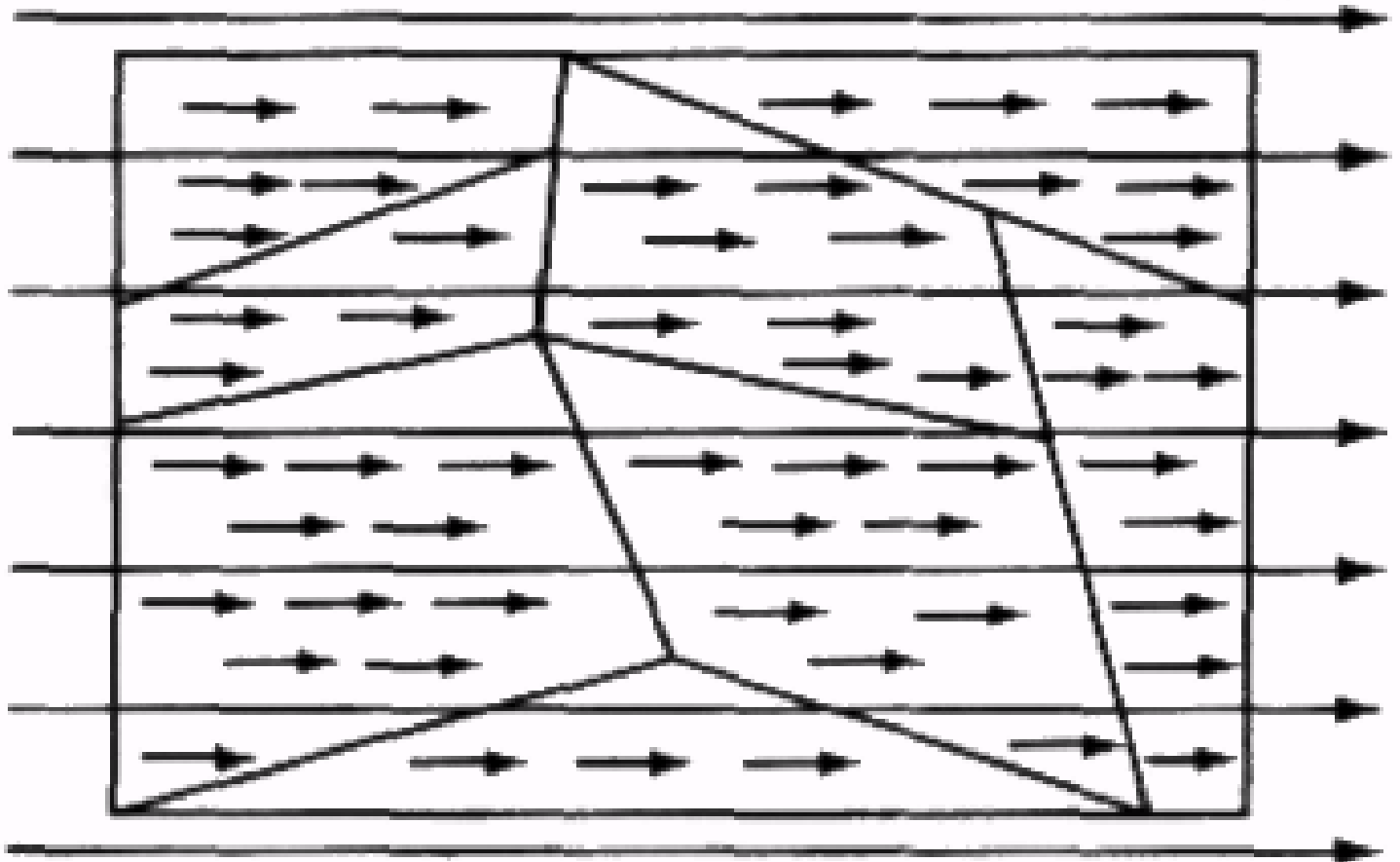




$$\vec{B} = 0$$



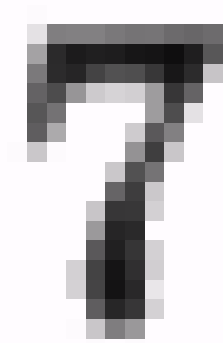
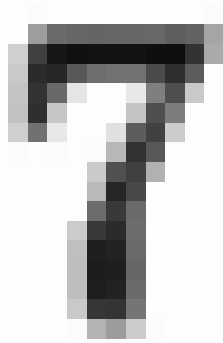
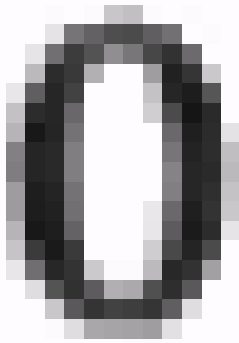
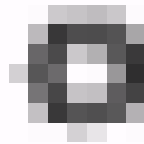
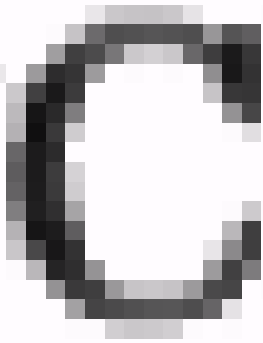
$$\vec{B}$$

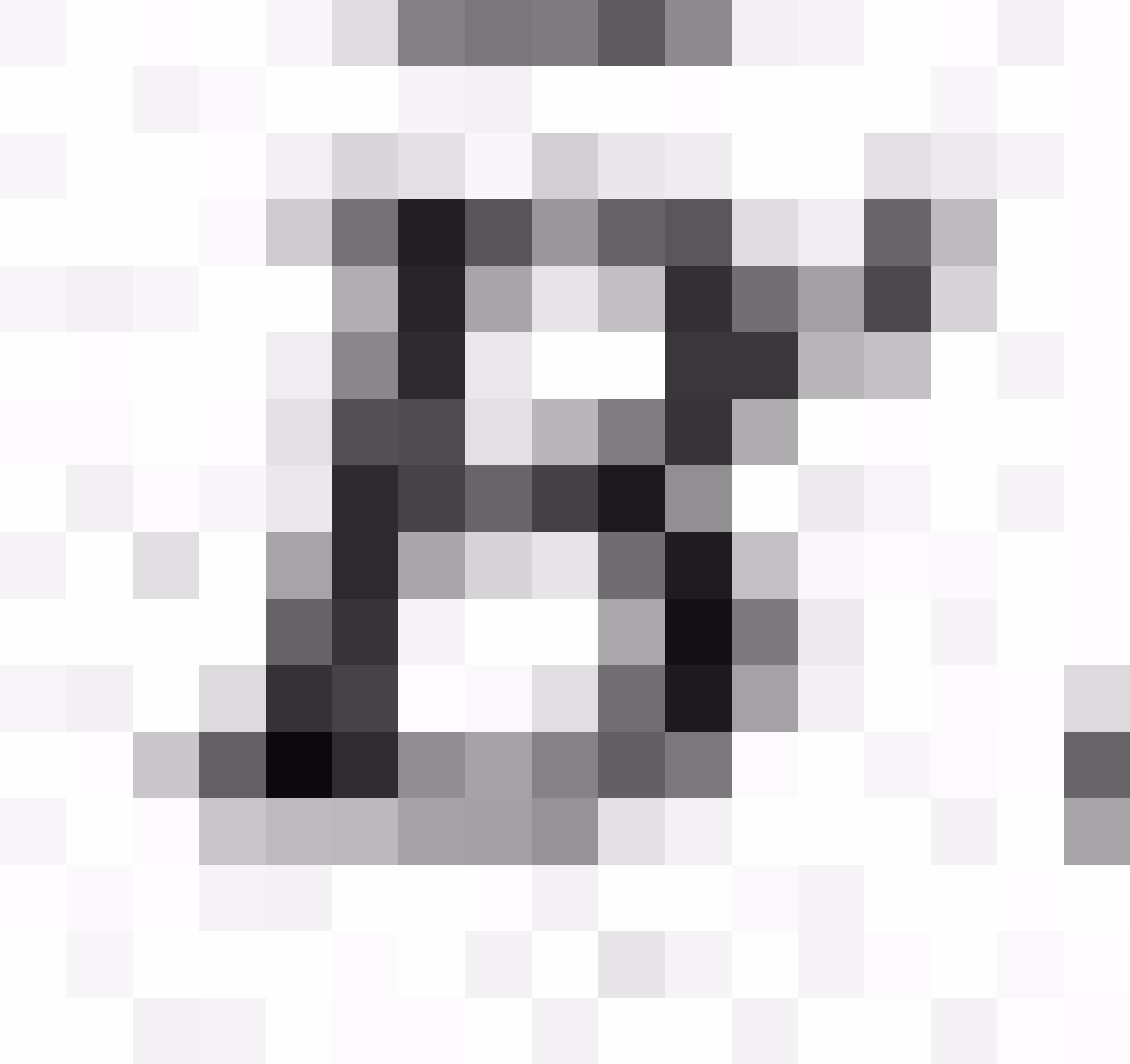


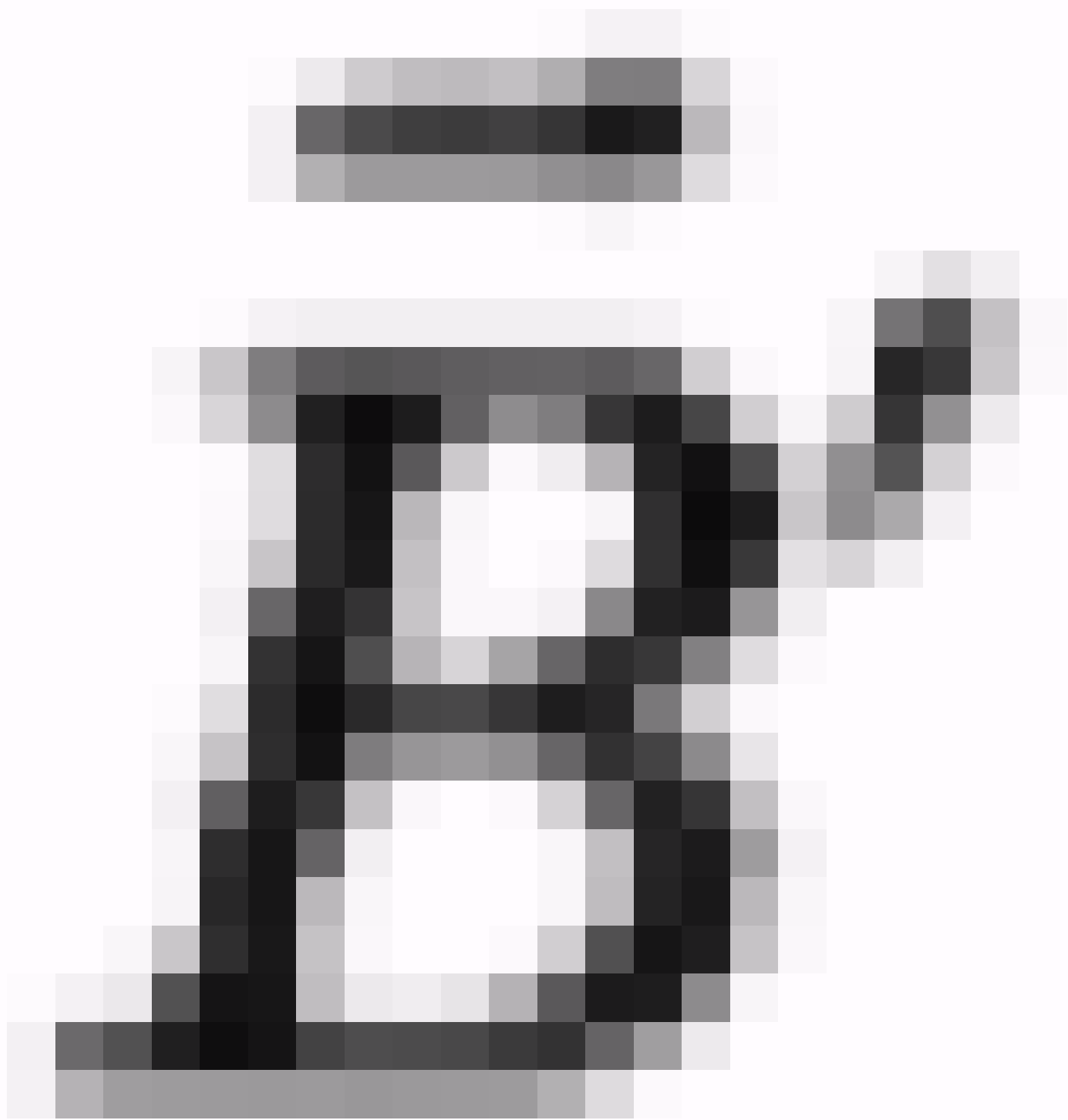
Мал. 2.148





A pixelated, grayscale uppercase letter 'T'. The letter is composed of a thick horizontal top bar and a vertical stem. The pixels are rendered in various shades of gray, giving it a textured, blocky appearance.A pixelated, grayscale uppercase letter 'T', identical to the first one. It features a thick horizontal top bar and a vertical stem, rendered in a grayscale pixel art style.A pixelated, grayscale uppercase letter 'O'. The letter is formed by a thick, rounded stroke, creating a hollow center. The pixels are in various shades of gray, giving it a textured appearance.A pixelated, grayscale lowercase letter 'o'. It is a small, circular letter with a thick stroke and a hollow center, rendered in a grayscale pixel art style.A pixelated, grayscale uppercase letter 'C'. The letter is formed by a thick, curved stroke, creating a hollow center. The pixels are in various shades of gray, giving it a textured appearance.A pixelated, grayscale lowercase letter 's'. The letter is formed by a thick, curved stroke, creating a hollow center. The pixels are in various shades of gray, giving it a textured appearance.





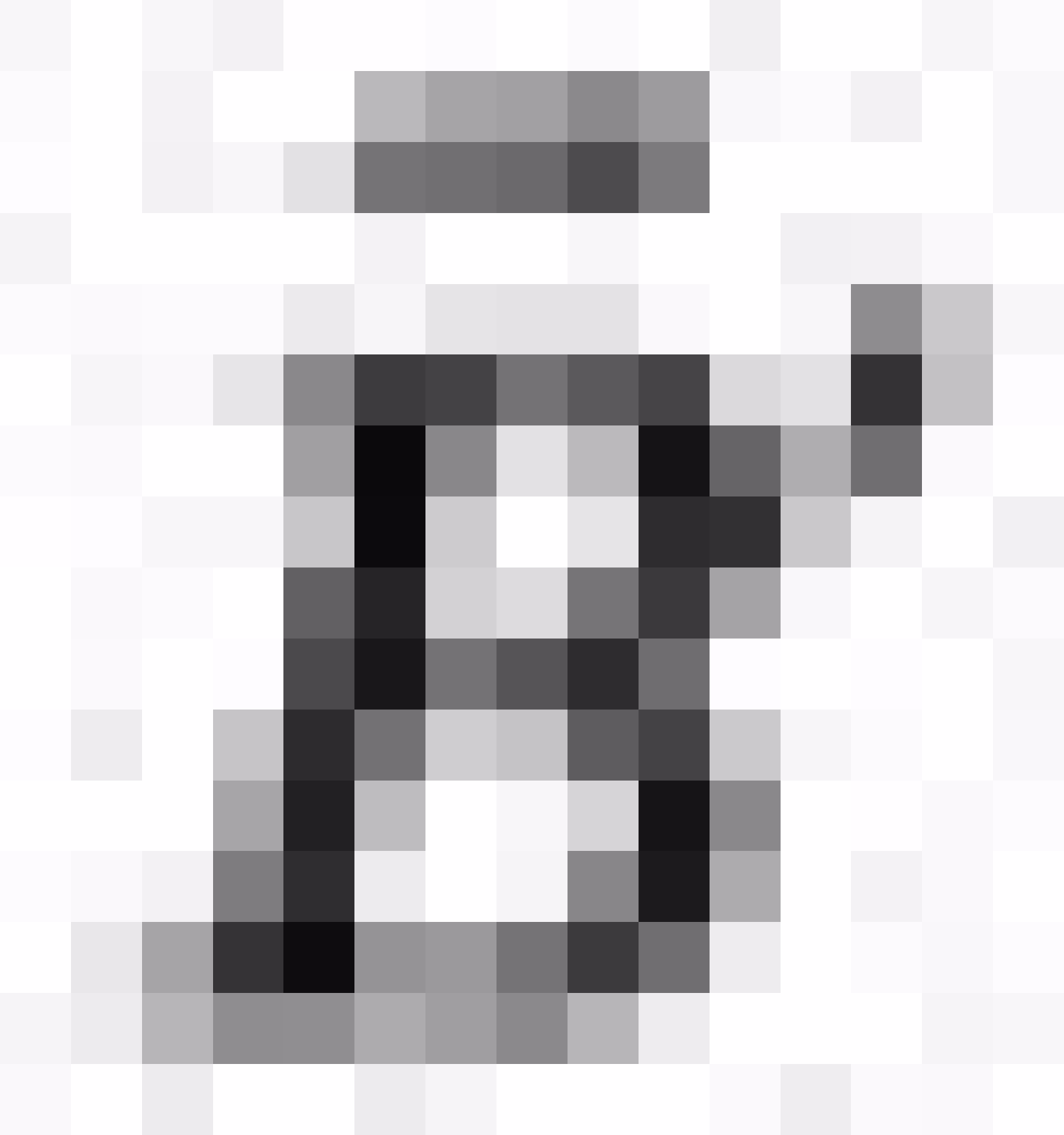
A pixelated, grayscale representation of the lowercase letter 'a'. The letter is formed by a thick, dark stroke with a lighter, grayish outline, giving it a 3D or embossed appearance. The top of the letter is rounded, and the bottom has a slight curve.

A pixelated, grayscale representation of the lowercase letter 'b'. The letter is formed by a thick, dark stroke with a lighter, grayish outline. It features a vertical stem on the right side and a rounded, bowl-like top on the left.

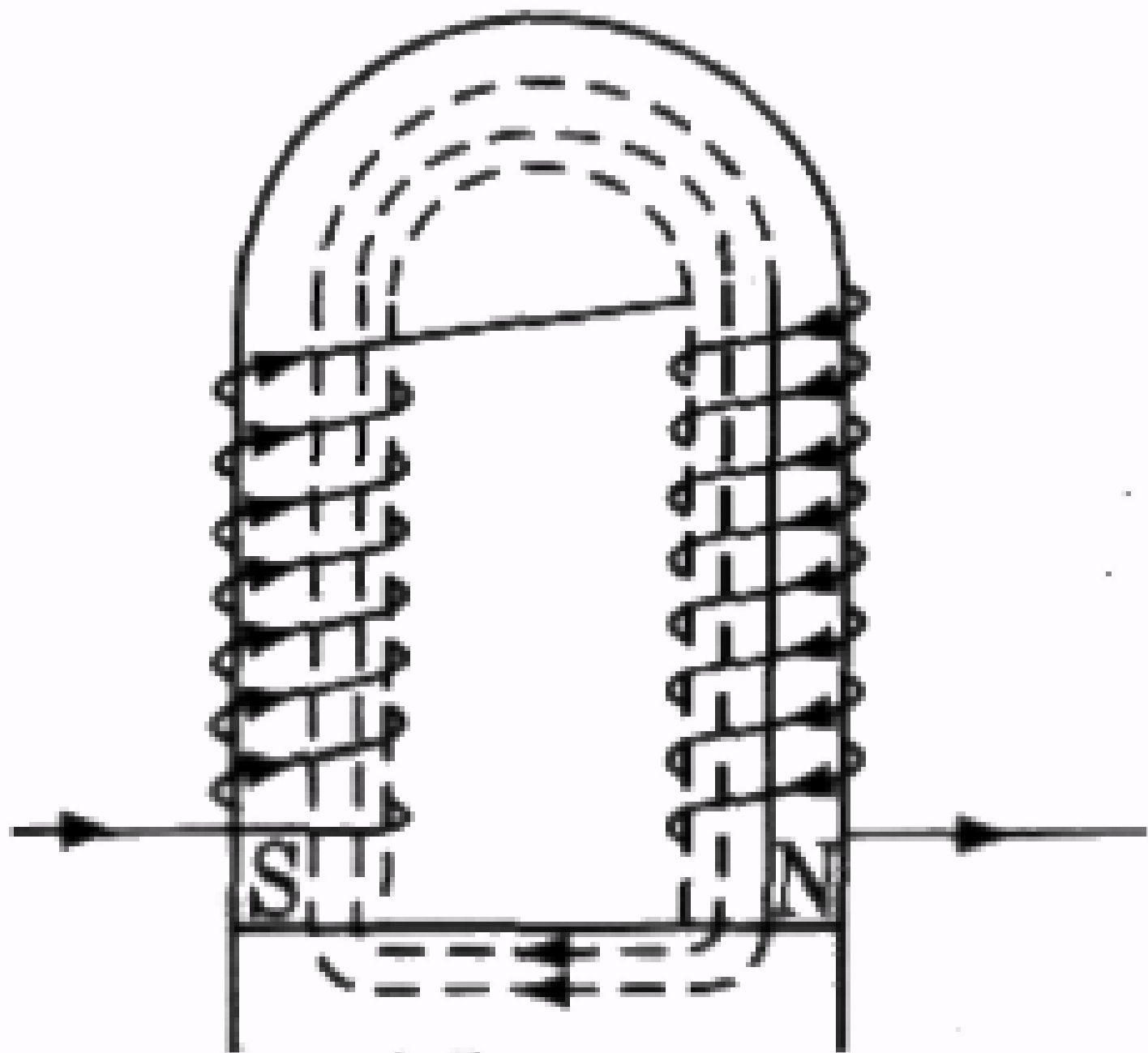
A pixelated, grayscale representation of the lowercase letter 'o'. The letter is formed by a thick, dark stroke with a lighter, grayish outline. It is a simple, rounded shape with a slight indentation at the top.

A pixelated, grayscale representation of the lowercase letter 'w'. The letter is formed by a thick, dark stroke with a lighter, grayish outline. It consists of two 'u'-like shapes joined together, with a small gap between them.

A pixelated, grayscale representation of the lowercase letter 'e'. The letter is formed by a thick, dark stroke with a lighter, grayish outline. It is a simple, rounded shape with a small opening at the top.

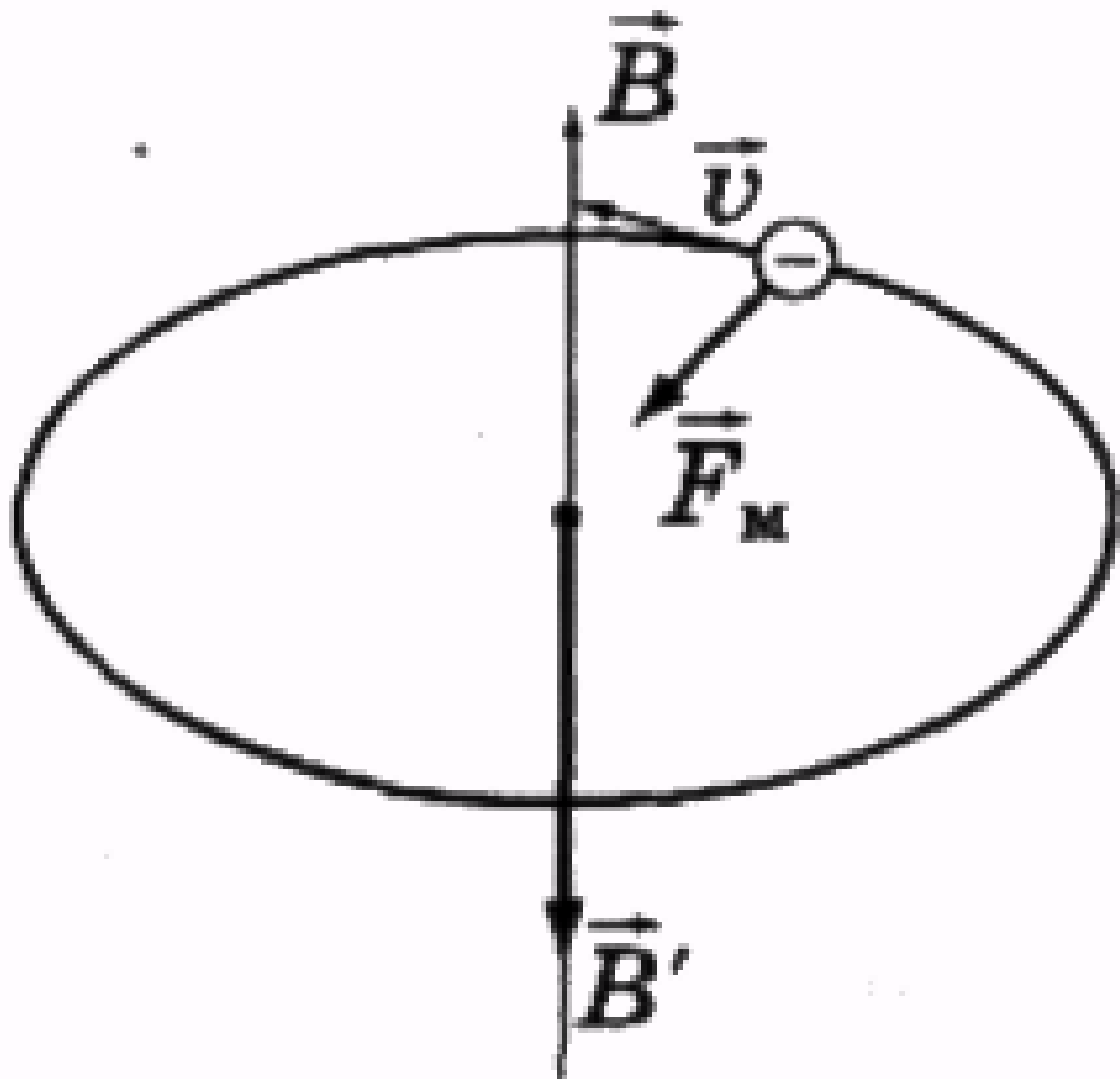




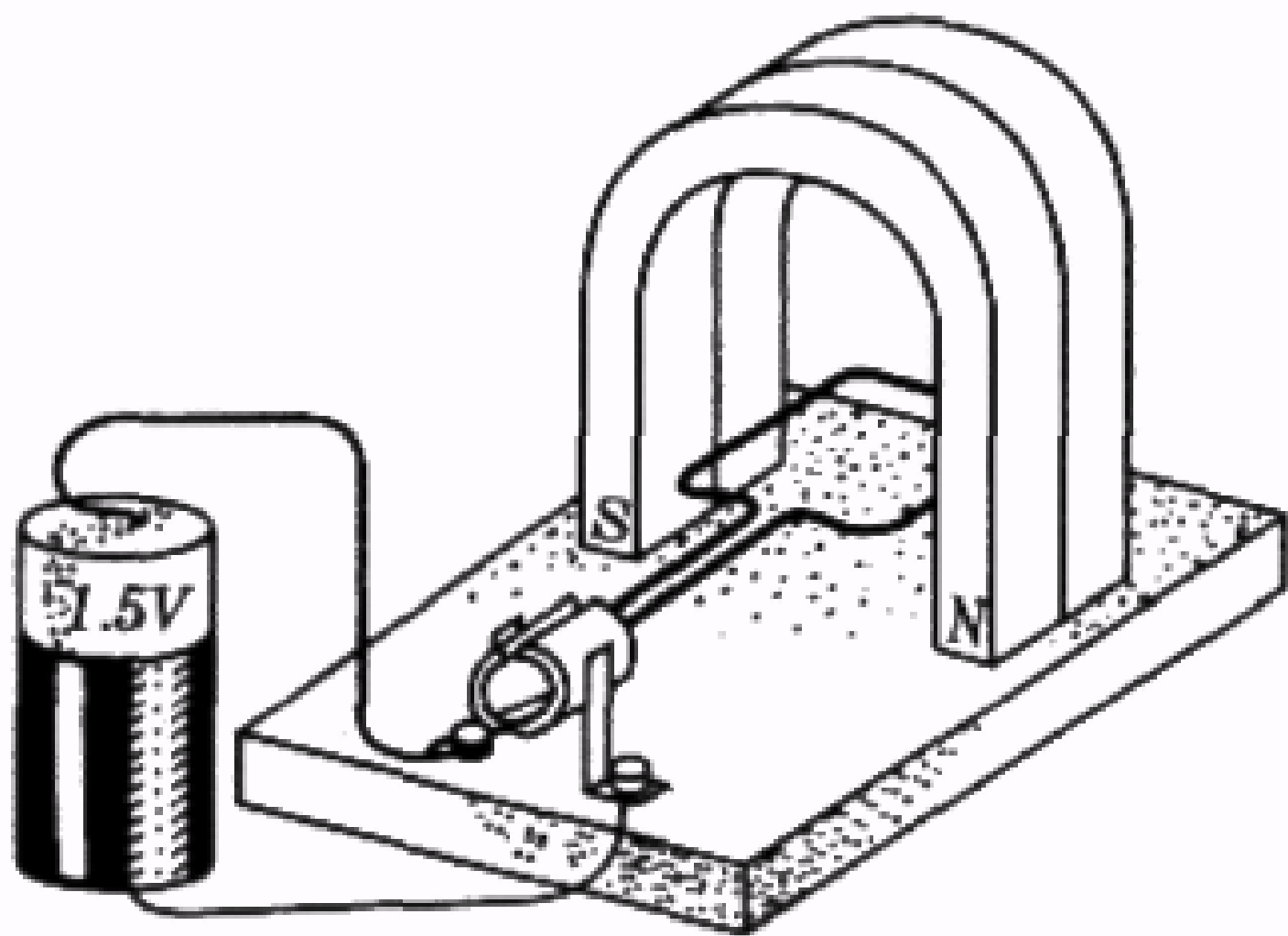


Мал. 2.149

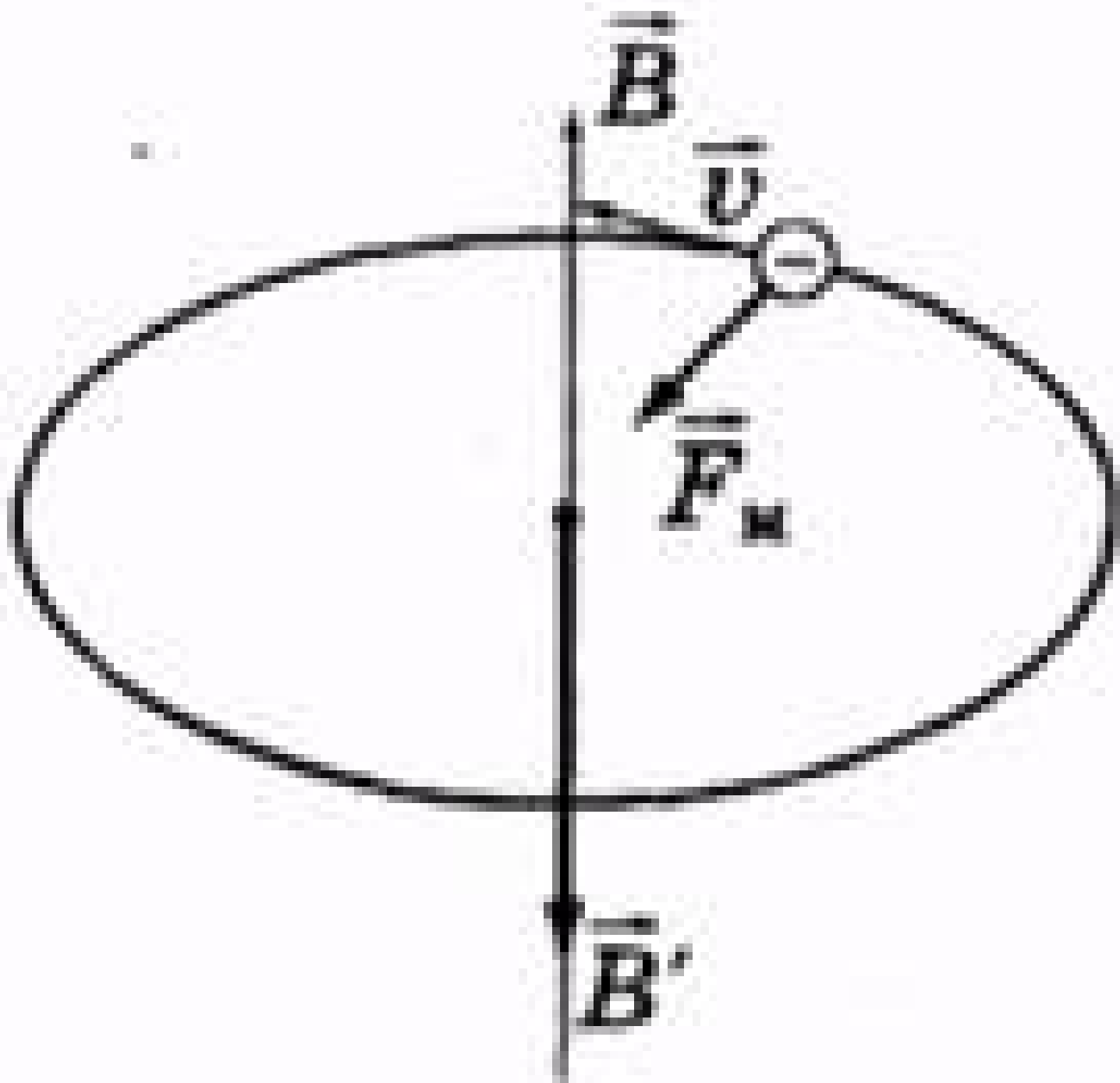




Мал. 2.146



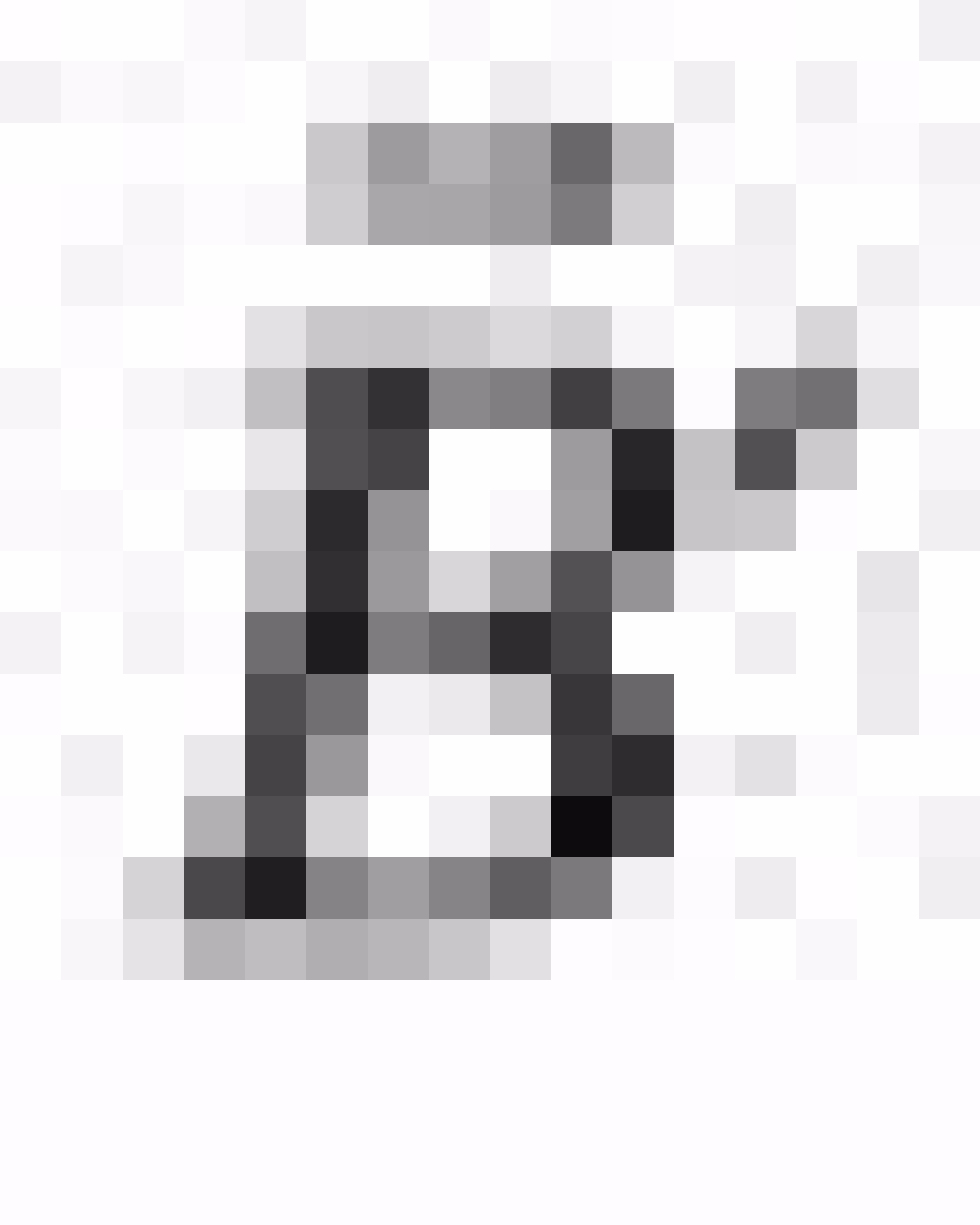
Мал. 2.150

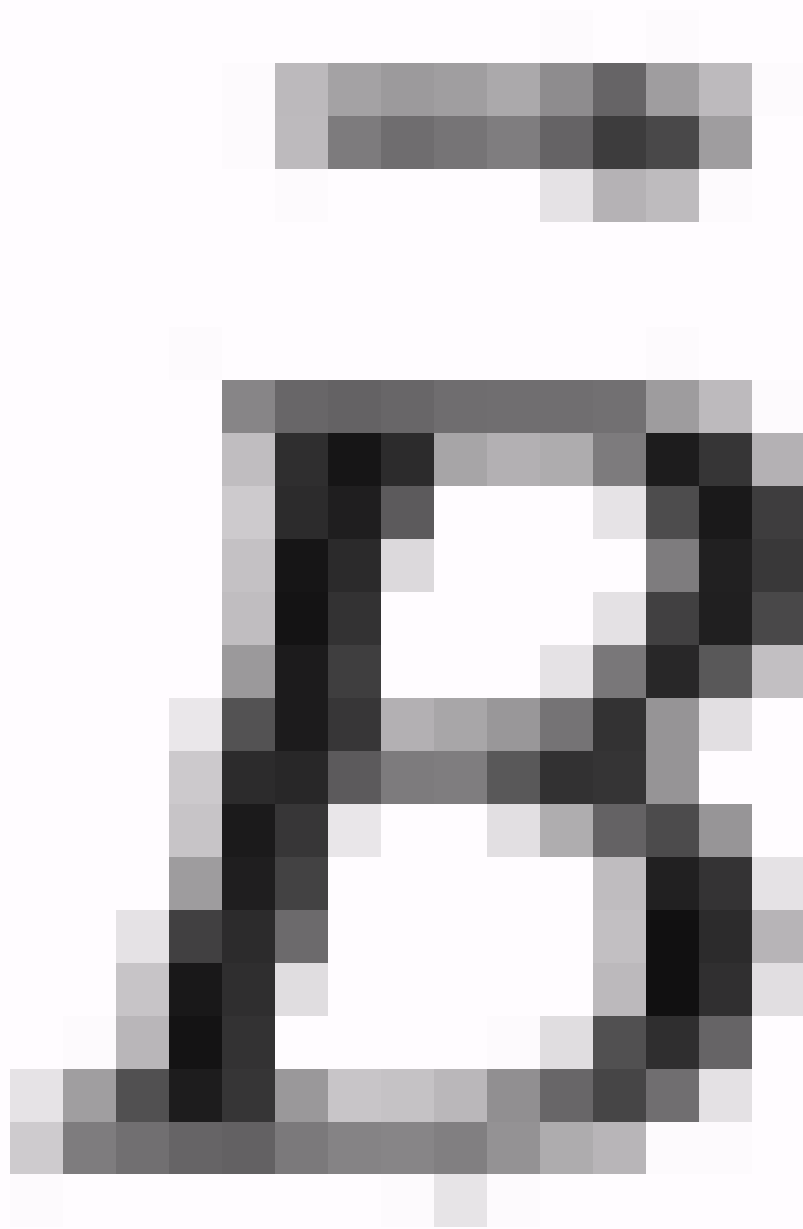


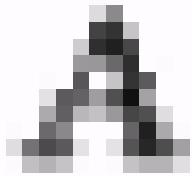
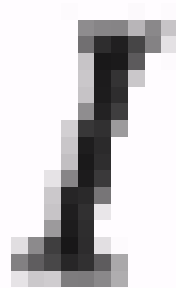
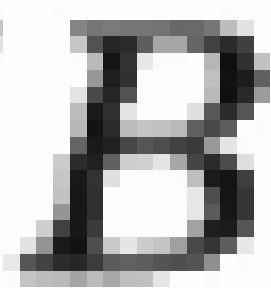
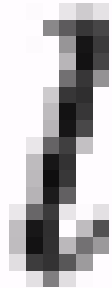
Mat. 2.146



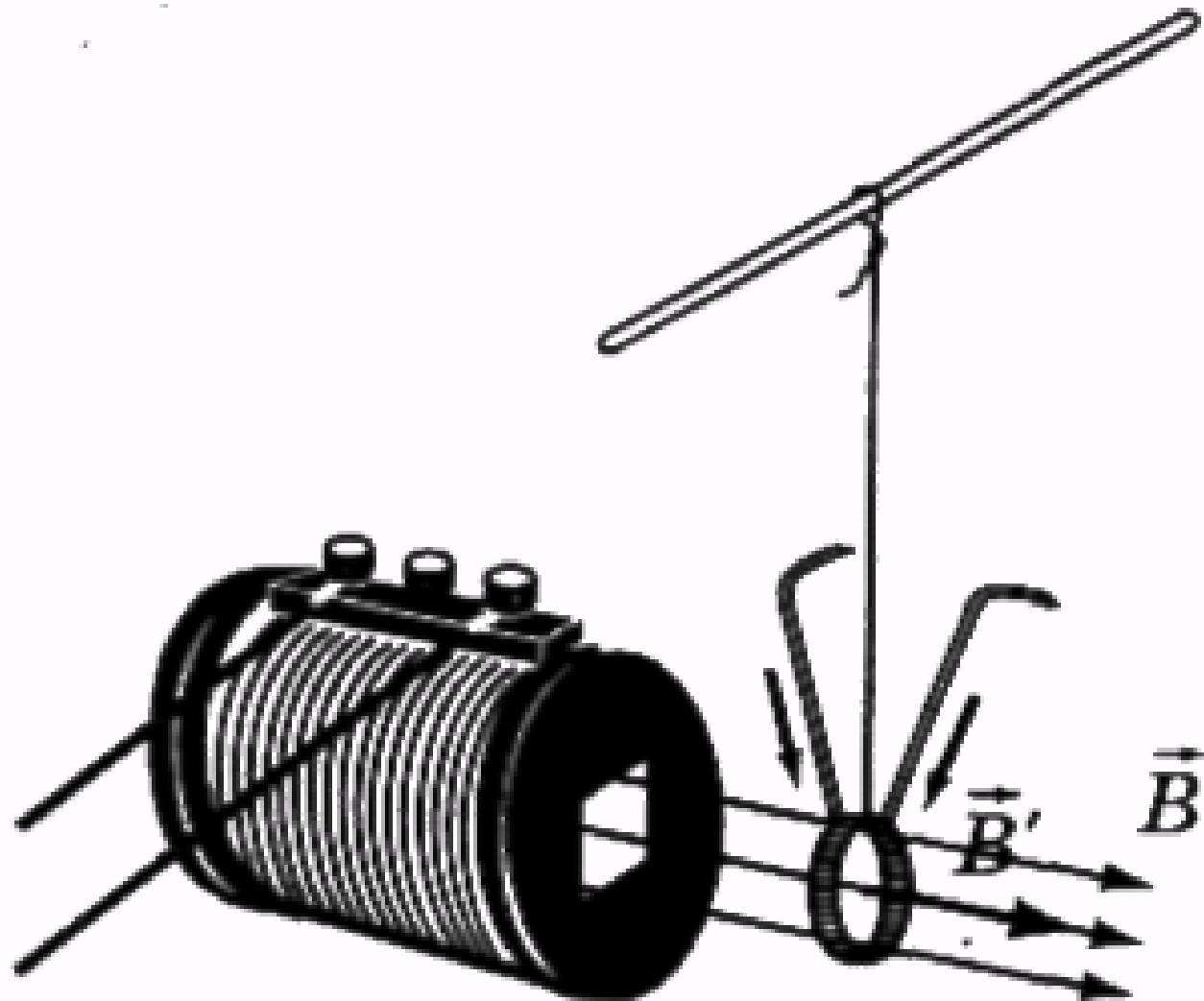




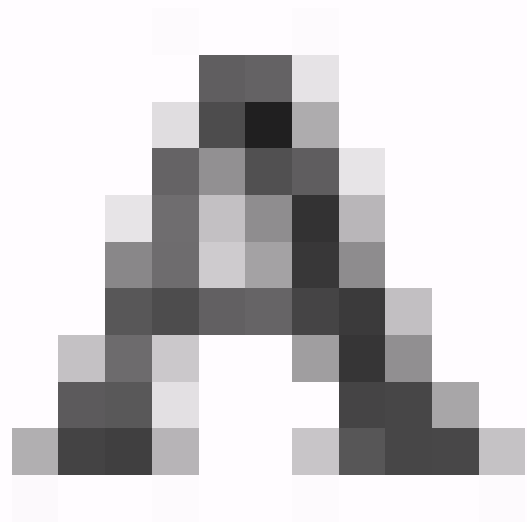
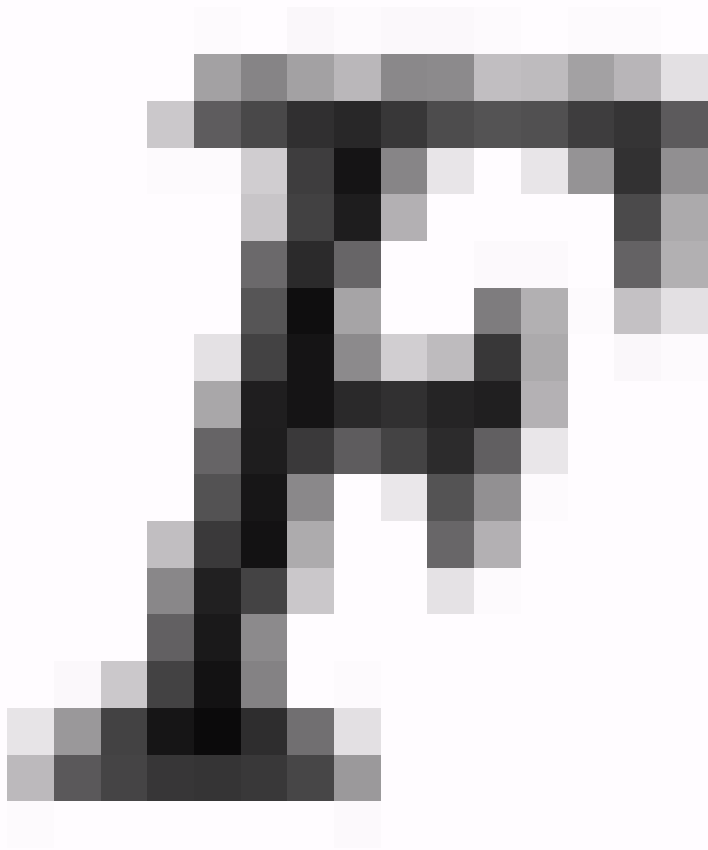


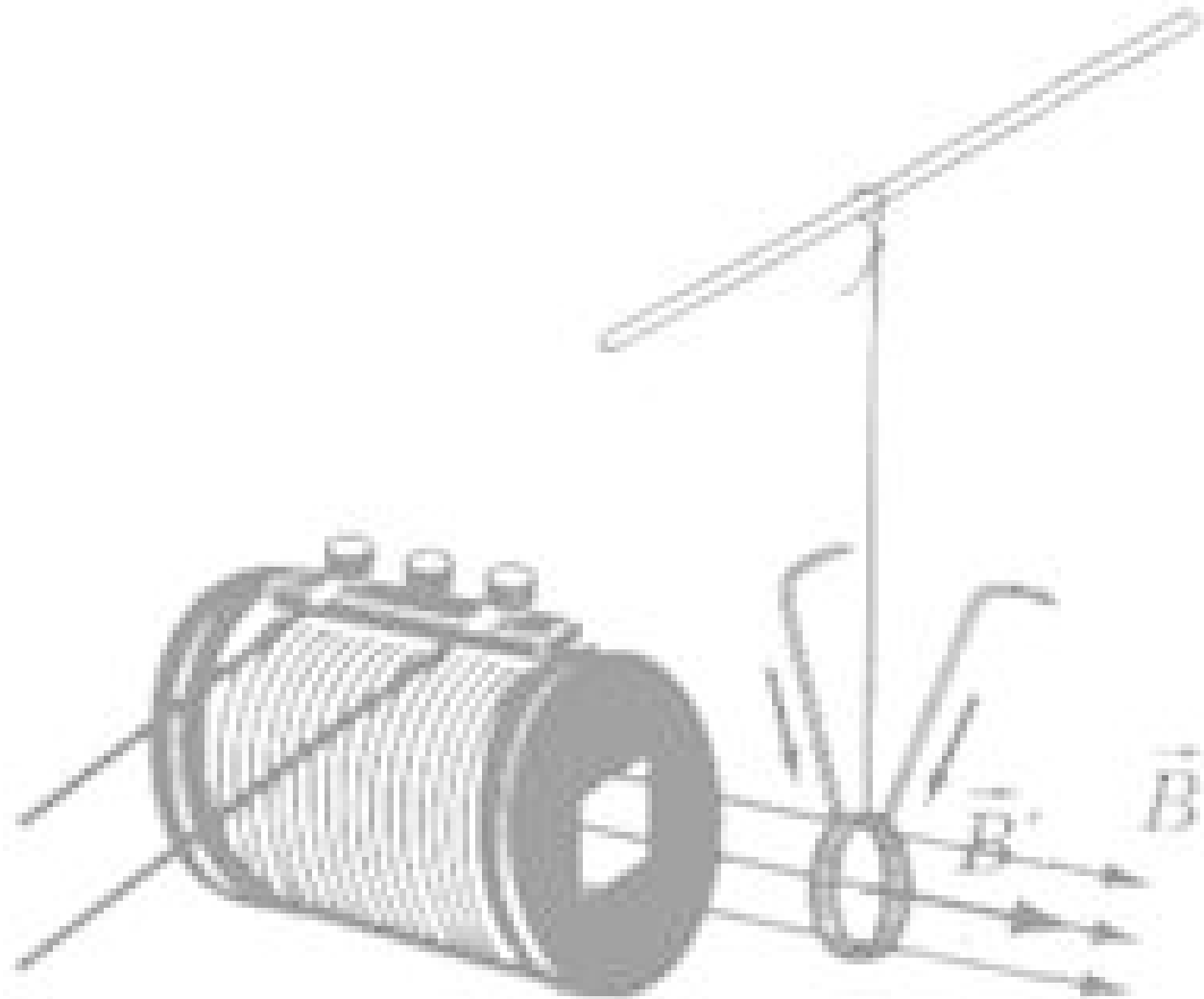
A pixelated, black and white representation of the uppercase letter 'F'. The letter has a thick vertical stem on the left and a horizontal top bar. The right side of the top bar is slightly irregular, suggesting a hand-drawn or low-resolution digital style.A pixelated, black and white representation of the lowercase letter 'a'. It features a vertical stem on the right and a curved bowl on the left that meets the stem at the bottom. The letter is rendered in a simple, blocky style.A pixelated, black and white representation of the equals sign '='. It consists of two parallel horizontal bars of equal length, positioned one above the other with a small gap between them.A pixelated, black and white representation of the uppercase letter 'I'. It is a simple vertical bar with a slightly wider base and top, and a small hook-like detail at the top right corner.A pixelated, black and white representation of the uppercase letter 'B'. It has a vertical stem on the left and two rounded bowls on the right, one above the other. The letter is composed of several thick, pixelated strokes.A pixelated, black and white representation of the lowercase letter 'l'. It is a simple vertical bar with a slightly wider base and top, and a small hook-like detail at the top right corner.A pixelated, black and white representation of the lowercase letter 'i'. It consists of a vertical stem with a small dot above it, both rendered in a simple, blocky style.





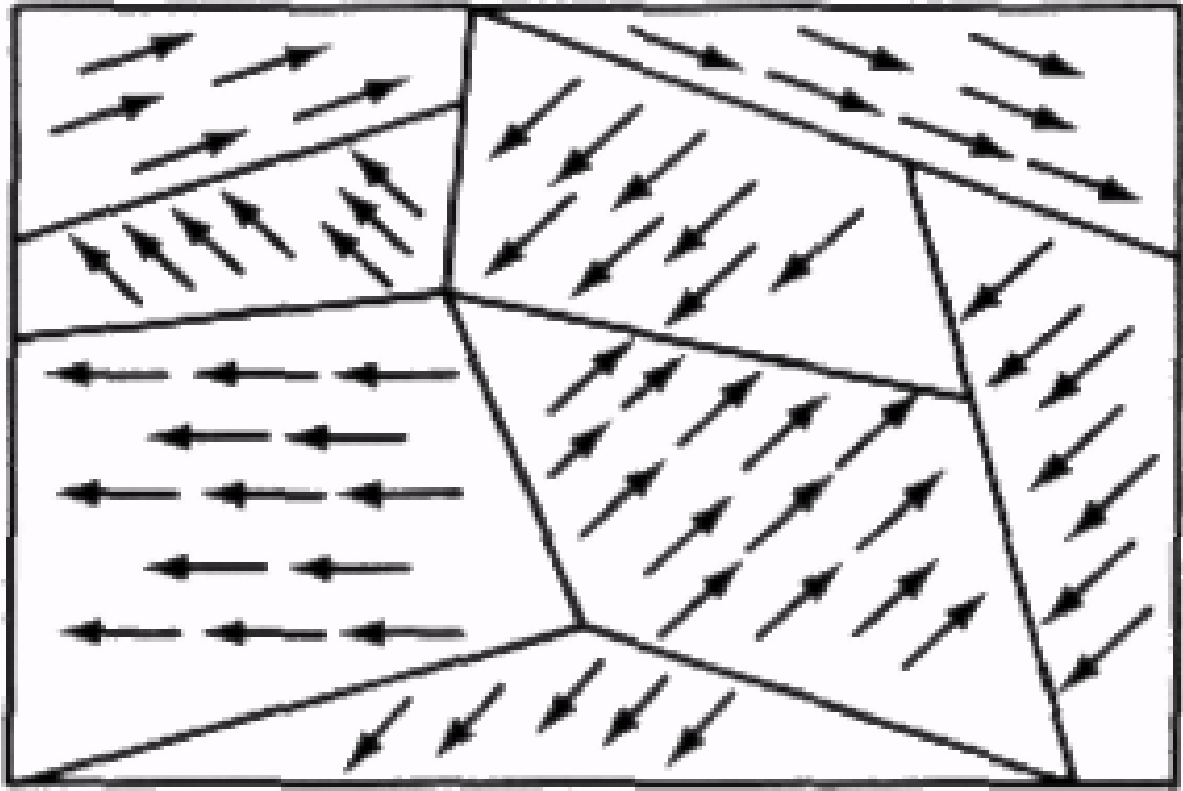
Мал. 2.147



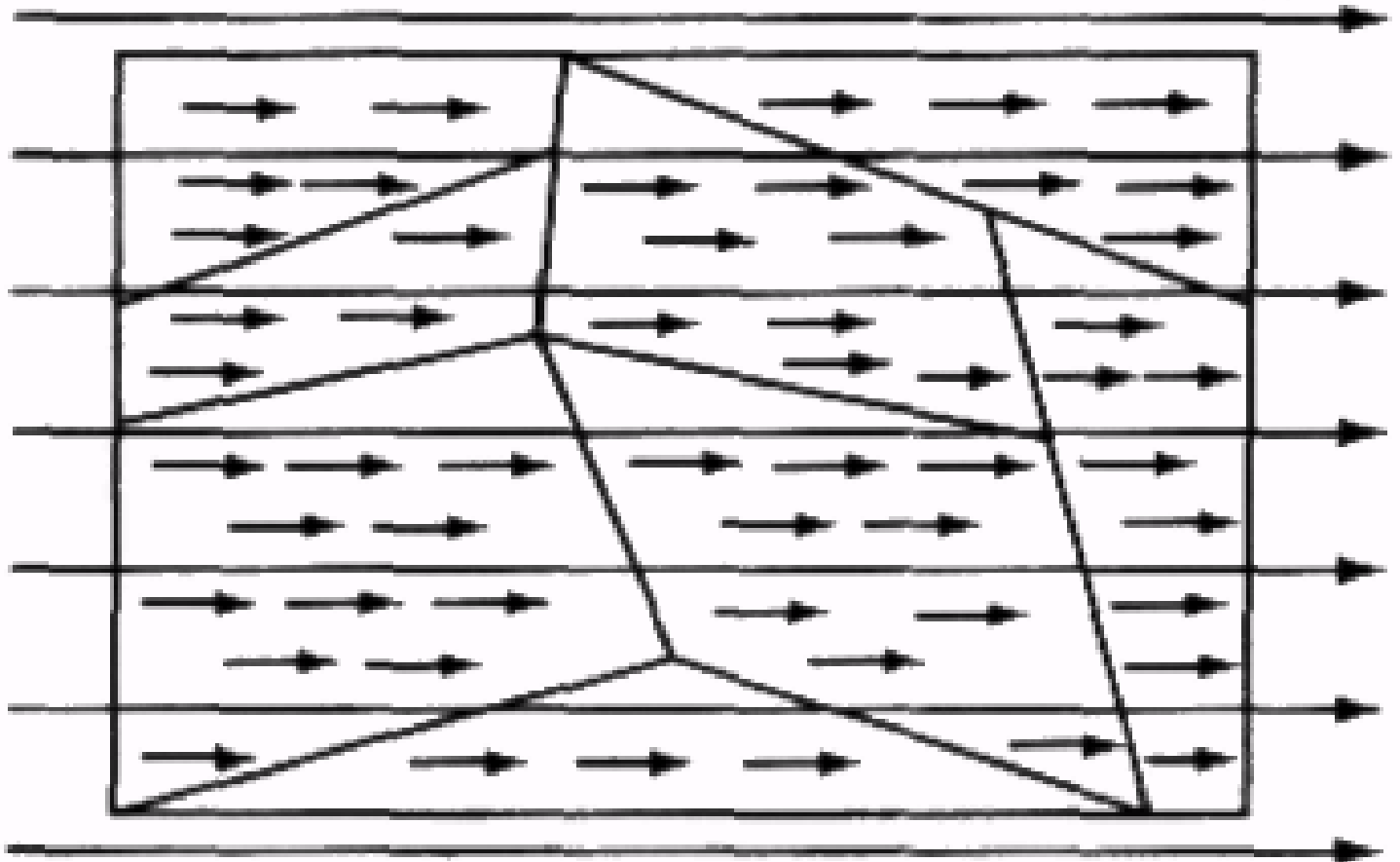


Мал. 2.147

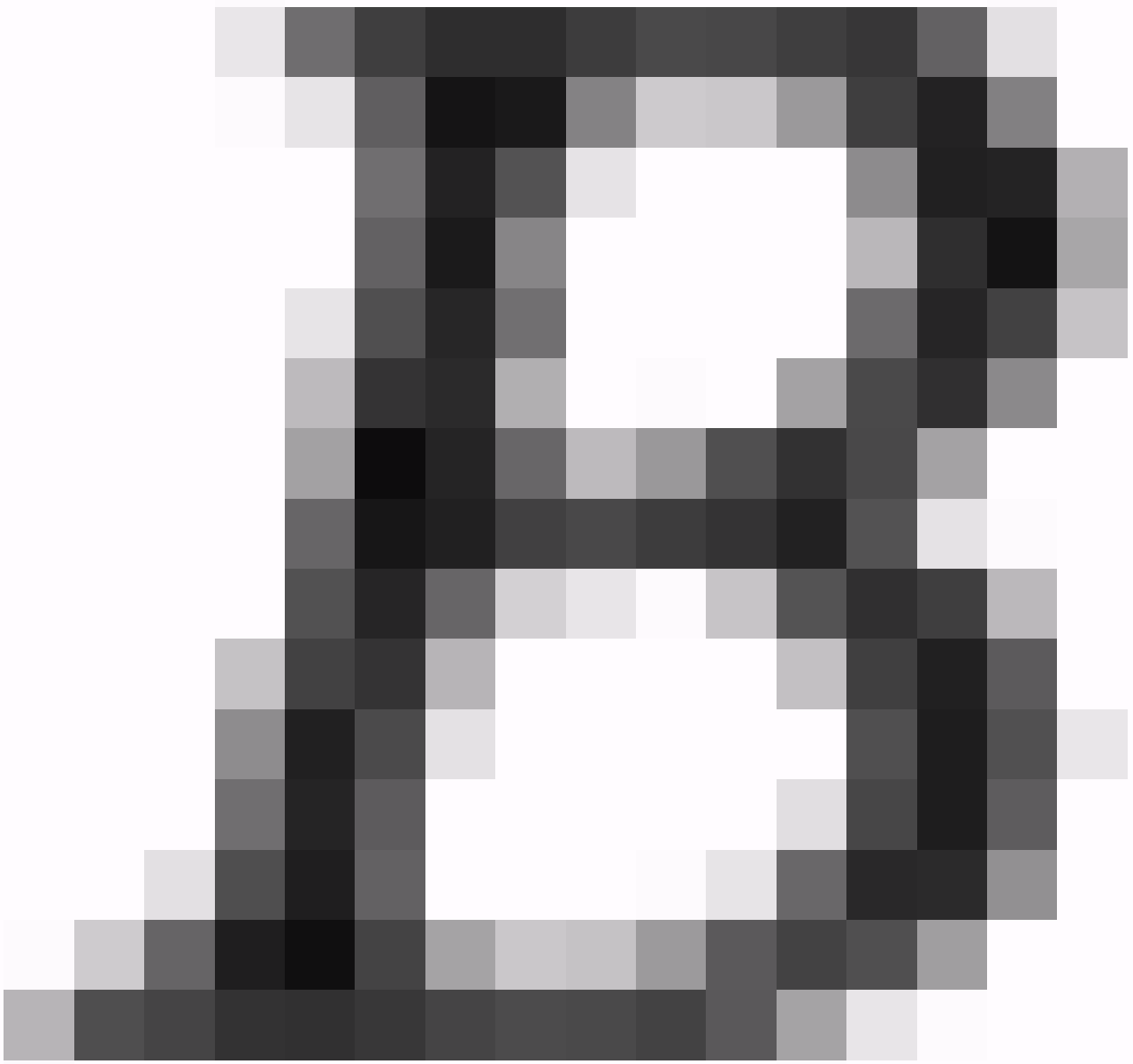
$$\vec{B} = 0$$



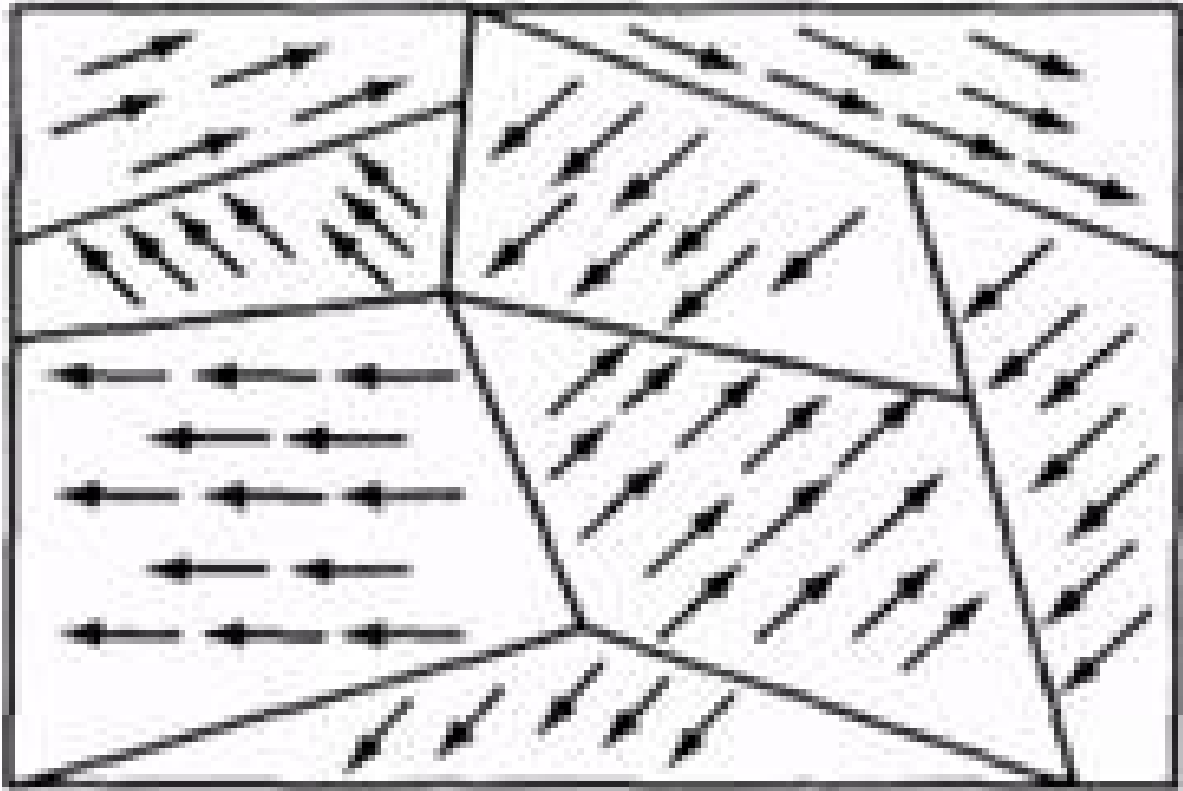
$$\vec{B}$$



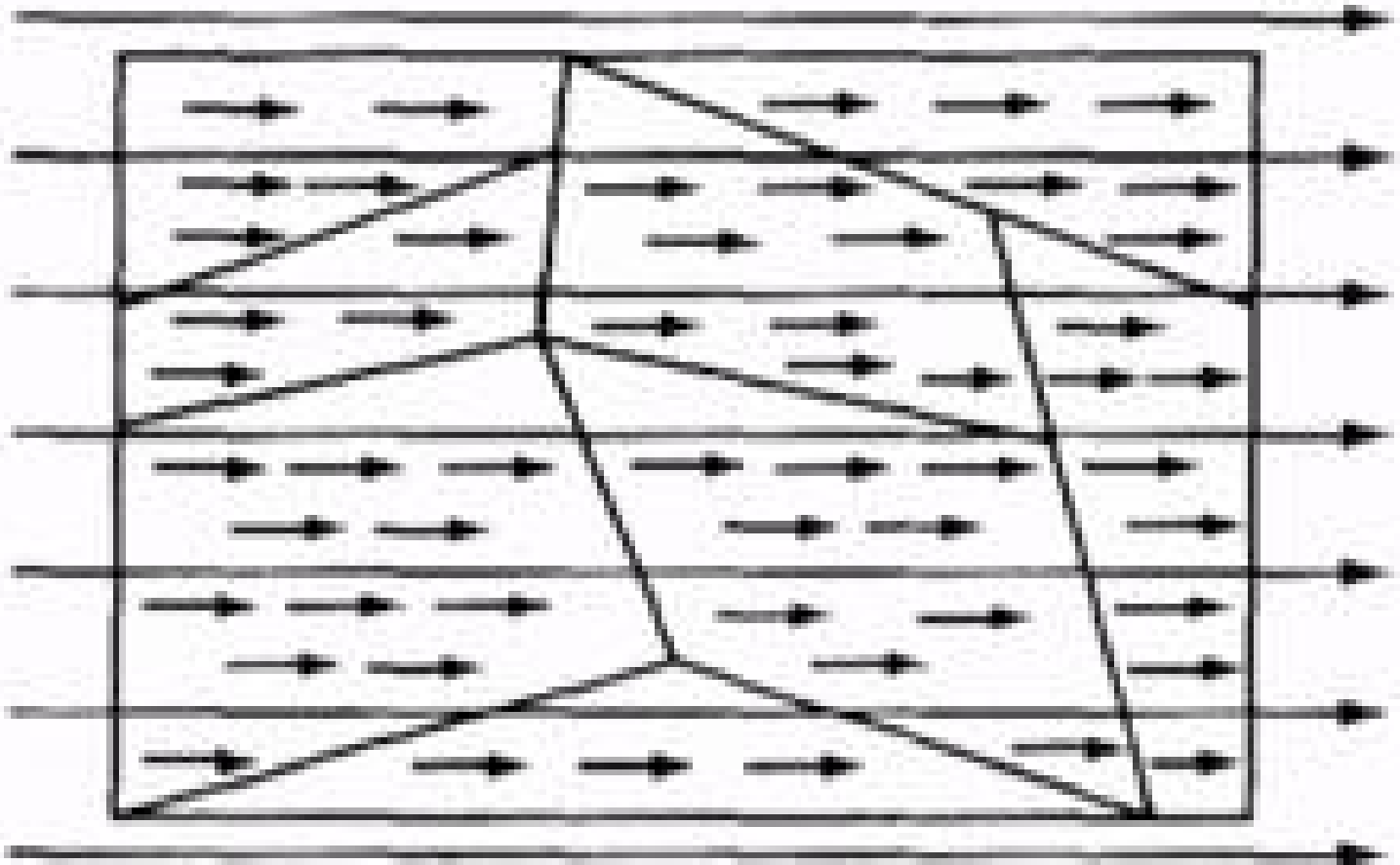
Мал. 2.148



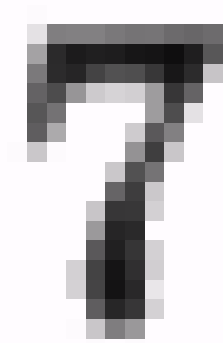
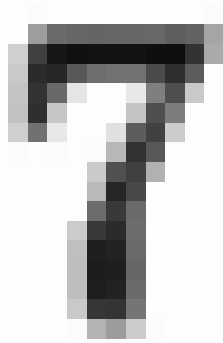
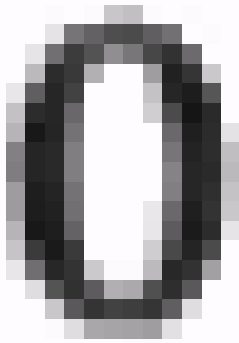
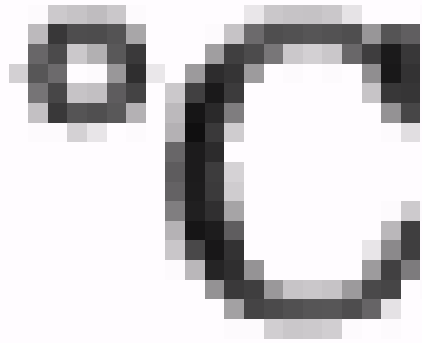

$$\bar{B} = 0$$

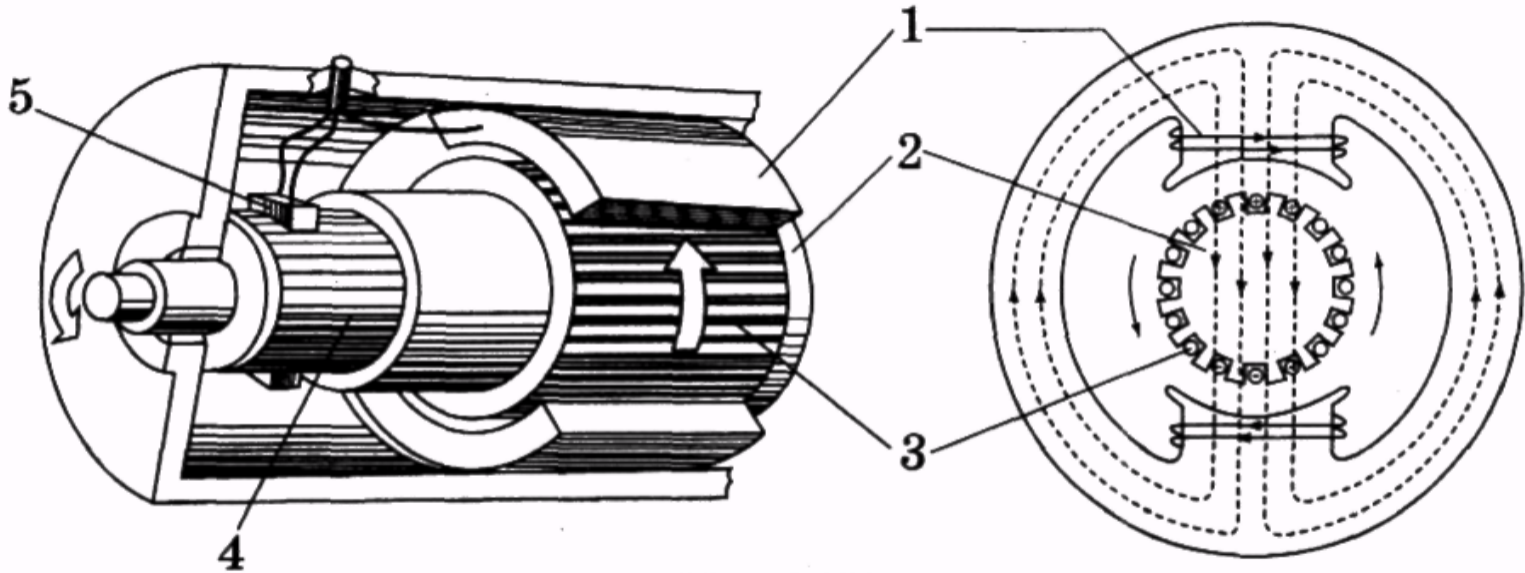


$$\bar{B}$$

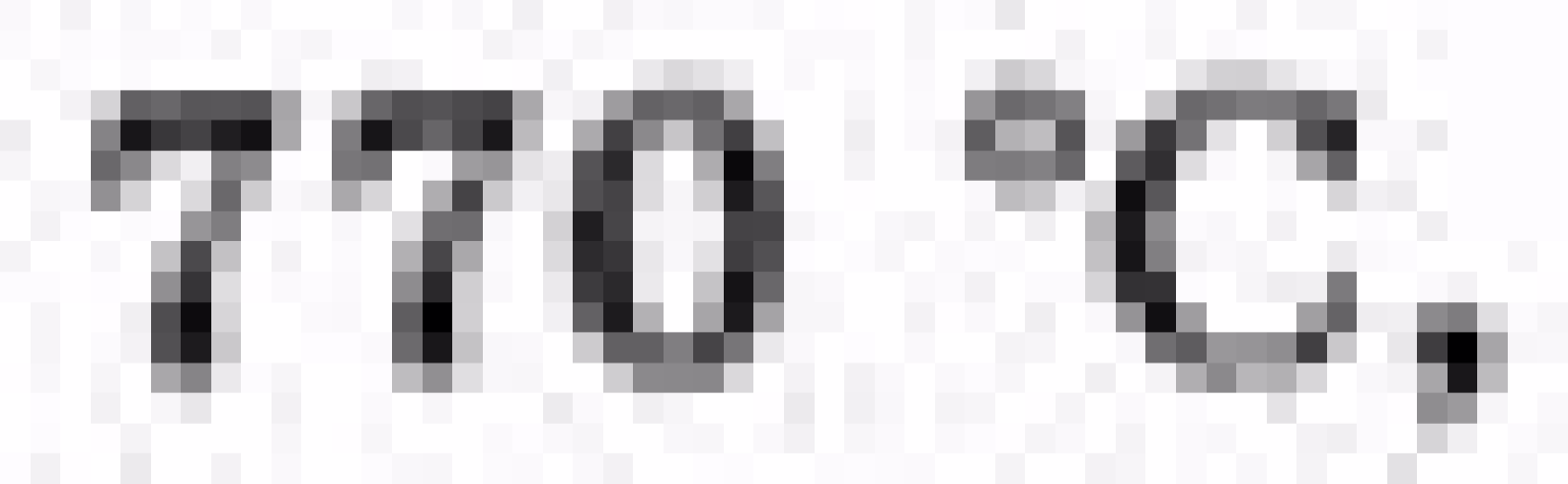


Мал. 2.148

A pixelated, grayscale representation of the uppercase letter 'T'. The letter is composed of a thick horizontal top bar and a vertical stem that tapers slightly towards the bottom. The edges are jagged due to the low resolution.A pixelated, grayscale representation of the uppercase letter 'T', identical to the first one. It features a thick horizontal top bar and a vertical stem with a slight taper at the bottom.A pixelated, grayscale representation of the uppercase letter 'O'. It is a thick, rounded shape with a white center, formed by a single continuous stroke. The edges are pixelated.A pixelated, grayscale representation of the uppercase letter 'O', identical to the third one. It is a thick, rounded shape with a white center, formed by a single continuous stroke.A pixelated, grayscale representation of the lowercase letter 's'. It is a small, curved shape with a white center, formed by a single continuous stroke. The edges are pixelated.



Мал. 2.151



A pixelated, grayscale representation of the number 3. The character is composed of a grid of black and gray pixels, giving it a blocky, digital appearance. It features a vertical stem on the right side and a horizontal base at the bottom.

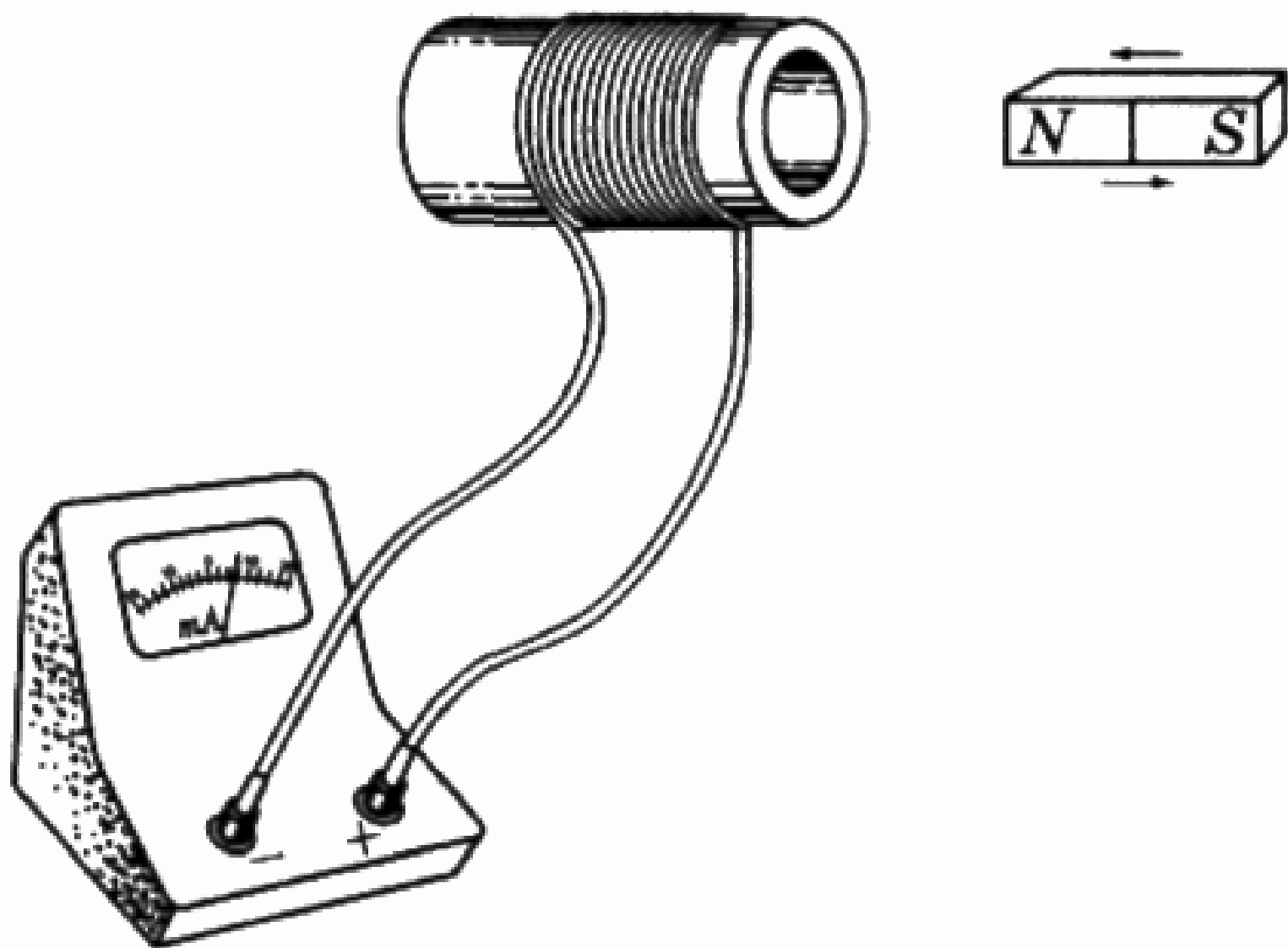
A pixelated, grayscale representation of the number 5. The character is composed of a grid of black and gray pixels, giving it a blocky, digital appearance. It features a horizontal top bar and a vertical stem on the right side.

A pixelated, grayscale representation of the number 0. The character is composed of a grid of black and gray pixels, giving it a blocky, digital appearance. It features a horizontal top bar and a horizontal base at the bottom.

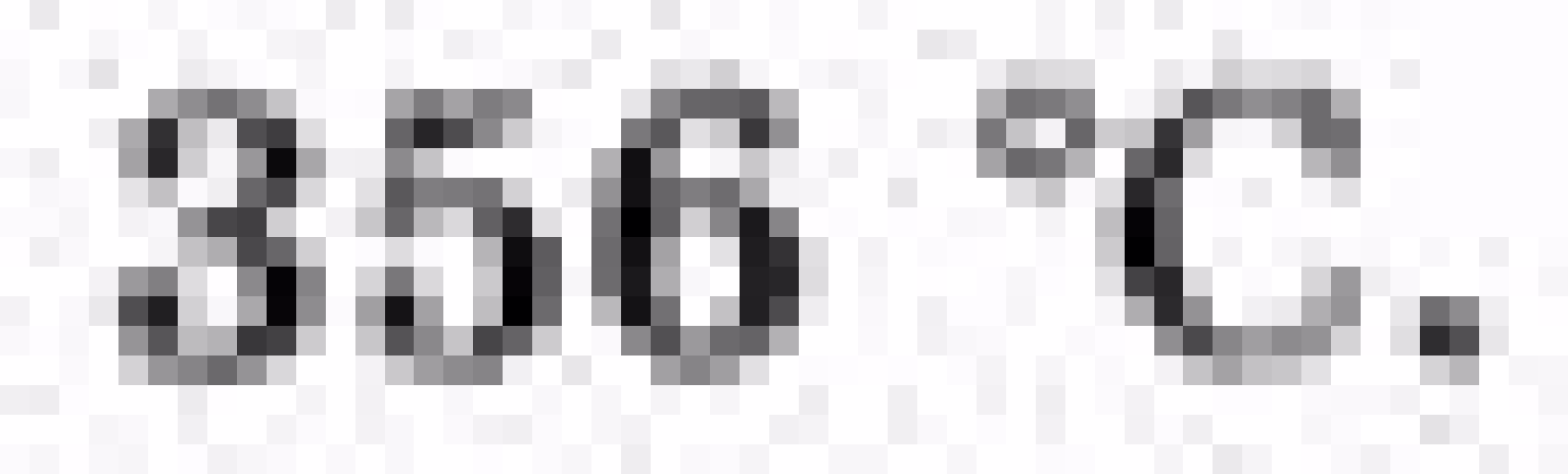
A pixelated, grayscale representation of the number 0. The character is composed of a grid of black and gray pixels, giving it a blocky, digital appearance. It features a horizontal top bar and a horizontal base at the bottom.

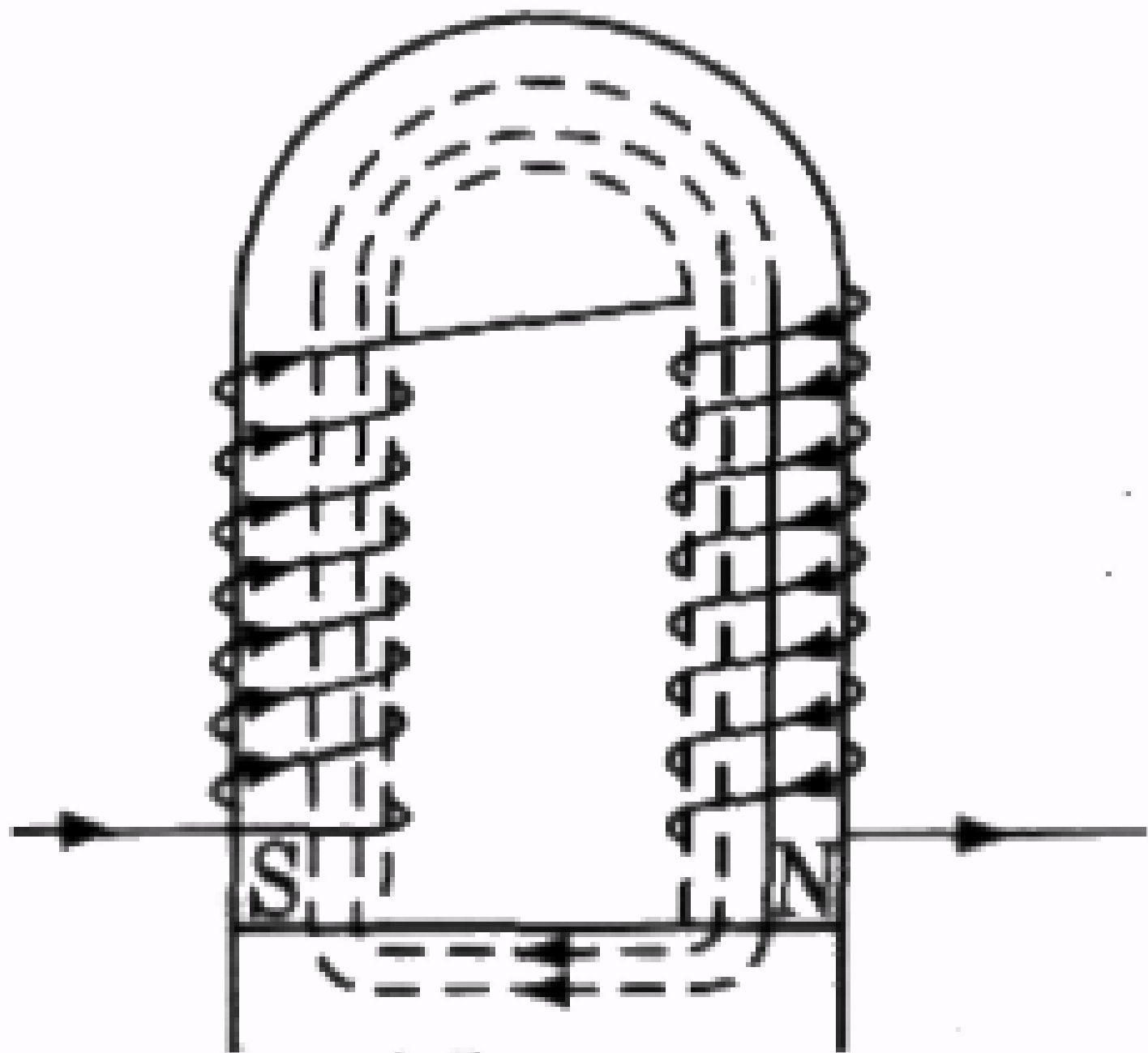
A pixelated, grayscale representation of the number 0. The character is composed of a grid of black and gray pixels, giving it a blocky, digital appearance. It features a horizontal top bar and a horizontal base at the bottom.

A pixelated, grayscale representation of the number 0. The character is composed of a grid of black and gray pixels, giving it a blocky, digital appearance. It features a horizontal top bar and a horizontal base at the bottom.

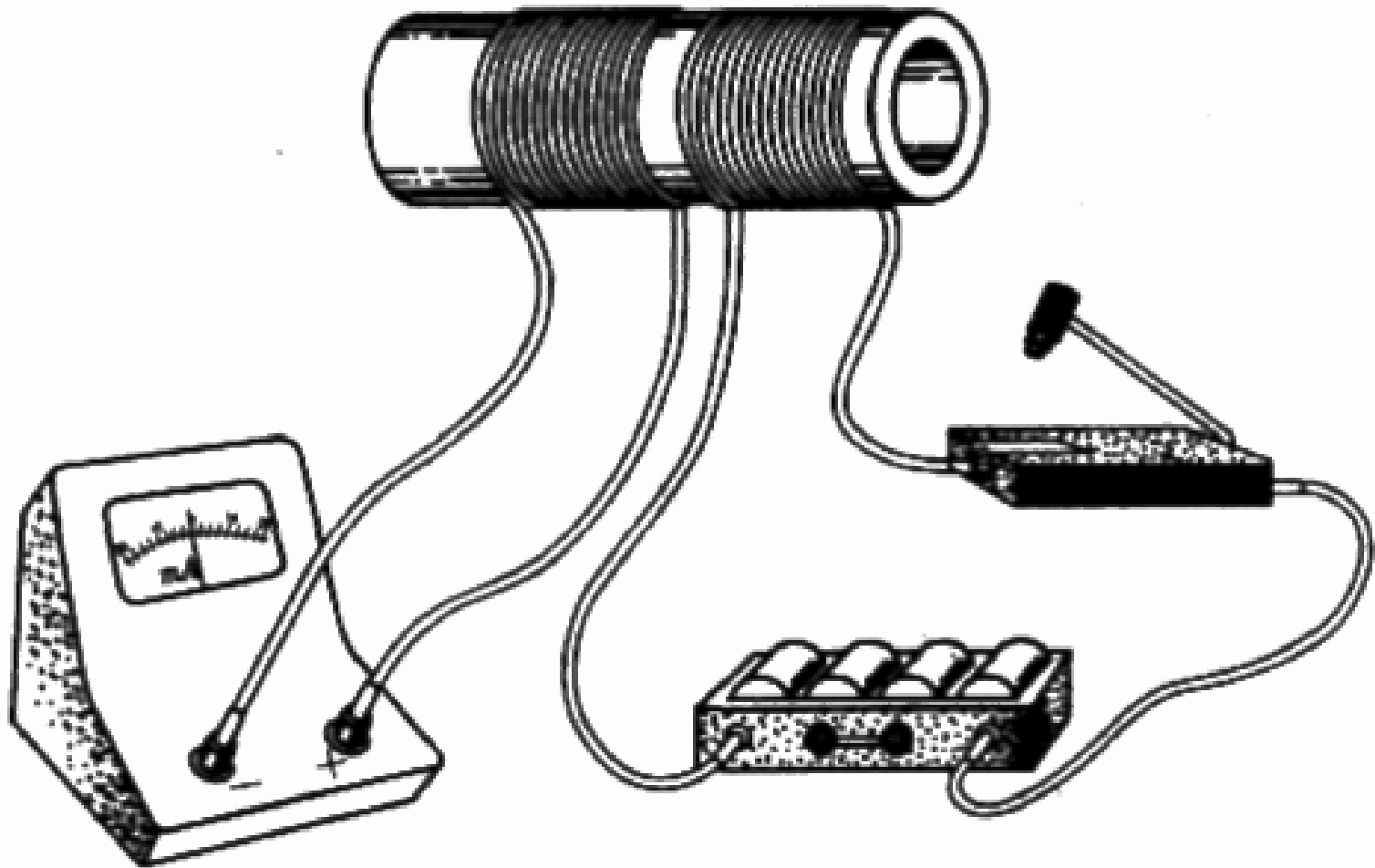


Мал. 2.152

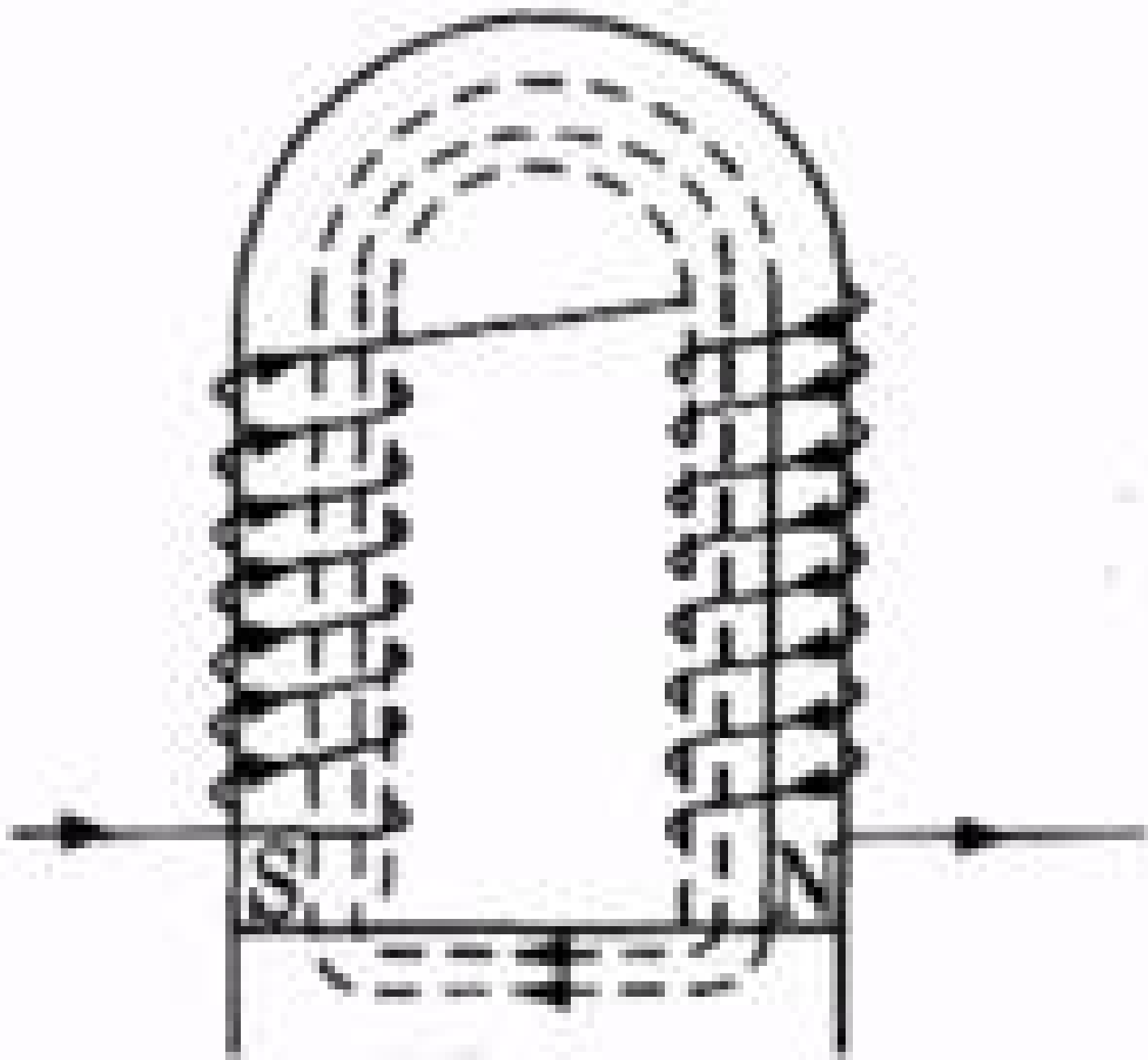




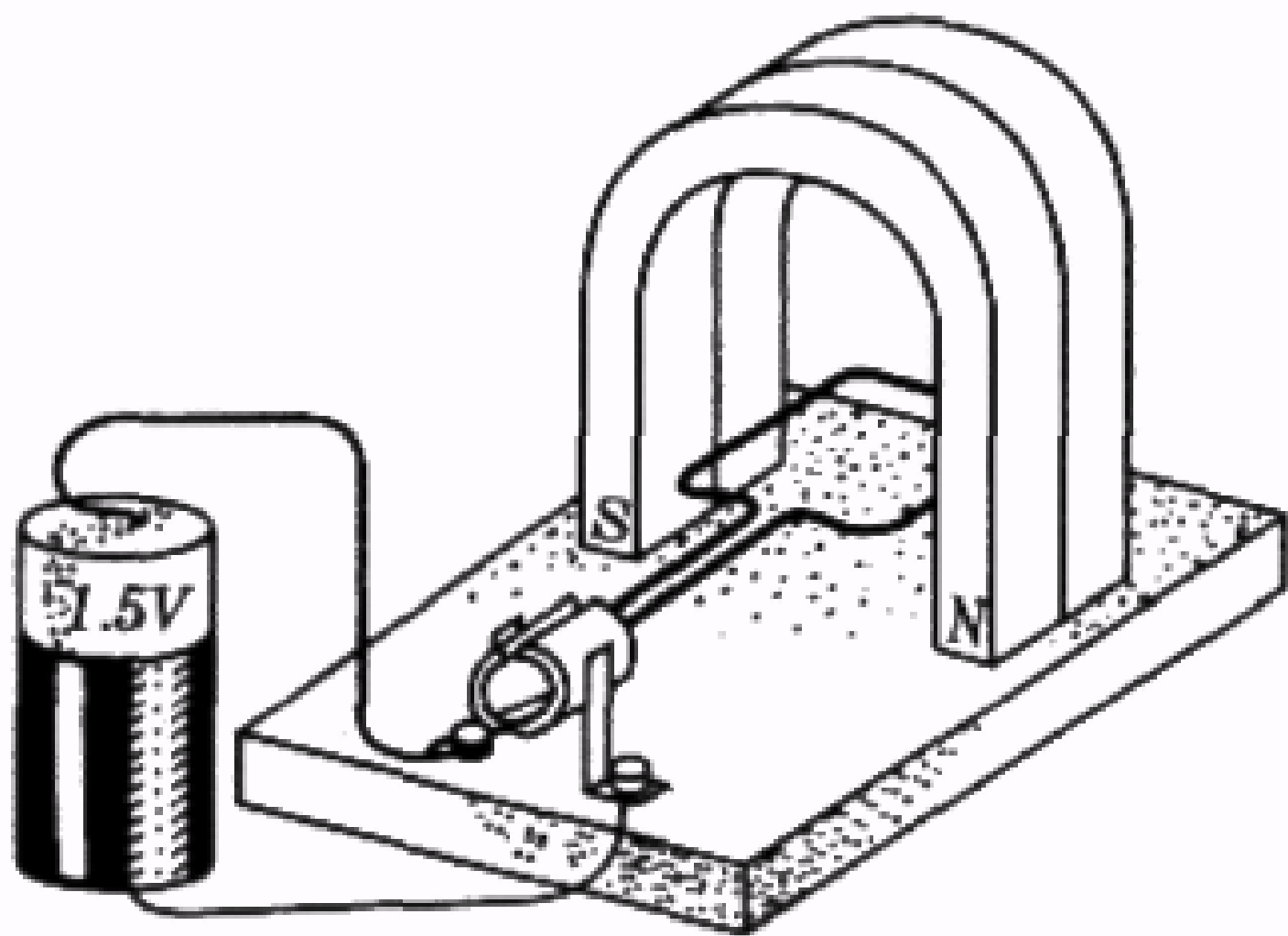
Мал. 2.149



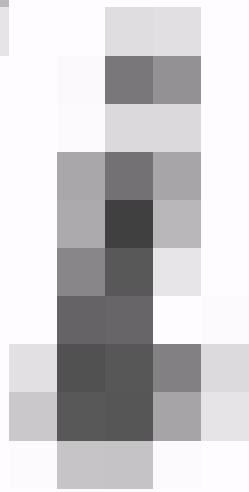
Мал. 2.153

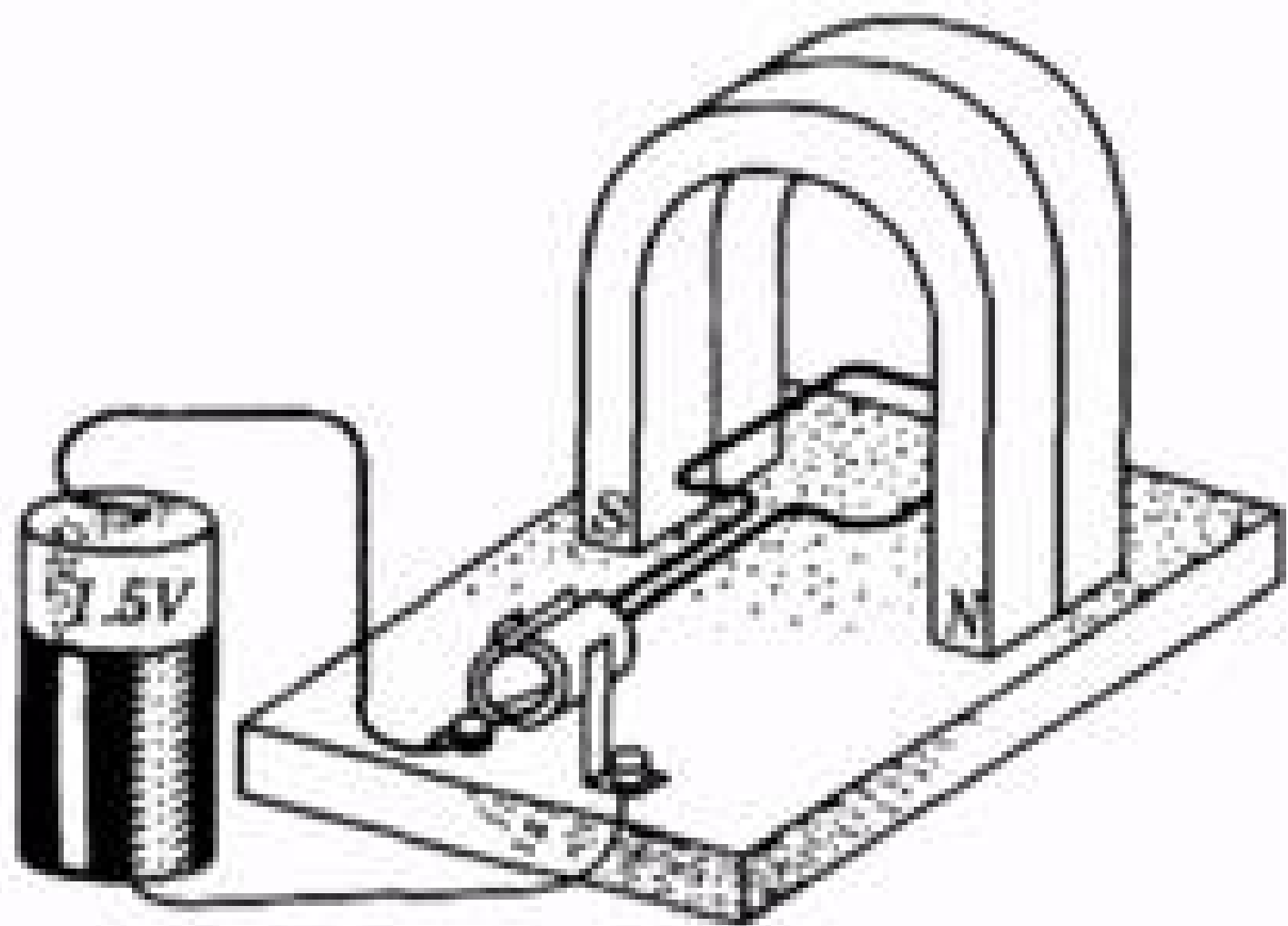


Мал. 2.149

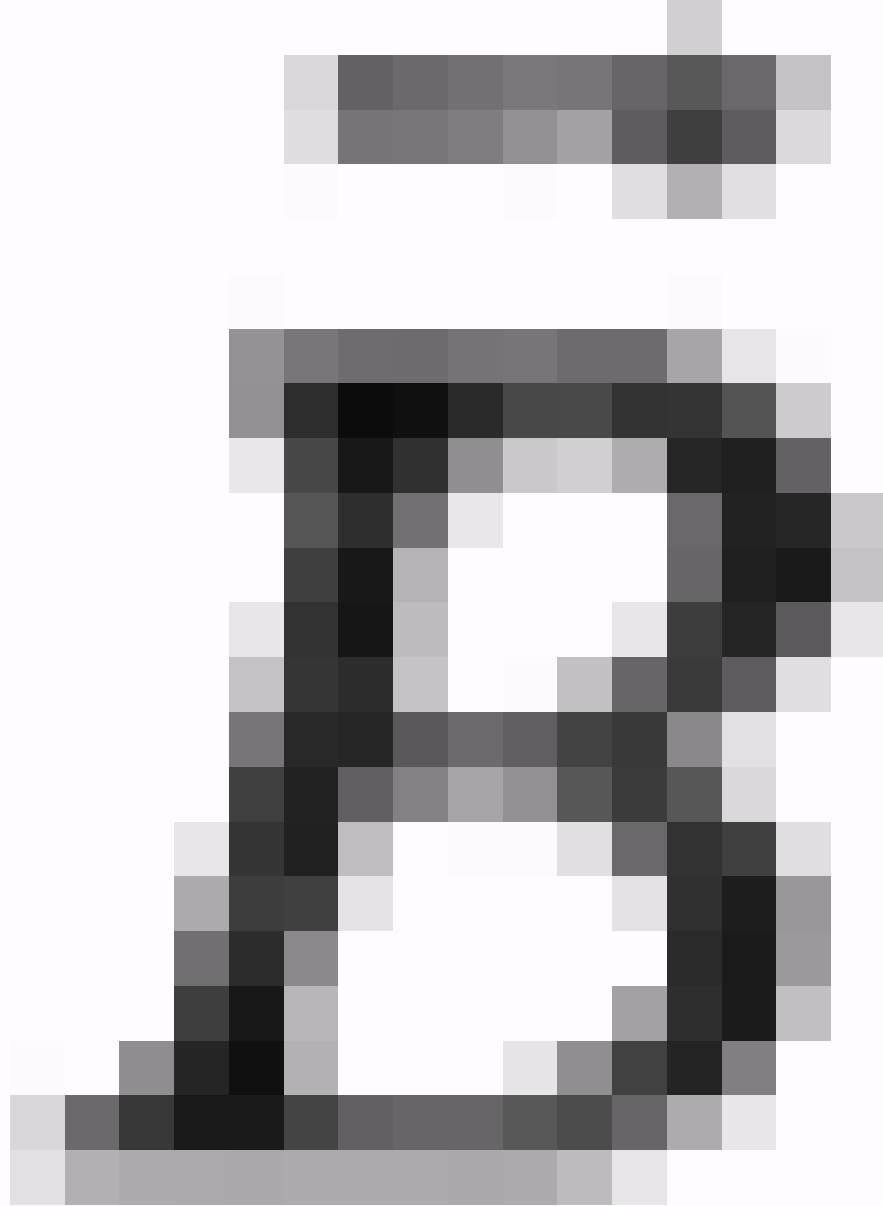


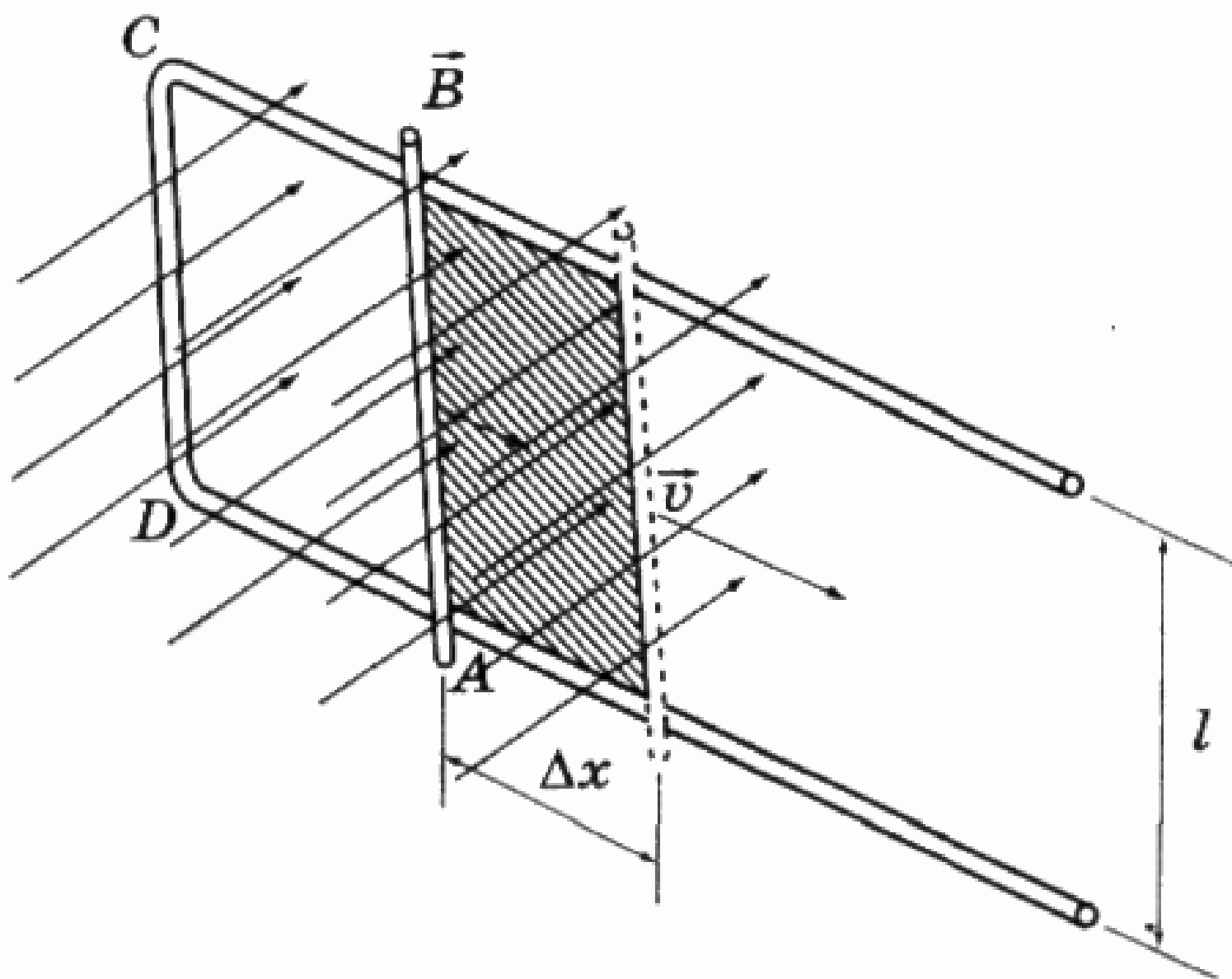
Мал. 2.150



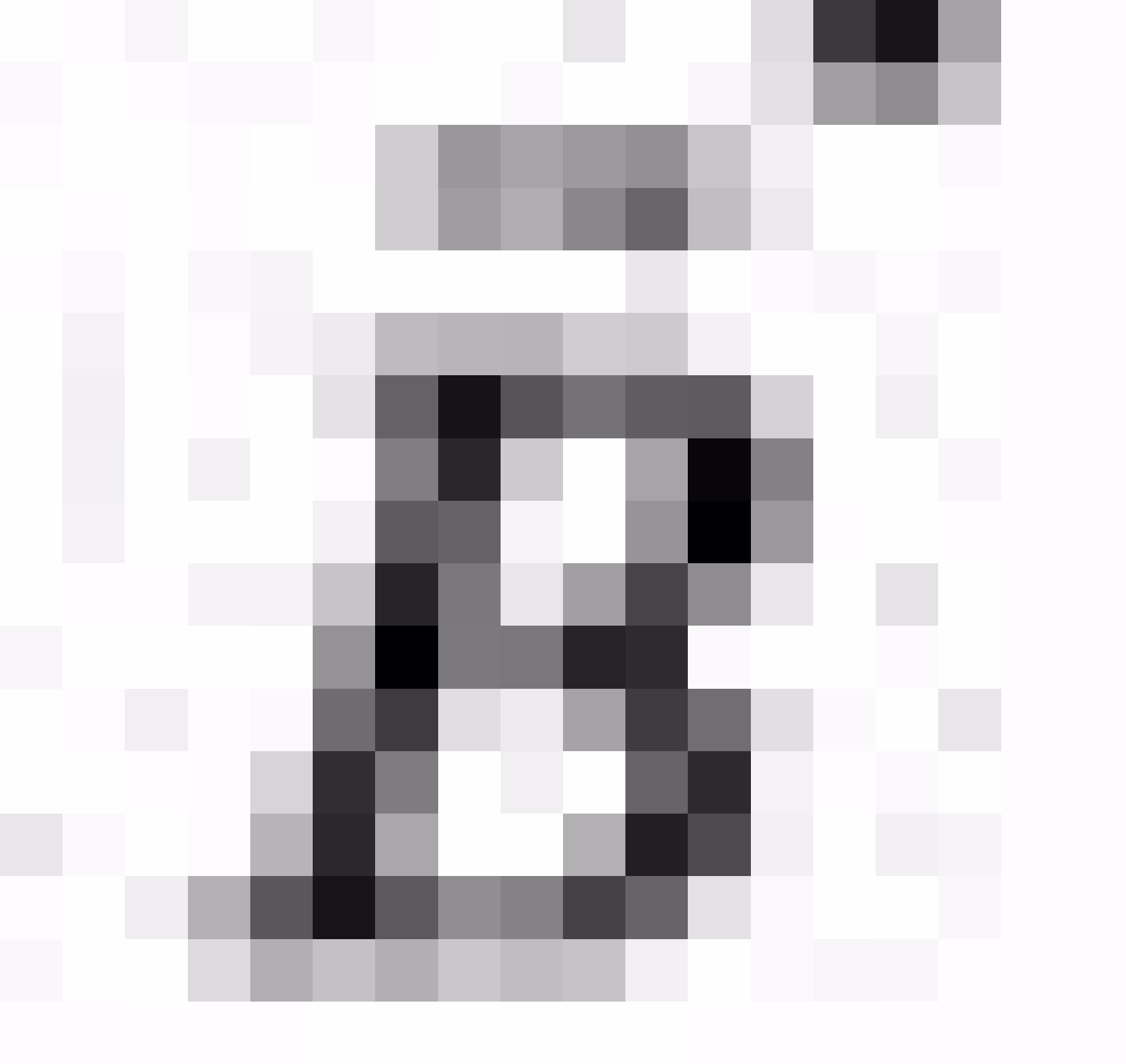


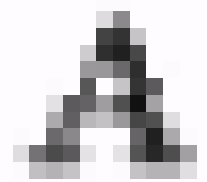
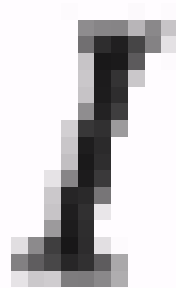
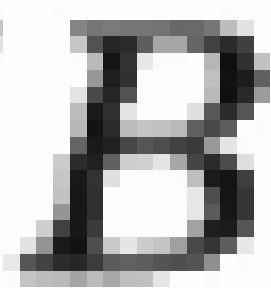
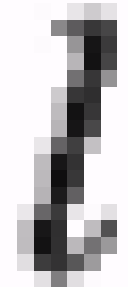
Мал. 2.150



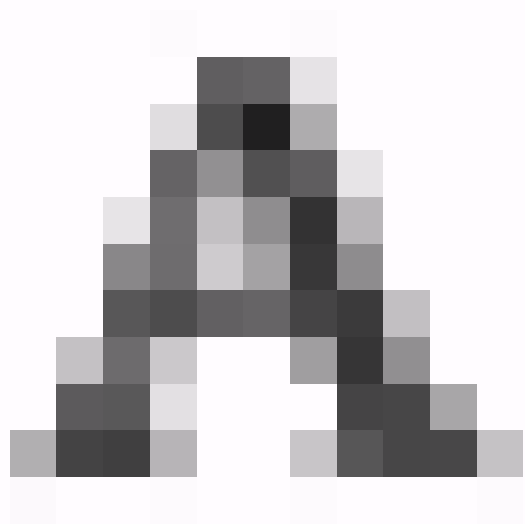
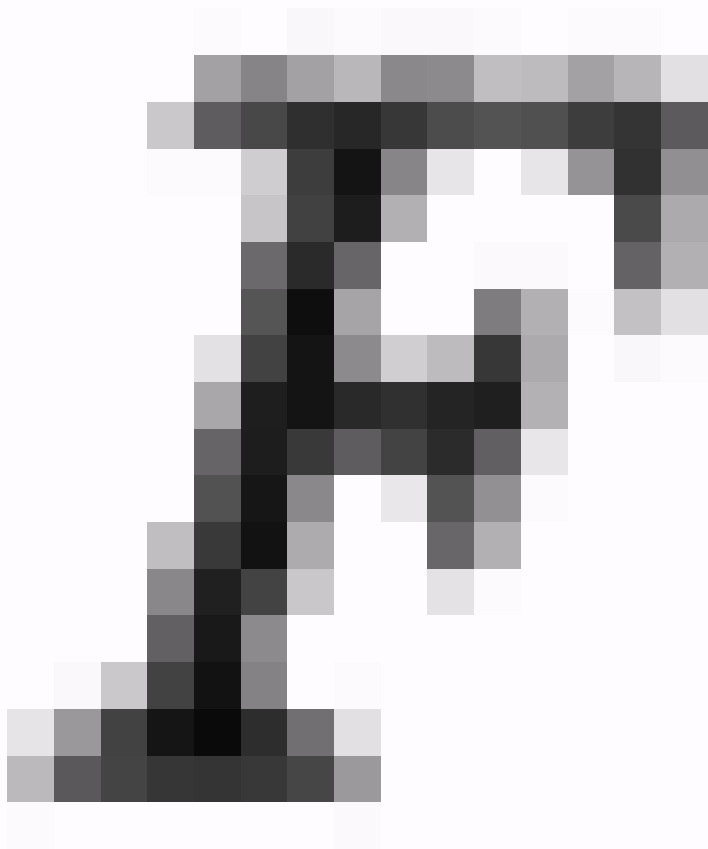


Мал. 2.154

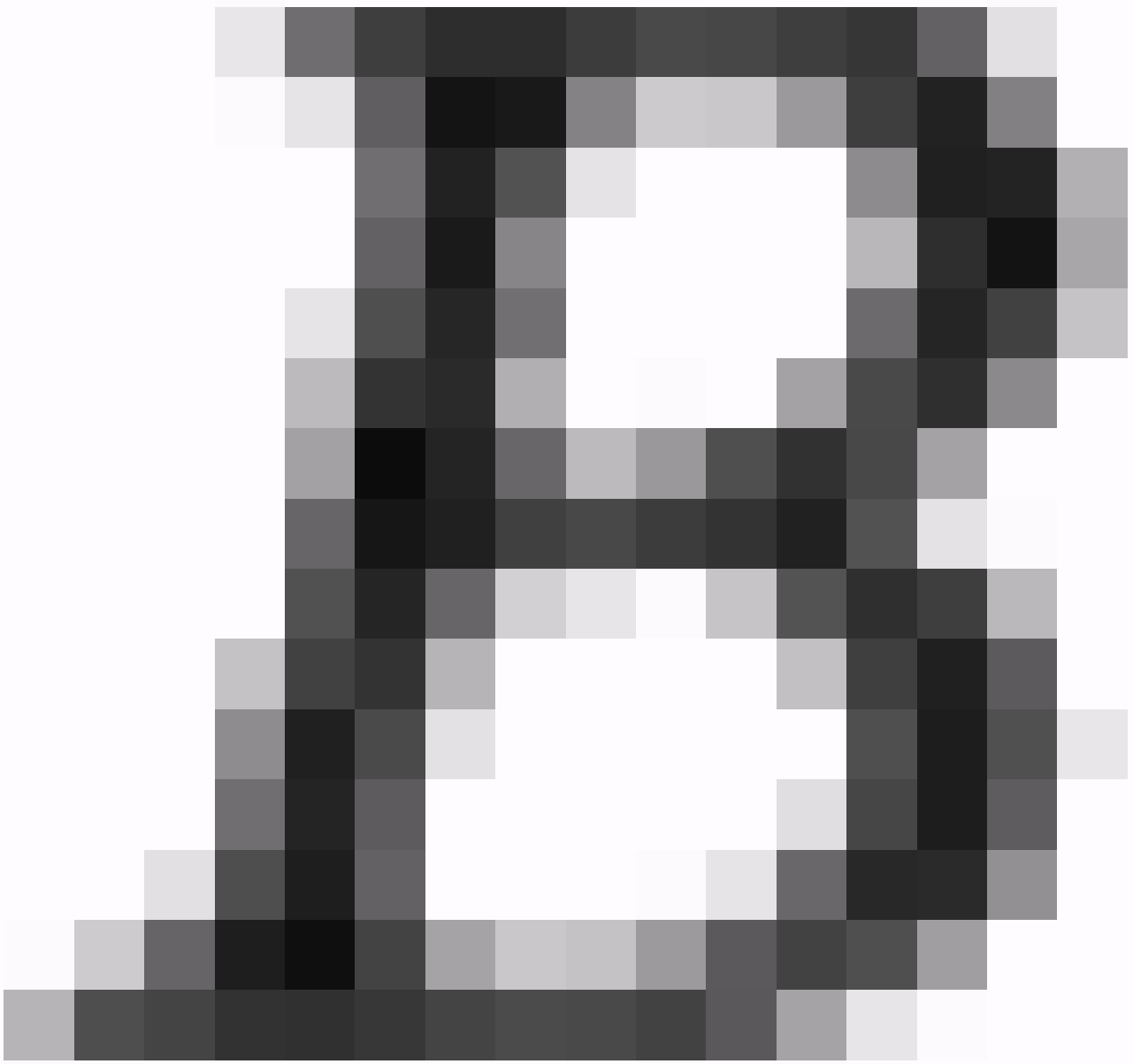


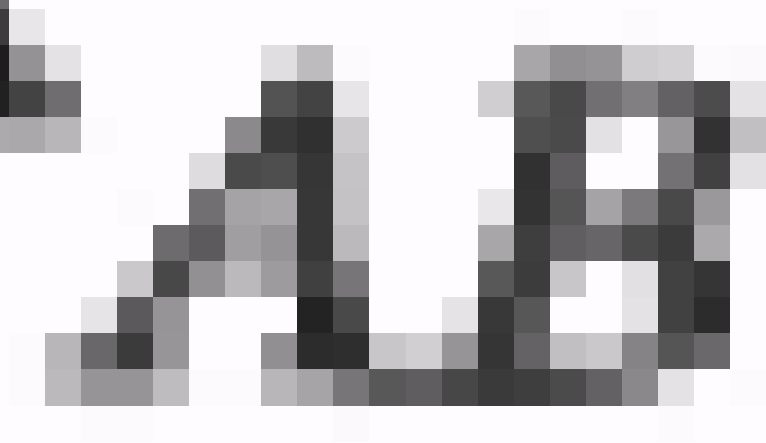
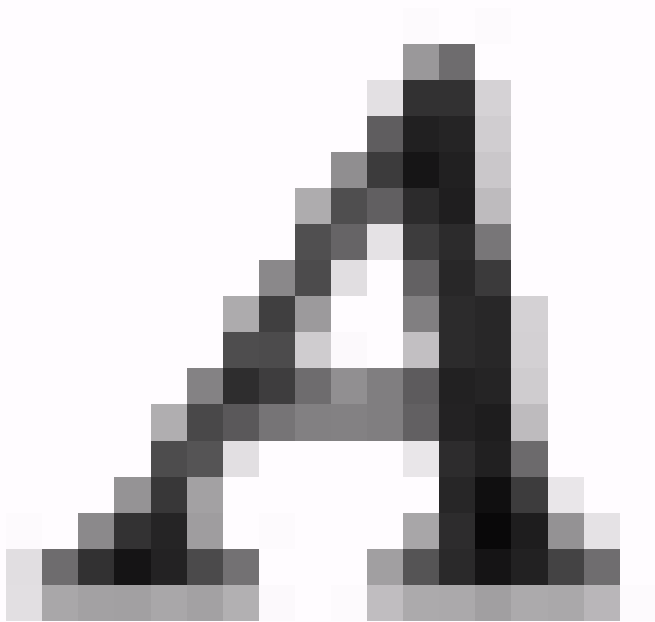
A pixelated, black and white representation of the uppercase letter 'F'. The letter has a thick vertical stem on the left and a horizontal top bar that extends to the right. The right side of the top bar is slightly jagged.A pixelated, black and white representation of the lowercase letter 'a'. It features a vertical stem on the right and a curved bowl on the left that meets the stem at the bottom. The letter is centered vertically relative to the 'F' above it.A pixelated, black and white representation of an equals sign. It consists of two parallel horizontal bars of equal length, one above the other, with a small gap between them.A pixelated, black and white representation of the uppercase letter 'I'. It is a simple vertical bar with a slightly wider base and top, and a small hook at the top right corner.A pixelated, black and white representation of the uppercase letter 'B'. It has a vertical stem on the left and two rounded bowls on the right, one above the other. The letter is centered vertically relative to the 'I' above it.A pixelated, black and white representation of the lowercase letter 'l'. It is a simple vertical bar with a slightly wider base and top, and a small hook at the top right corner. It is centered vertically relative to the 'B' above it.A pixelated, black and white representation of a period (dot). It is a small, solid black square centered vertically relative to the 'l' above it.

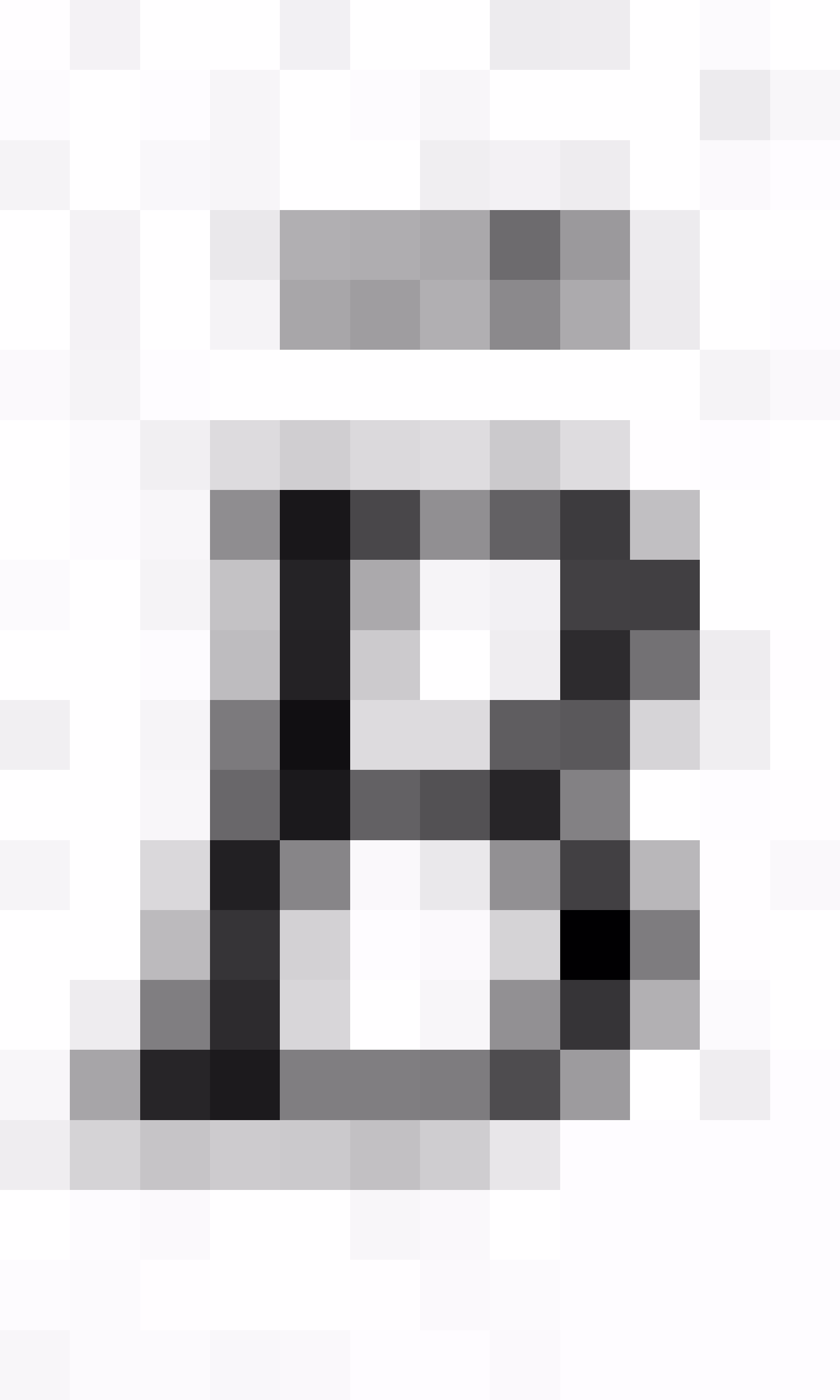


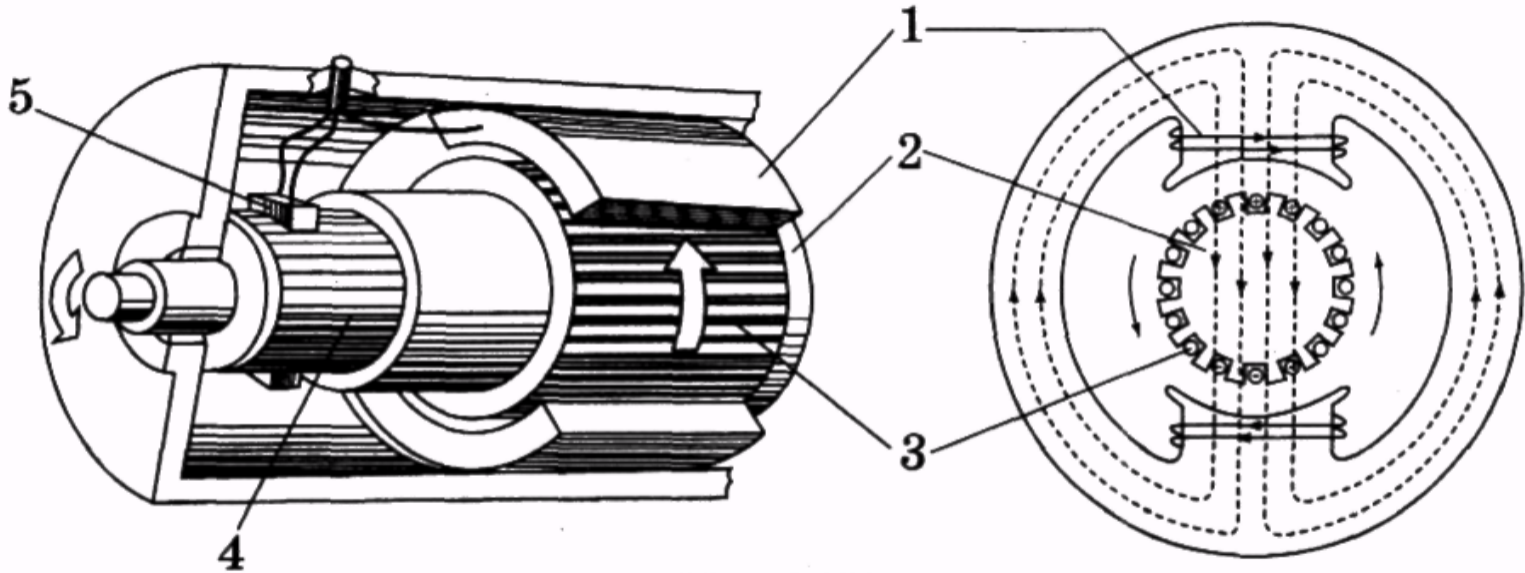






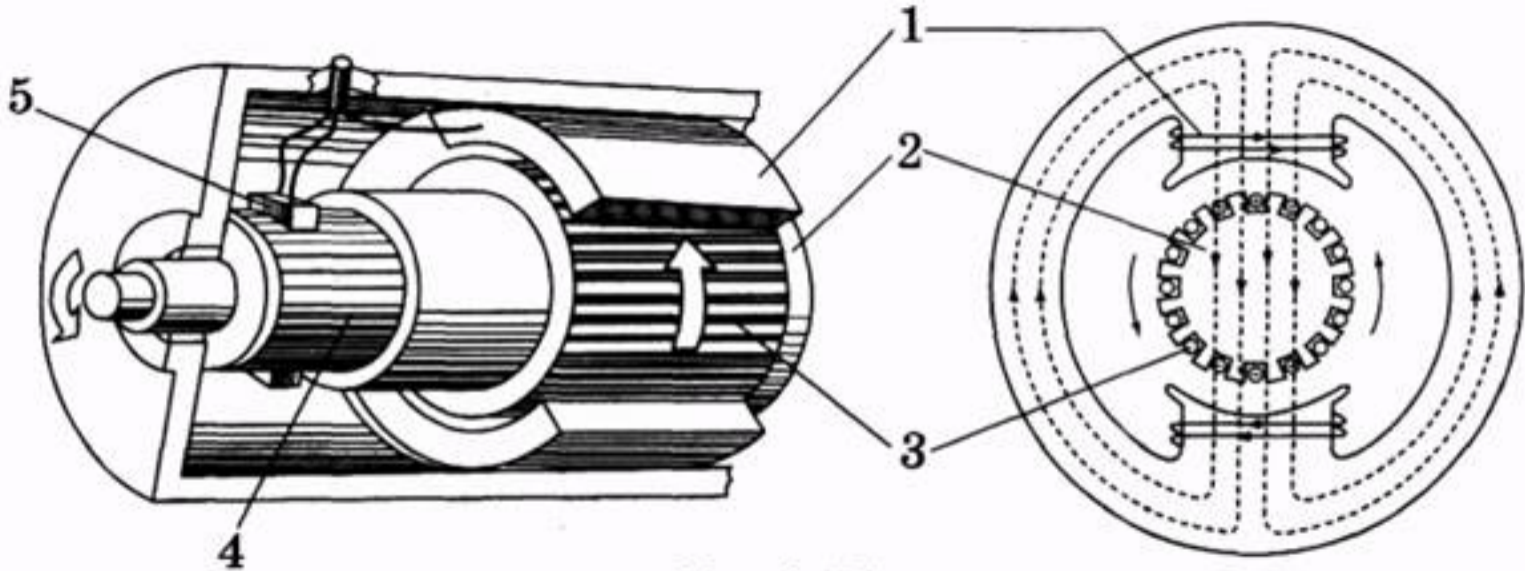




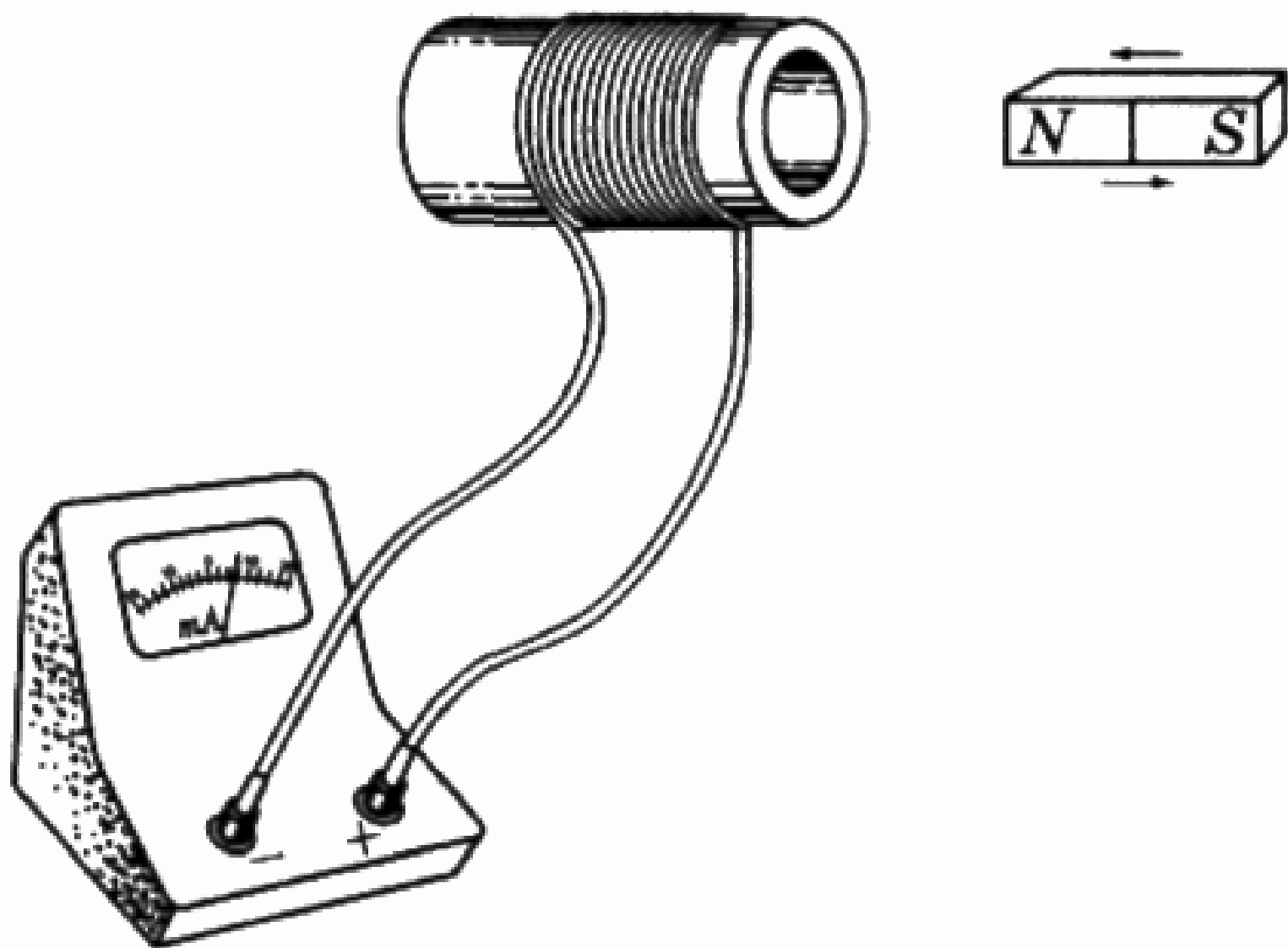


Мал. 2.151

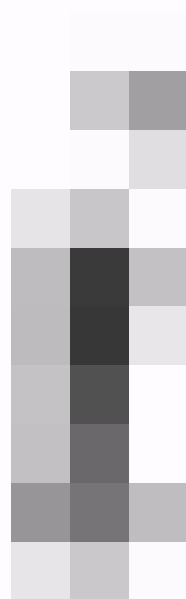
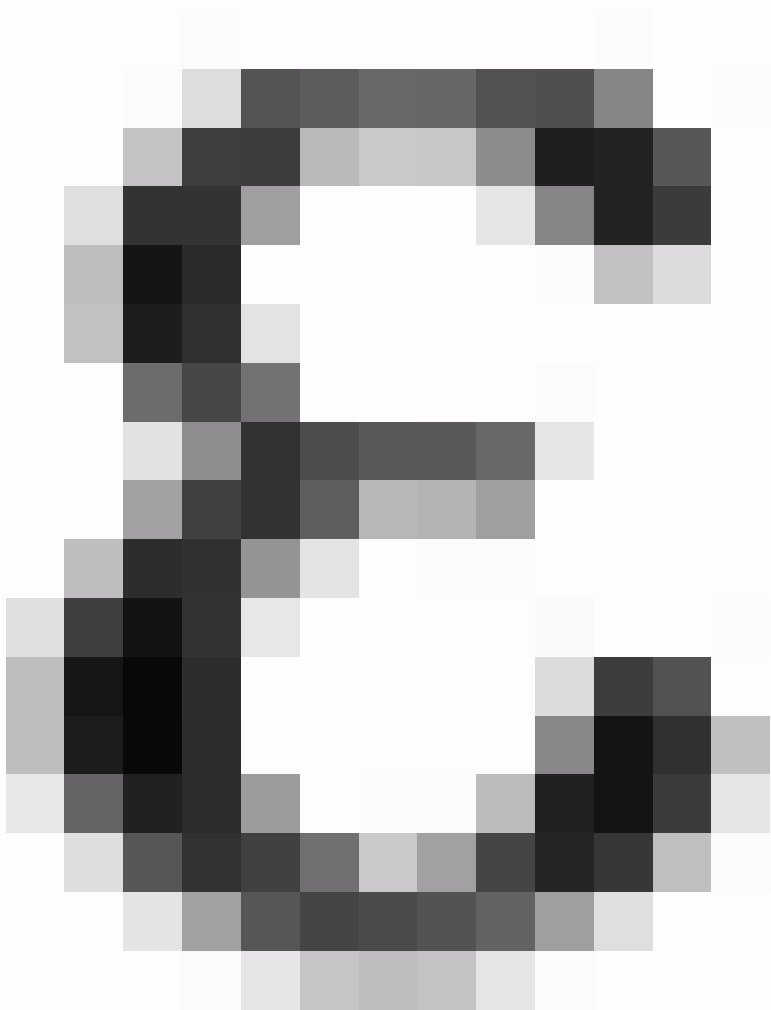
$$A = AB \quad = \quad eVB1 \quad = \quad (40.9)$$

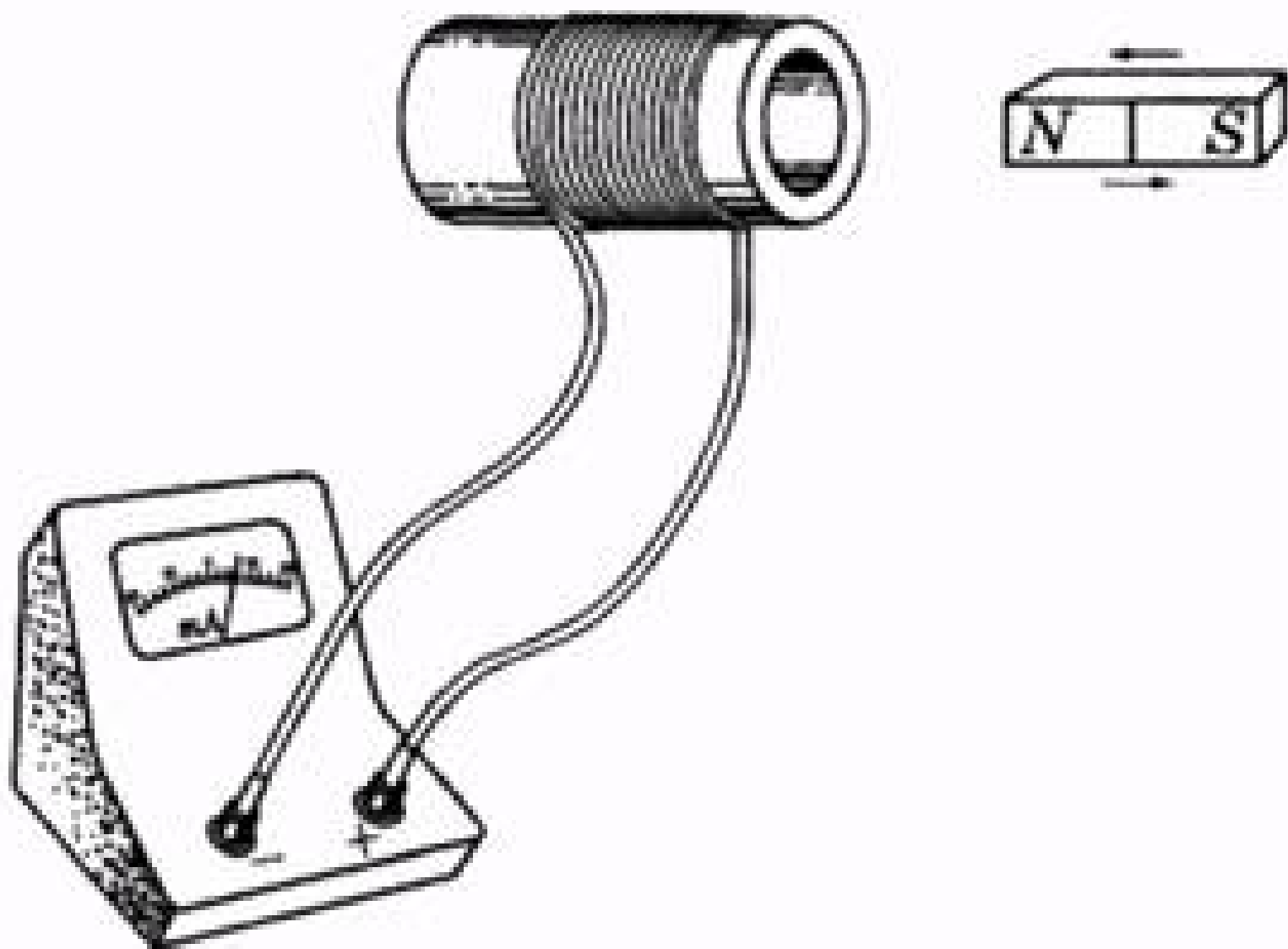


Мал. 2.151



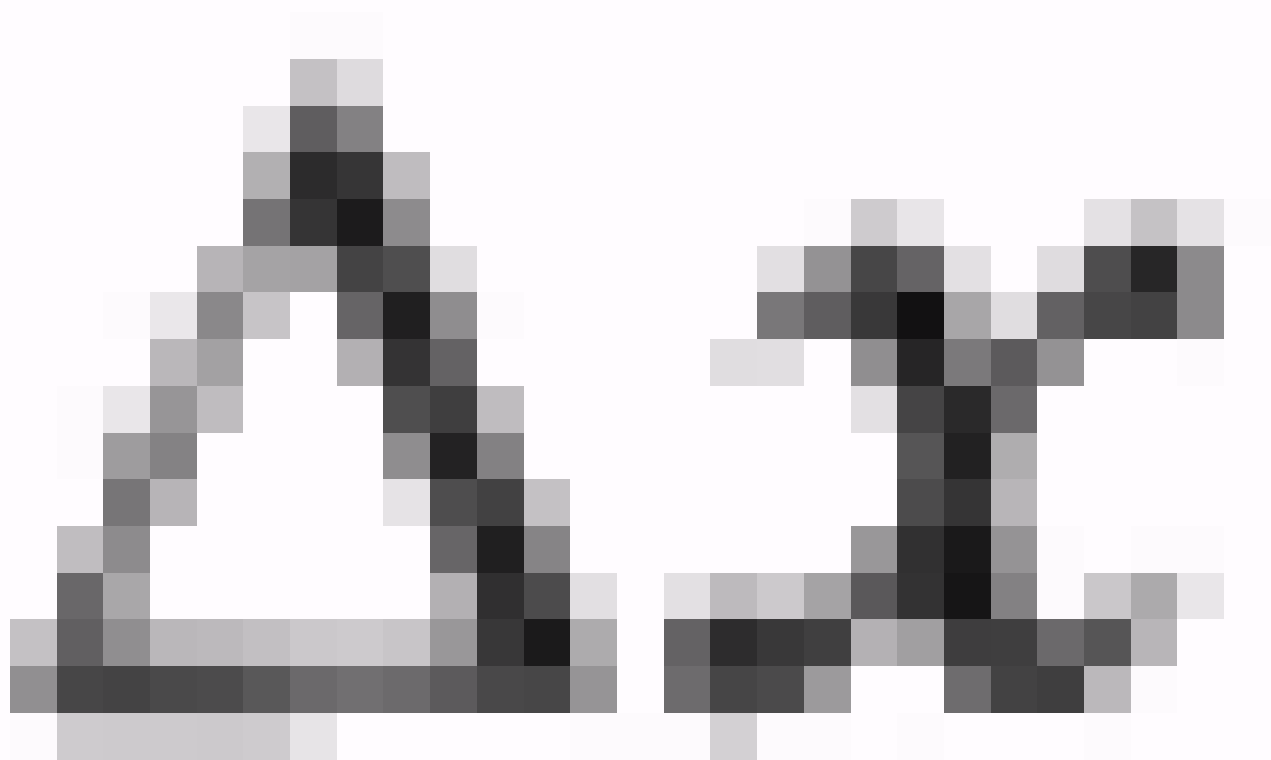
Мал. 2.152

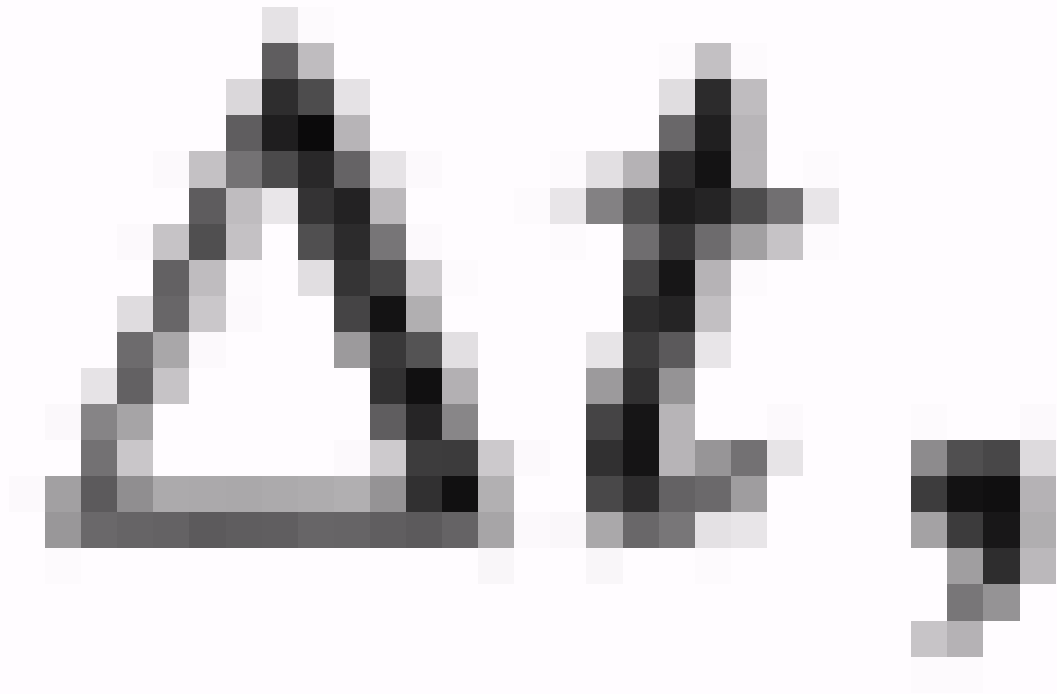


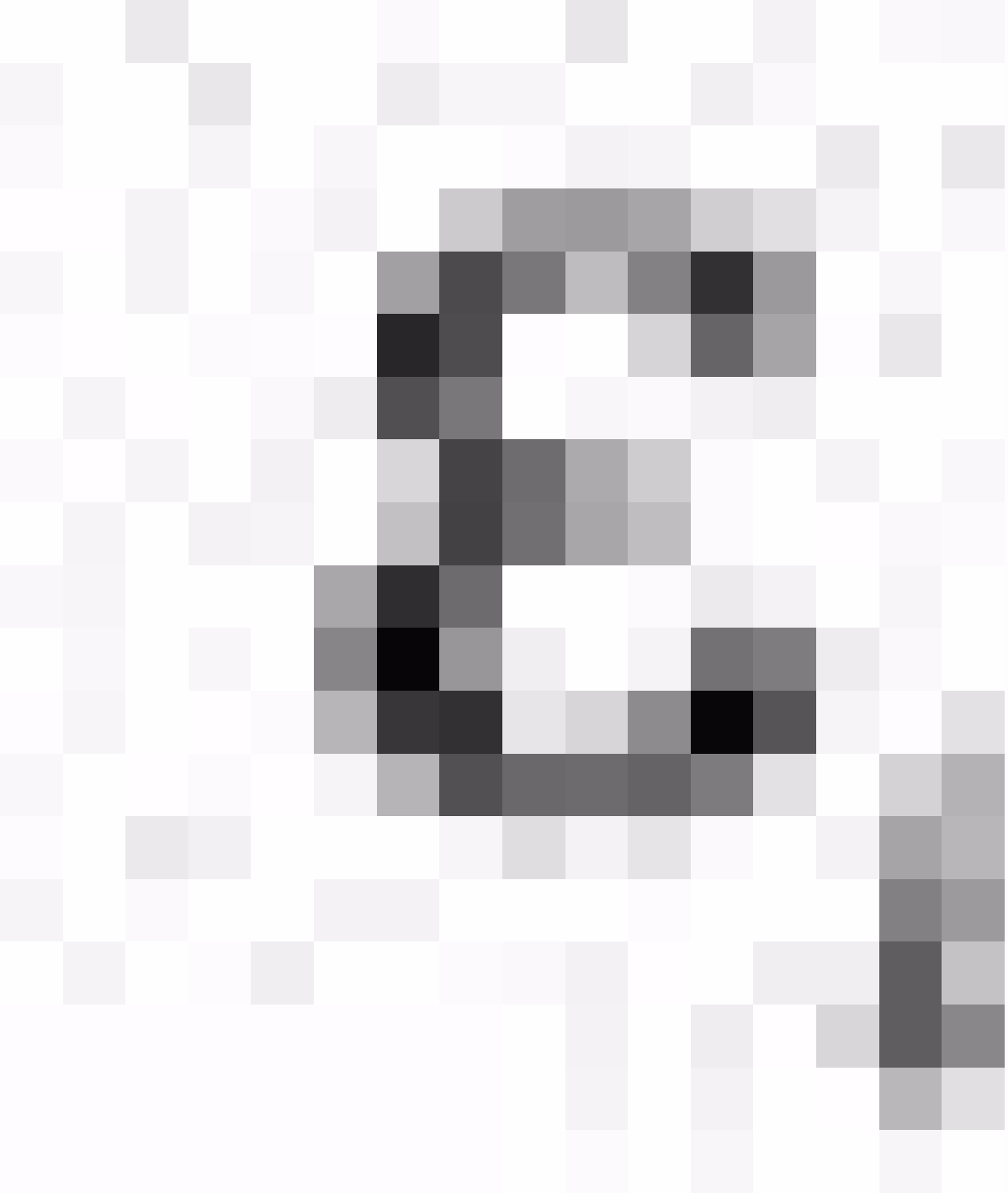


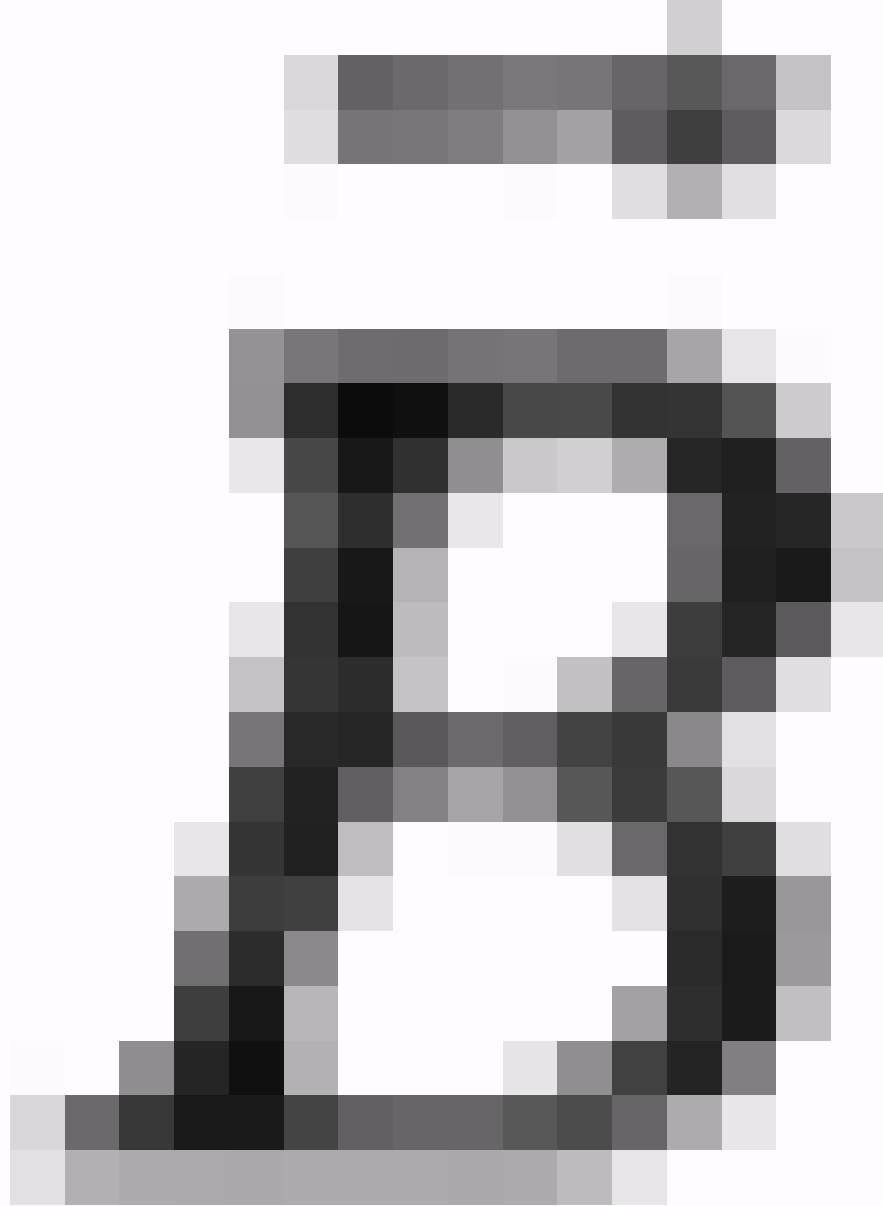
Мал. 2.152

$$E_1 = \frac{A}{e} = vBl \quad (40.4)$$



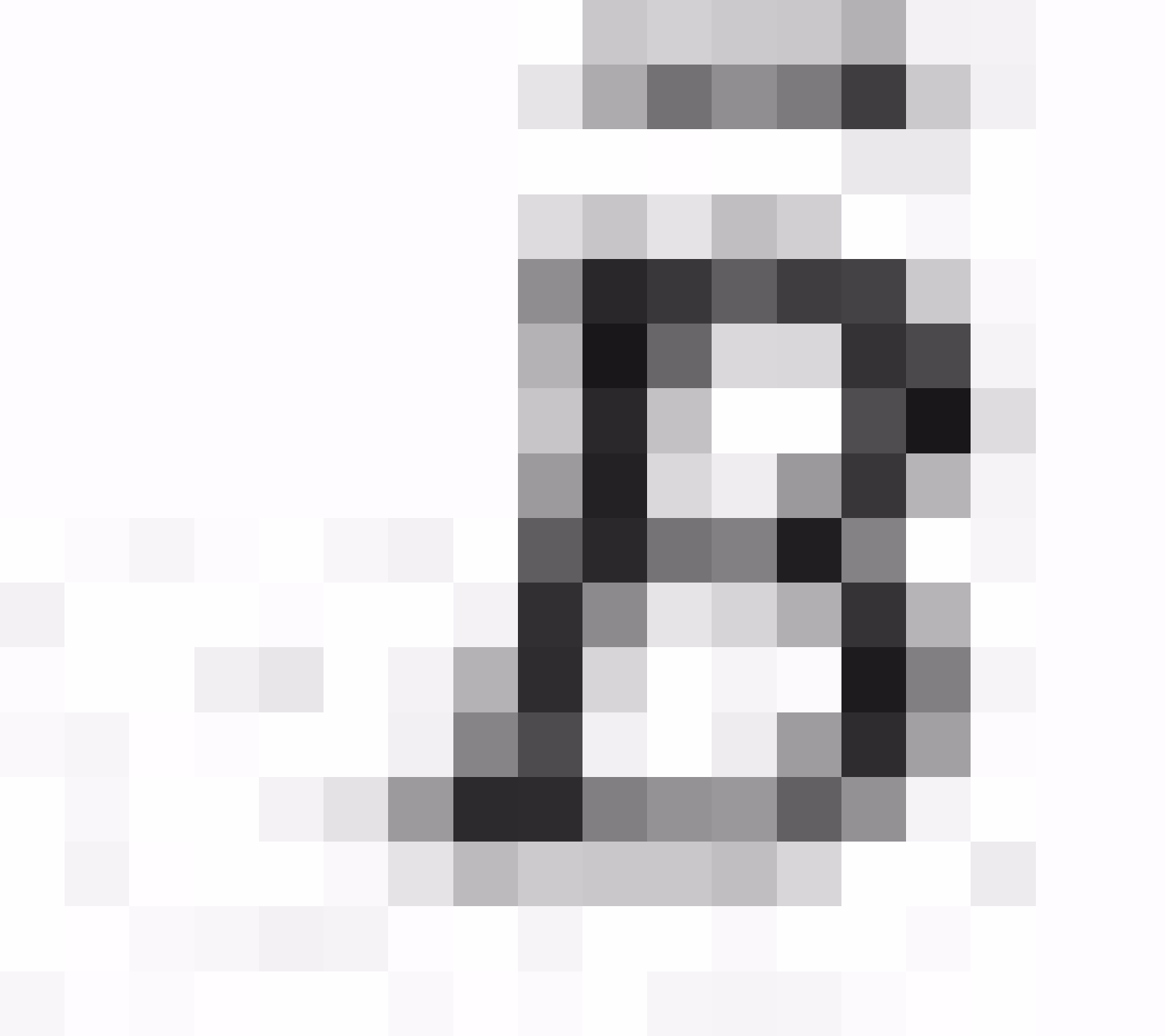


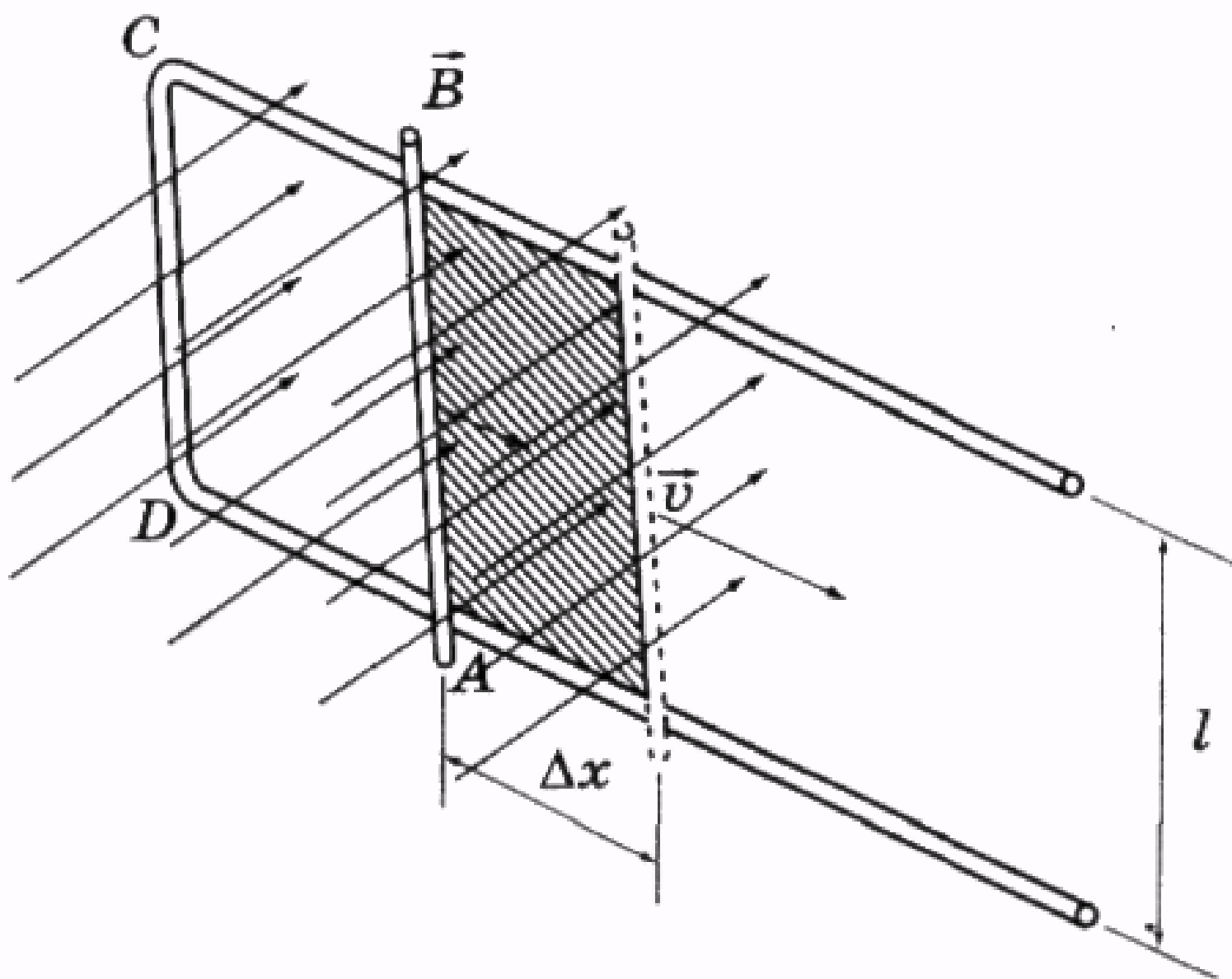




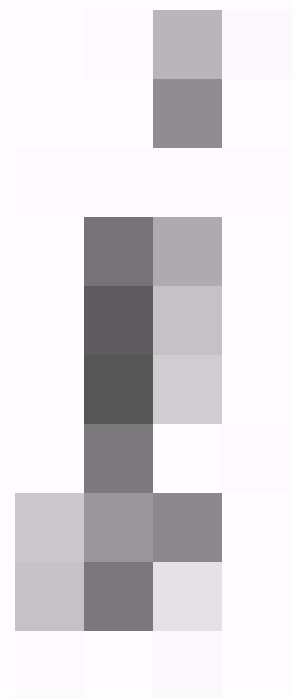
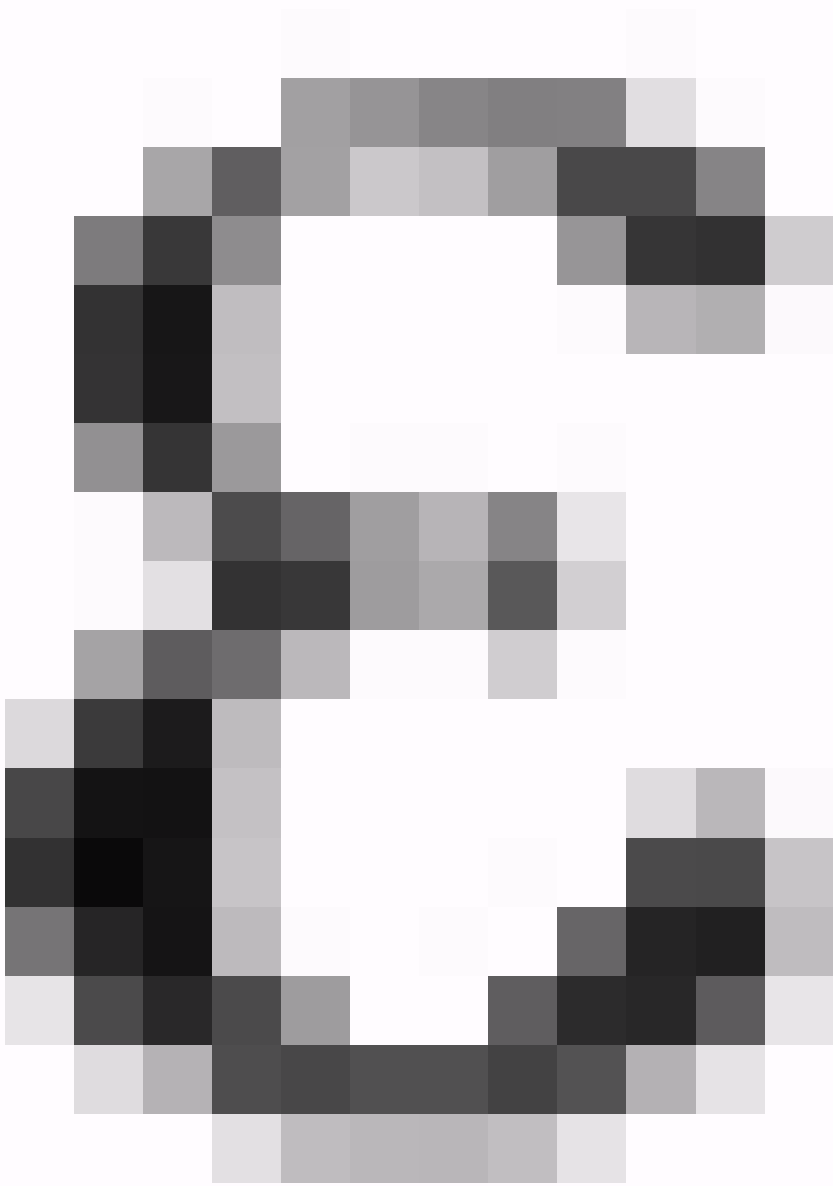
$$v \equiv \frac{\Delta x}{\Delta t}$$

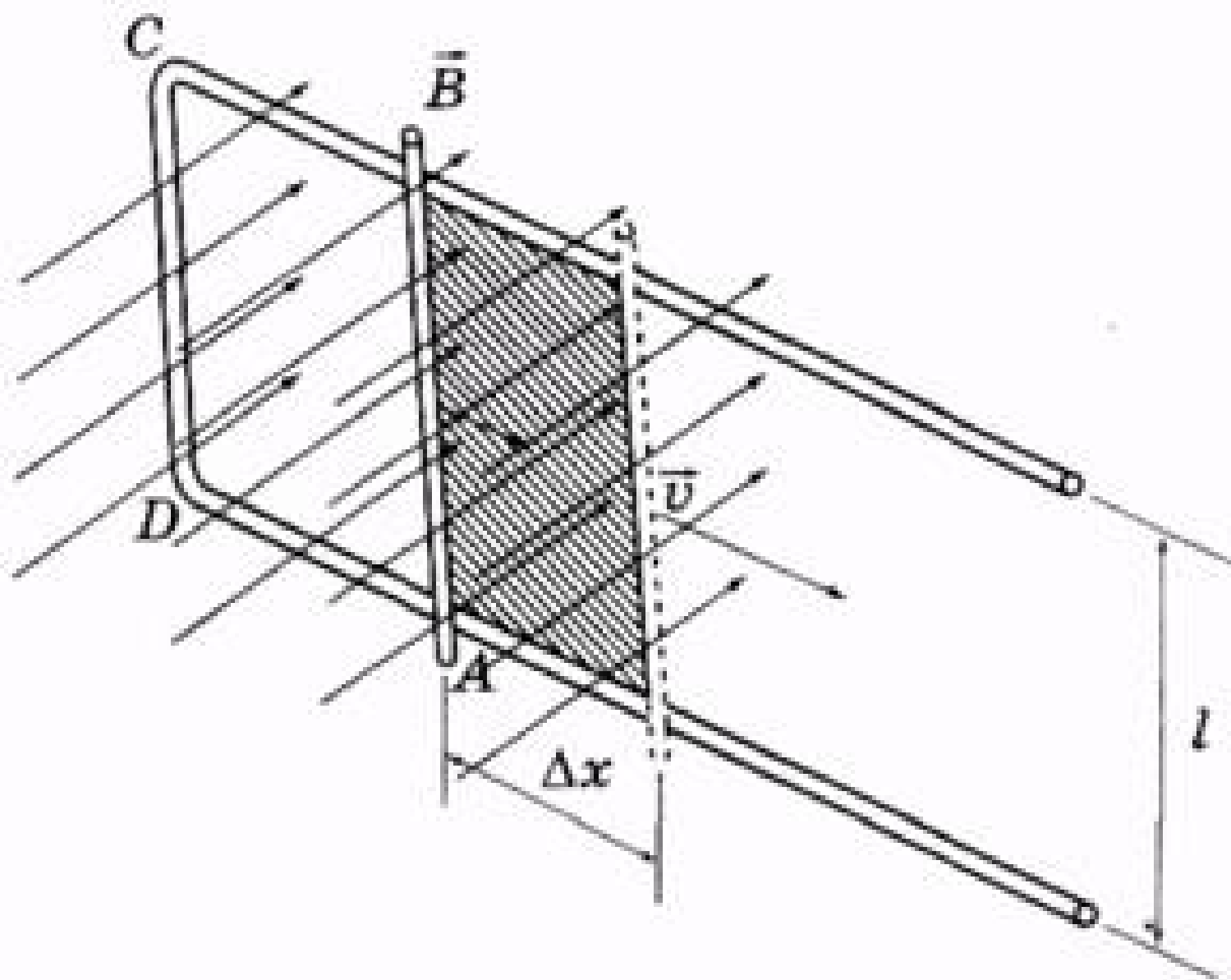
(46.5)





Мал. 2.154





Мал. 2.154

11

=

evB

11

$$\epsilon_t = v_t B_t = \frac{B_t \Delta x_t}{\Delta t} = \frac{B_t \Delta S}{\Delta t} \quad (46.6)$$

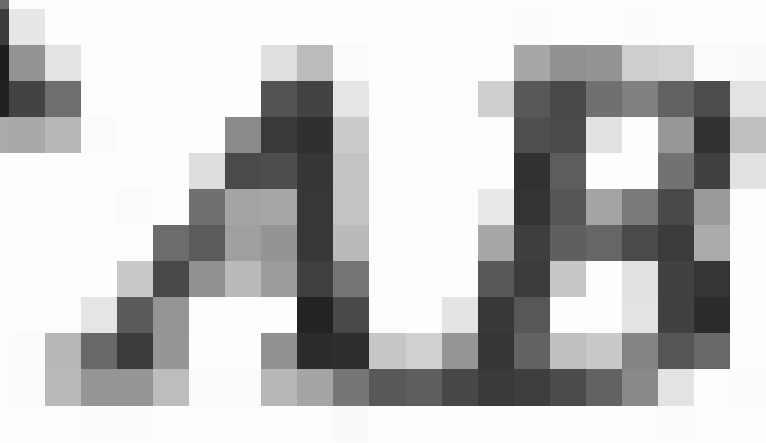
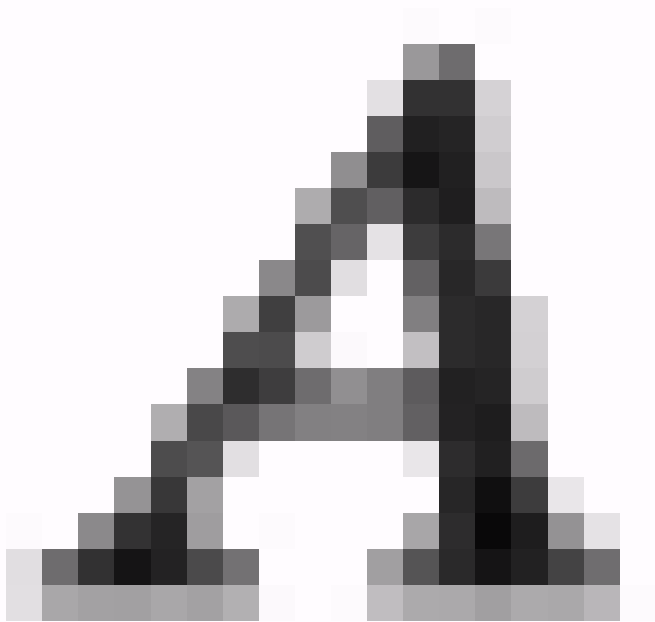


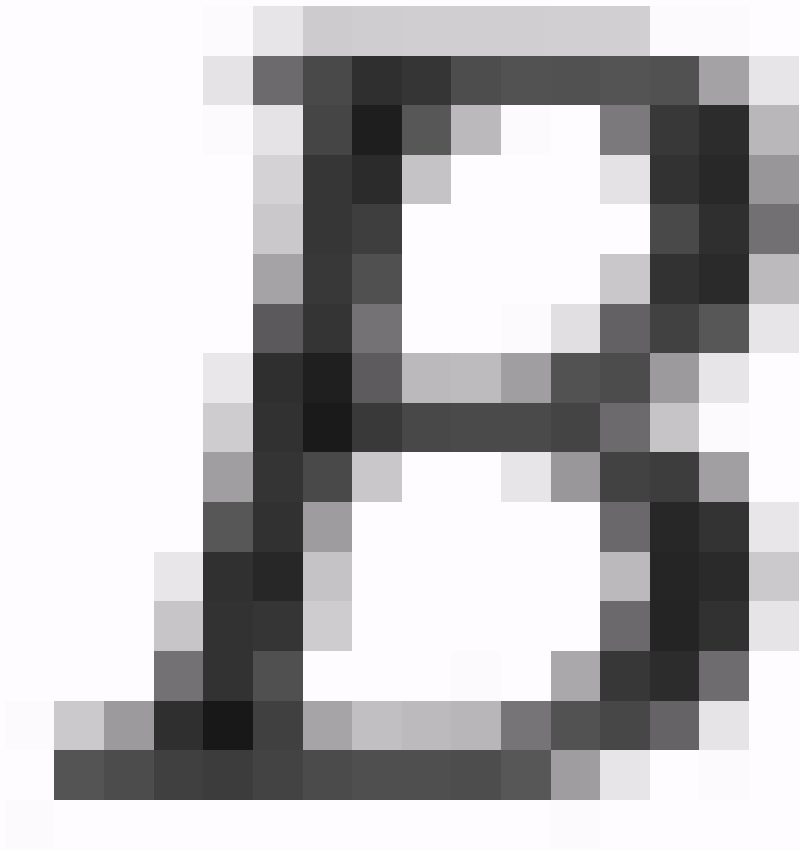
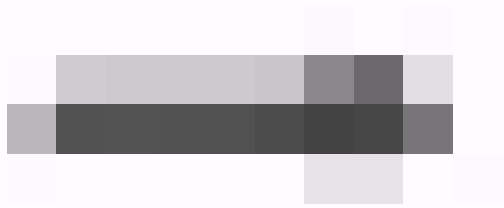
$$A_{AB} = P_{AB} = e^{v_{AB}} \quad (46.2)$$



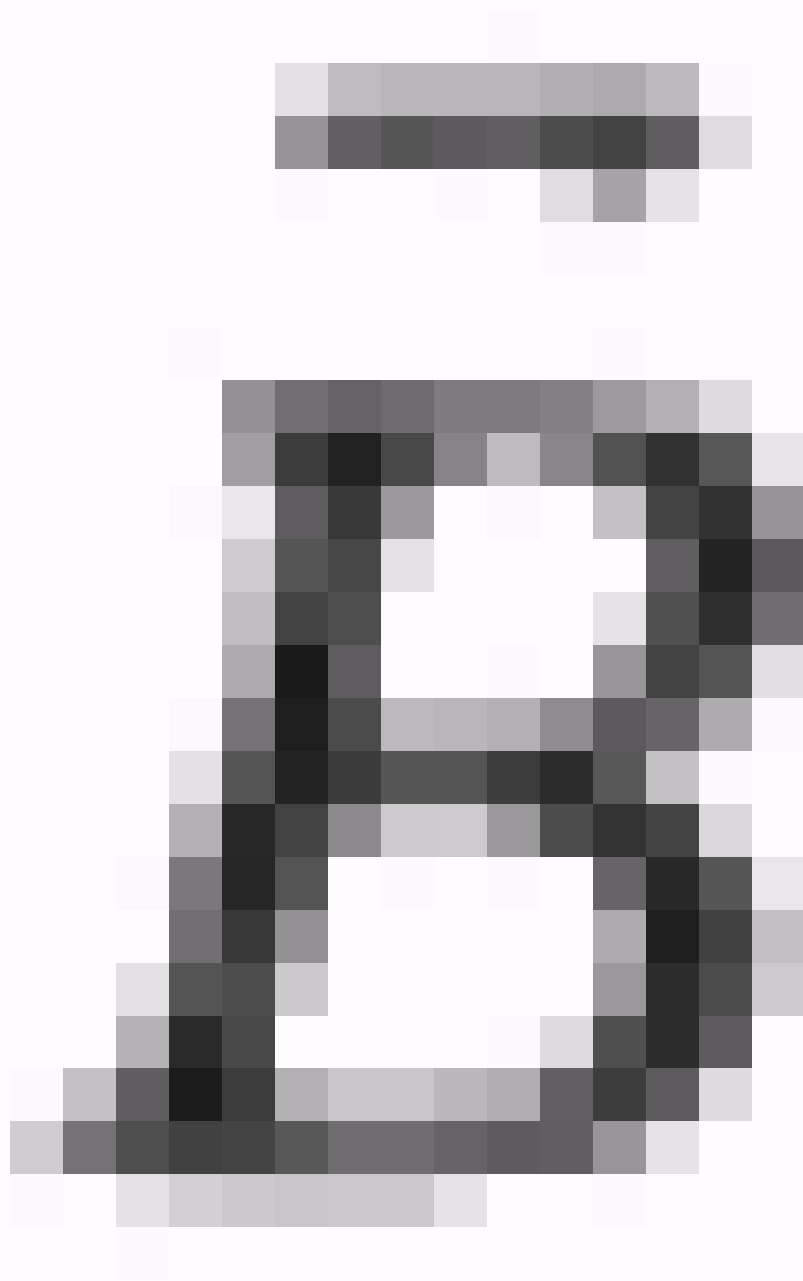
1947-1948

1949-1950







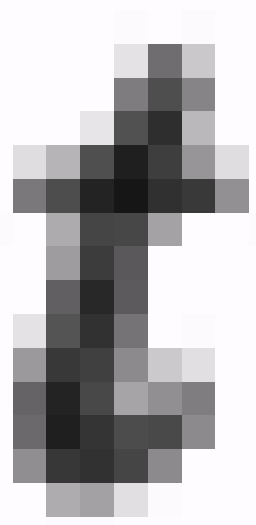
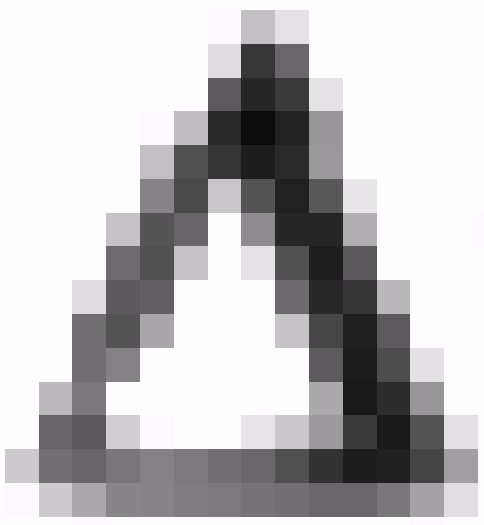
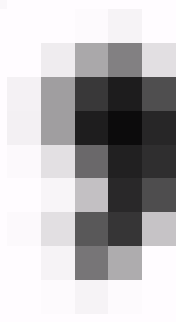
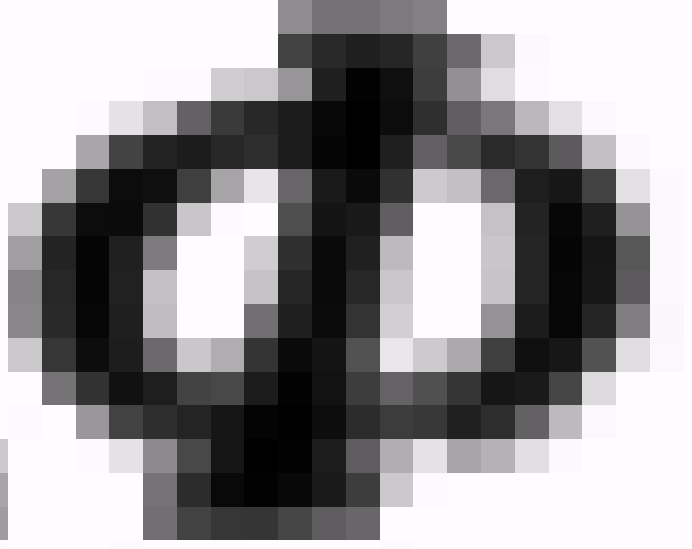
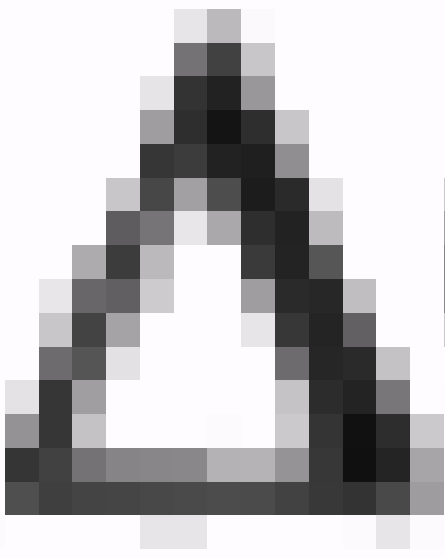


$$\Phi = BS \quad (46.7),$$

$$1B6 = 1\pi \cdot 1M^2.$$

$$|\epsilon_i| = \frac{|BAS|}{\Delta t} = \left| \frac{\Delta \Phi}{\Delta t} \right| \quad (46.8).$$

$$\varepsilon_i = \frac{\Delta \Phi}{\Delta t} \quad (46.9)$$



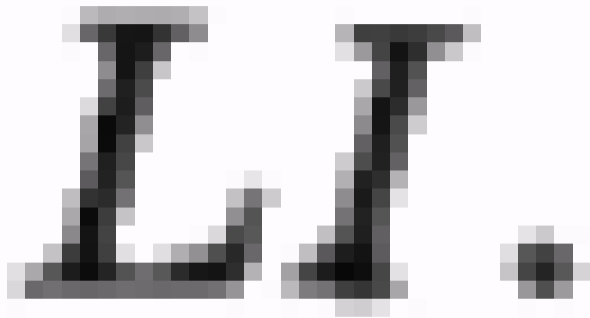
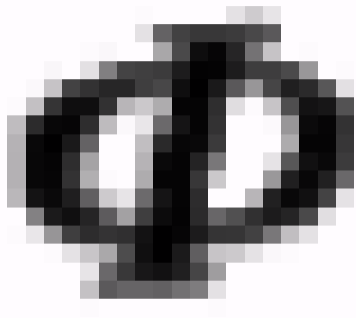
$$E_t = -n \frac{\Delta \Phi}{\Delta t}$$

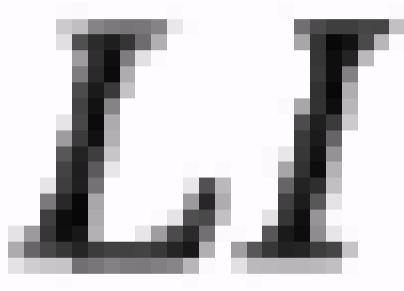
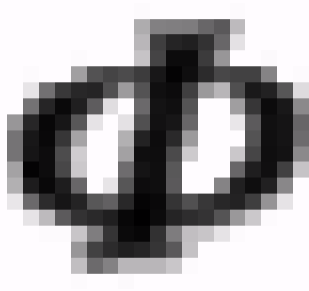
(46.10)



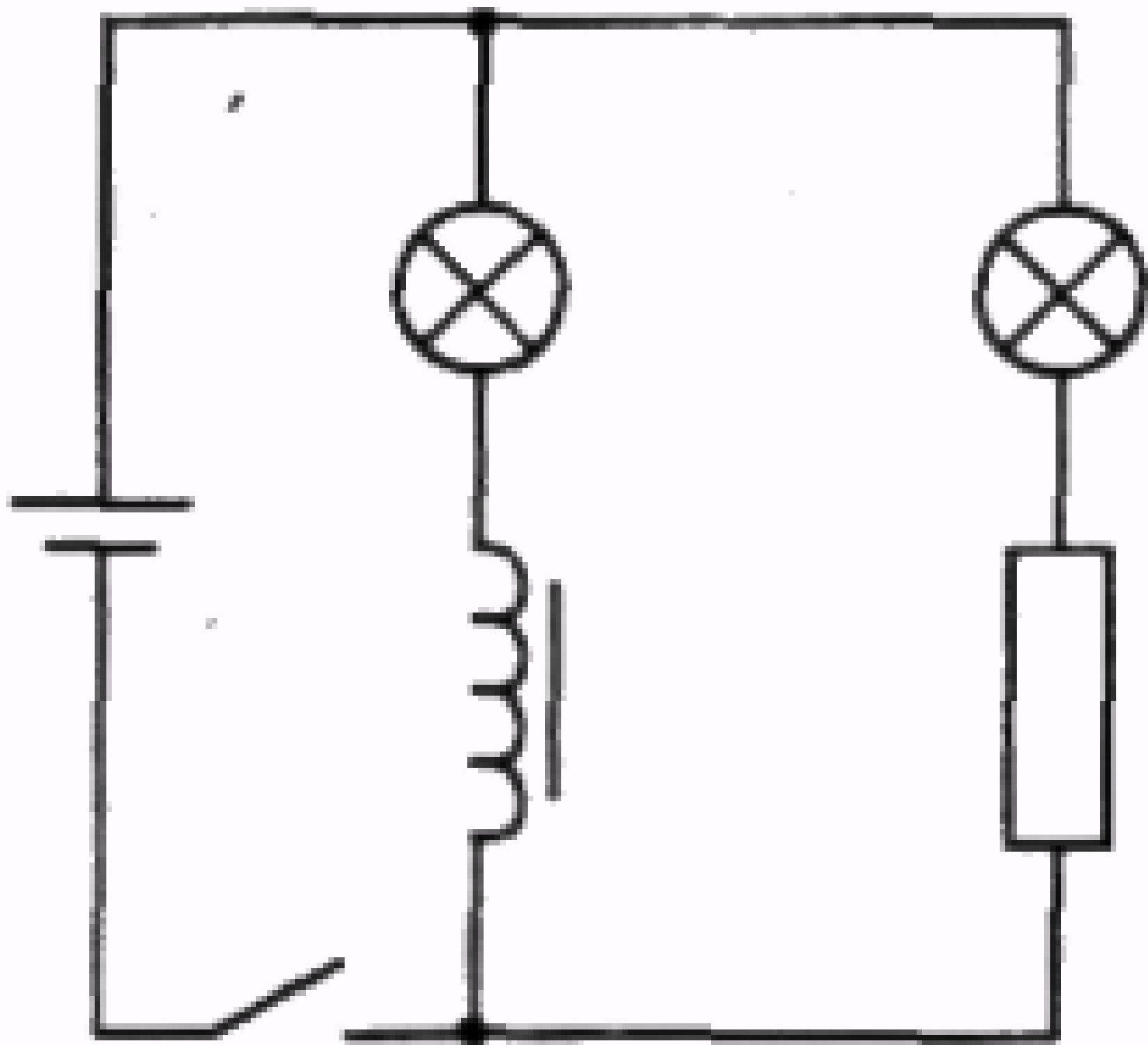
$\mathbb{L} = \frac{\Phi}{I}$

$\mathbb{I} \mathbb{H} = \frac{1 \text{ B6}}{1 \text{ A}}$

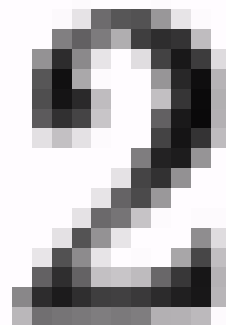
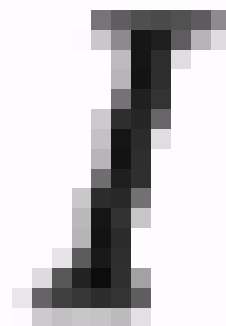
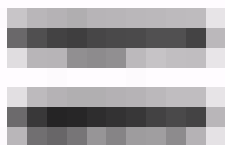
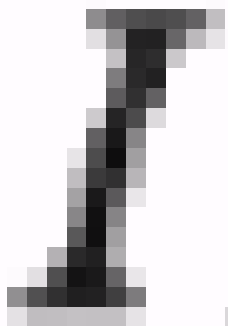




$$\mathcal{E}_W = - \frac{\Delta \Phi}{\Delta t} = - \mathcal{L} \frac{\Delta V}{\Delta t} \quad (47.2)$$

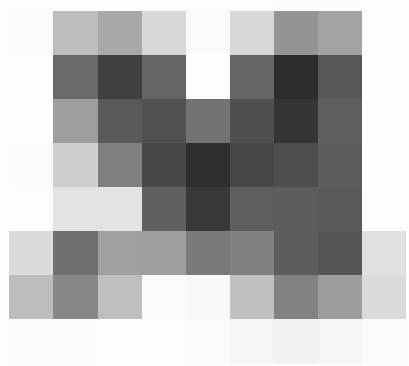
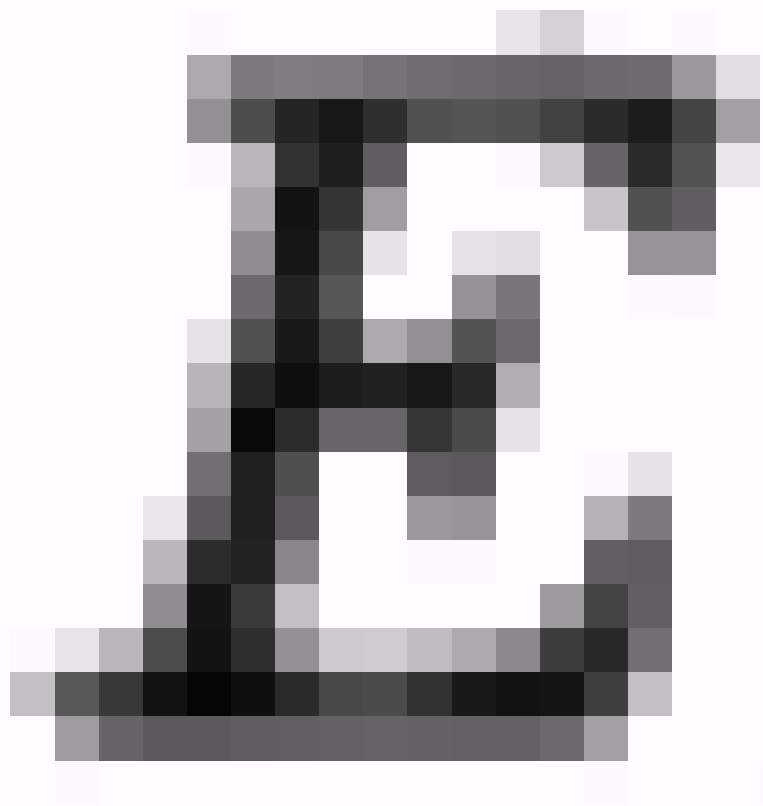


Мал. 2.155



$$Q = \frac{1}{c} \frac{d}{dt} \left(\frac{1}{2} \right) = \frac{1}{2c}$$

$$A = qE_w = \frac{I_t}{2} + \frac{I_{II}}{2} = \frac{I_{II}^2}{2}$$

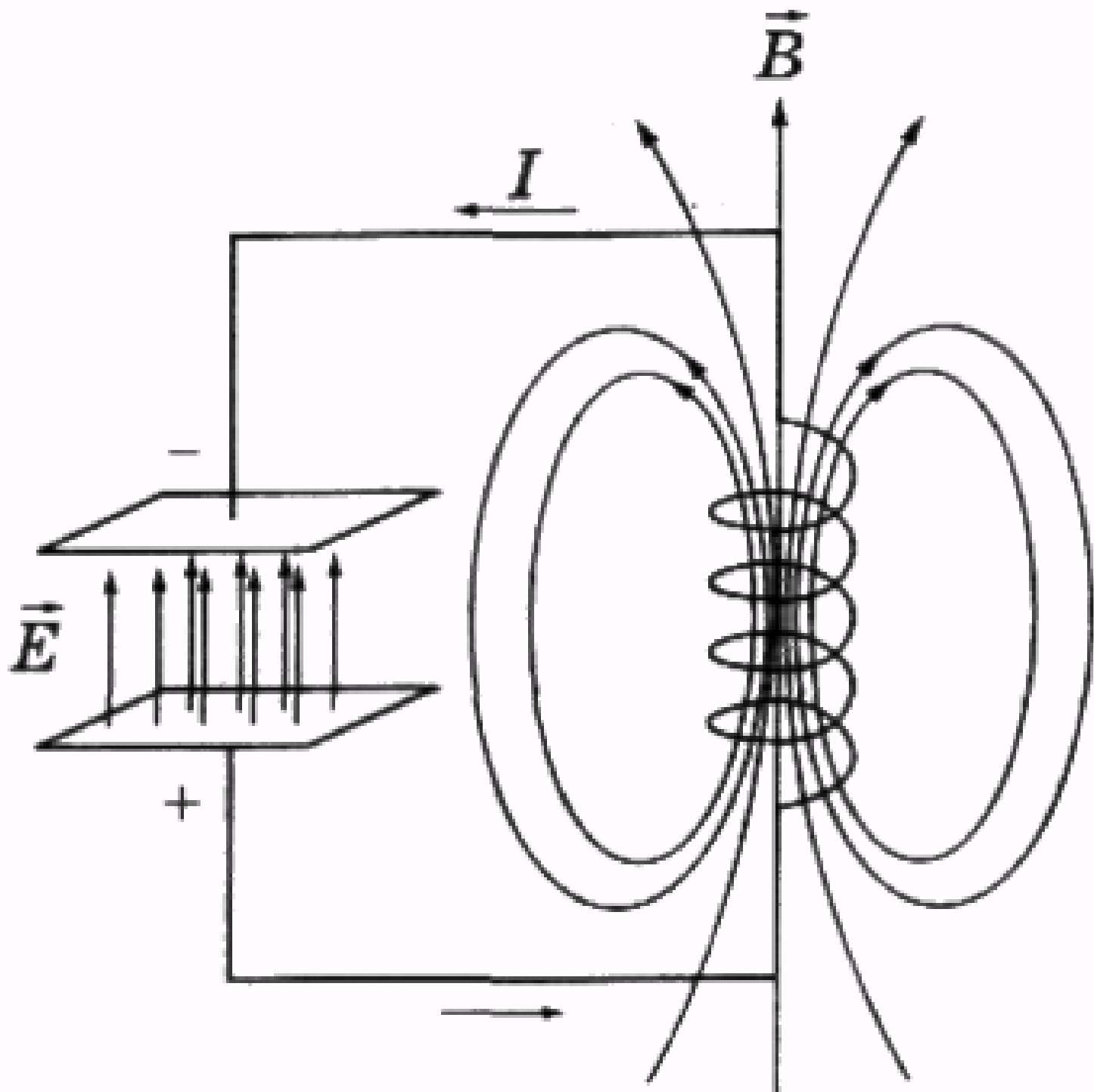


$$E_N = \frac{L_1^2}{2}$$

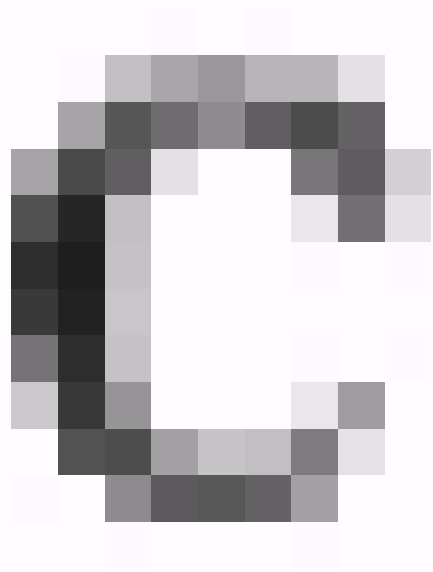
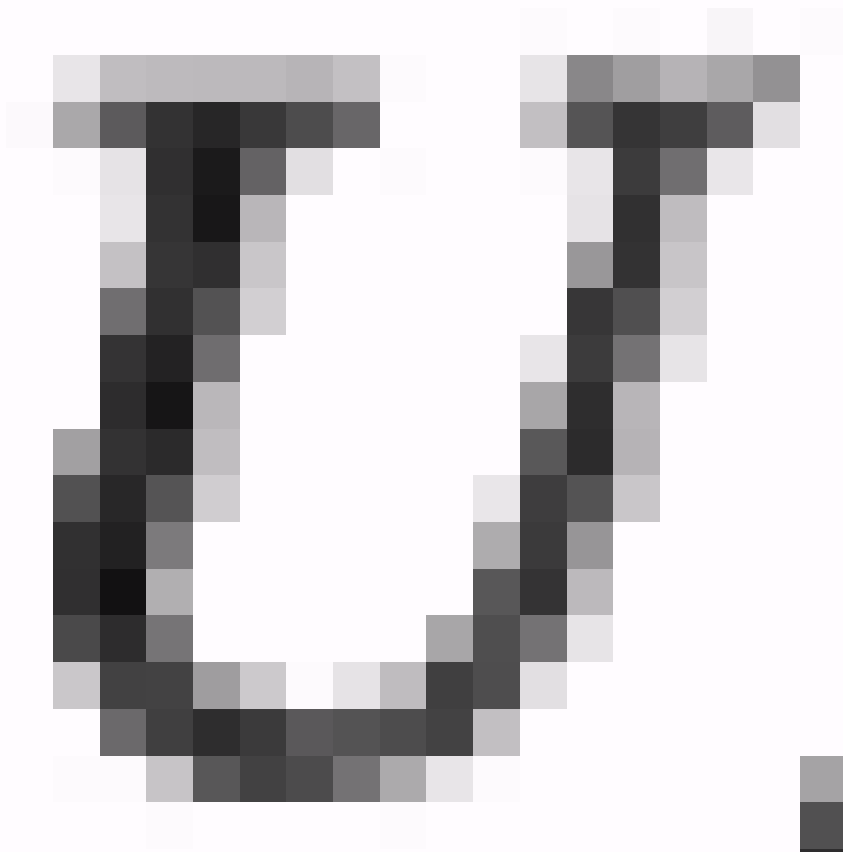
(47.3)

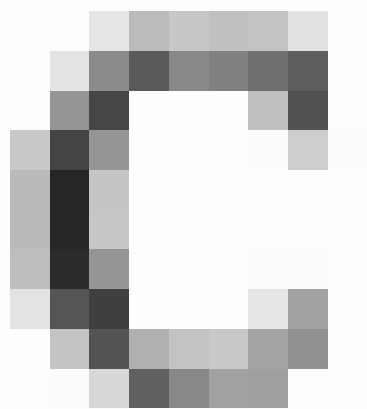
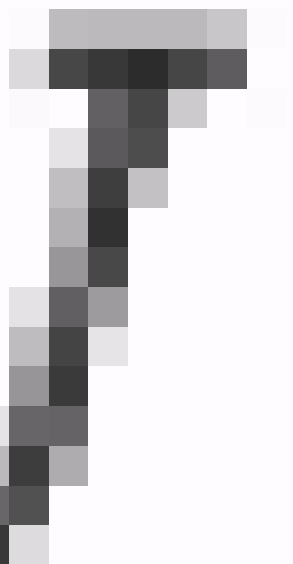
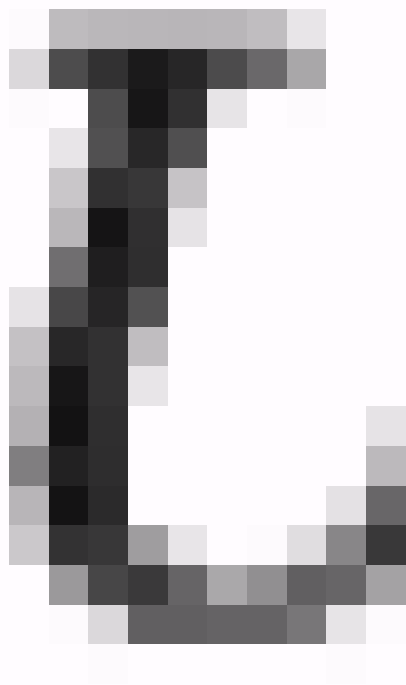


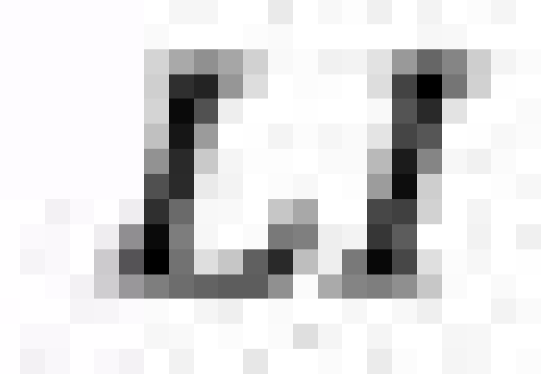
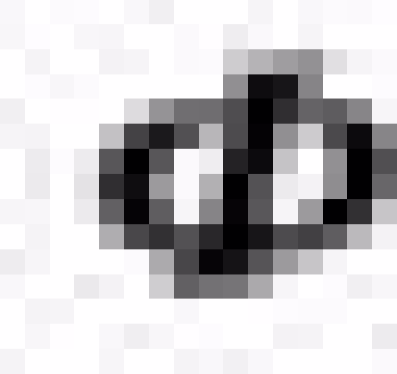
Мал. 2.156



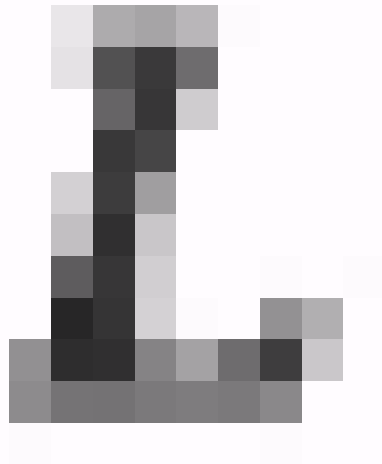
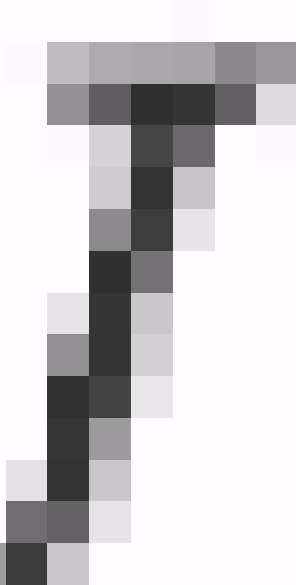
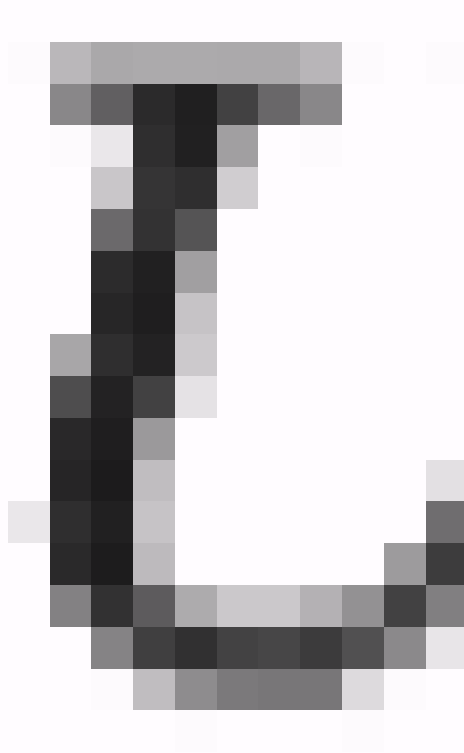
Мал. 2.157



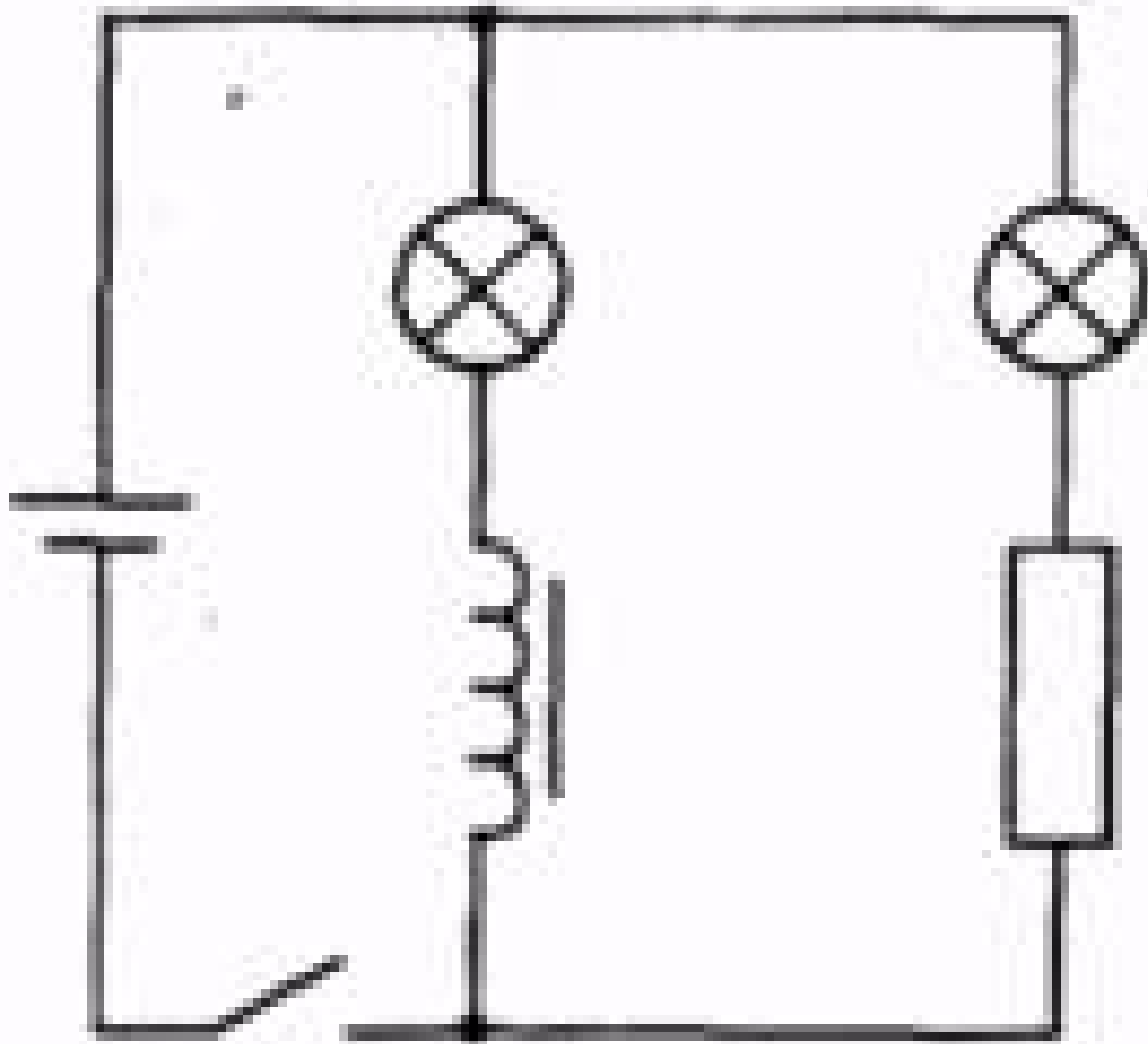




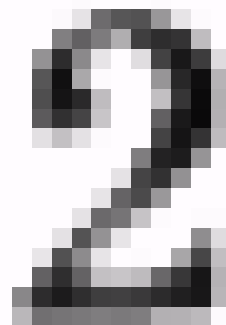
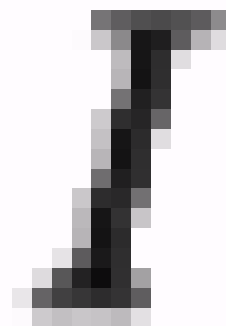
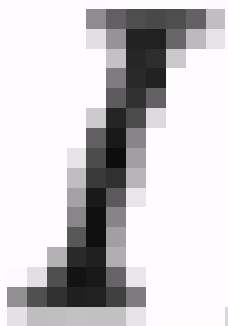
$$v_c = \frac{Q}{C} \quad (48.1)$$



$$U_L = -E_w, \quad U_L = \frac{\Delta i}{\Delta t} \quad (48.2)$$



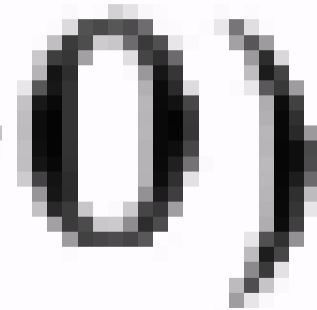
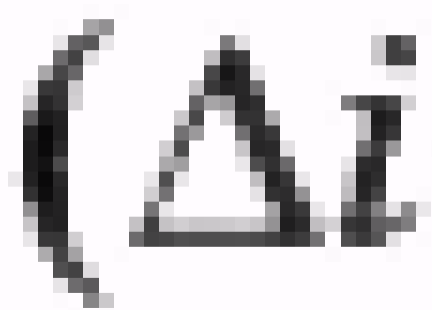
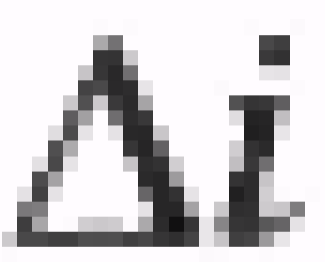
Мал. 2.155







$$Q = \frac{1}{c} \frac{d}{dt} = \frac{1}{c} \frac{d}{dt} \cdot \frac{1}{2} = \frac{1}{2c} \frac{d}{dt}$$



Q

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11

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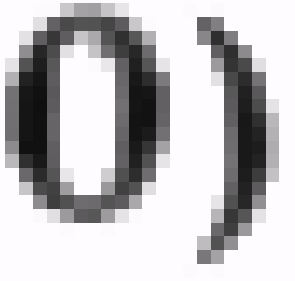
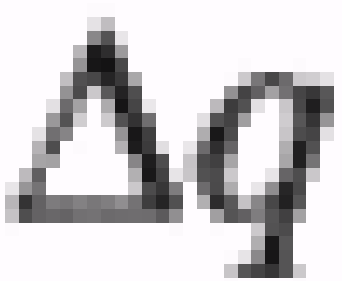
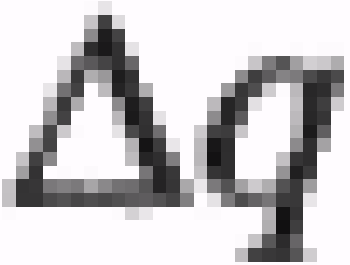
11

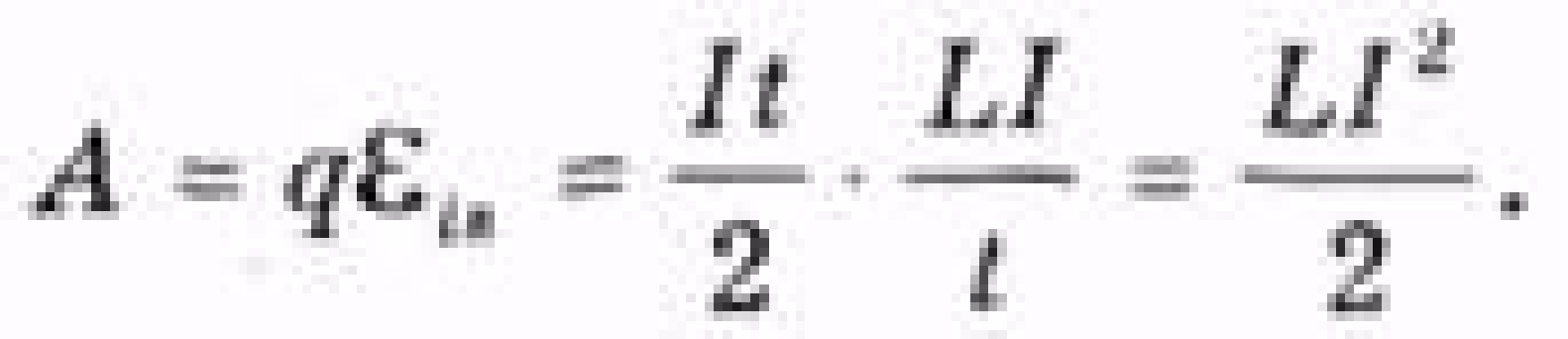
11

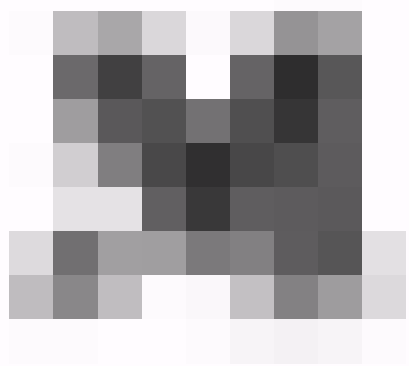
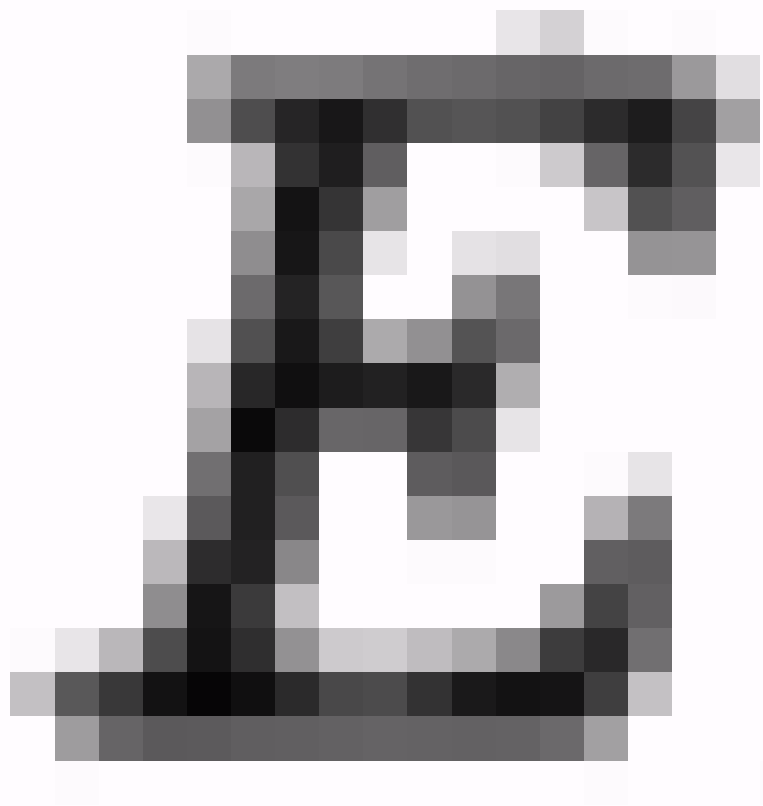
11

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$$A = qE_w = \frac{I_t}{2} + \frac{LI}{2} = \frac{LI^2}{2}$$







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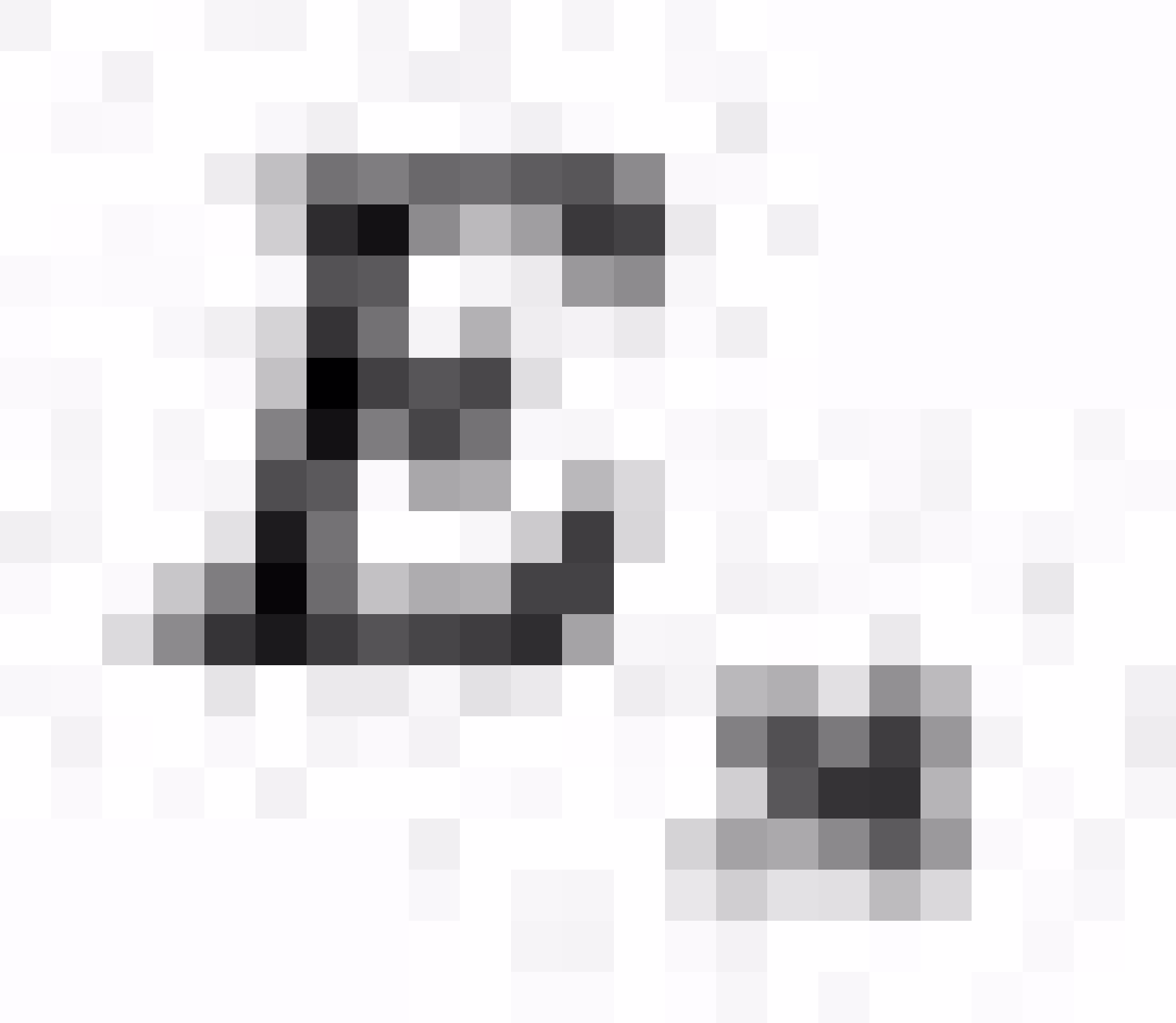
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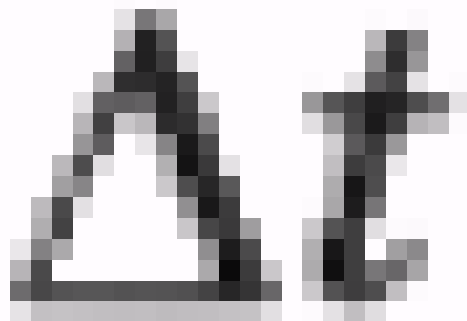
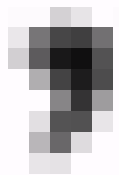
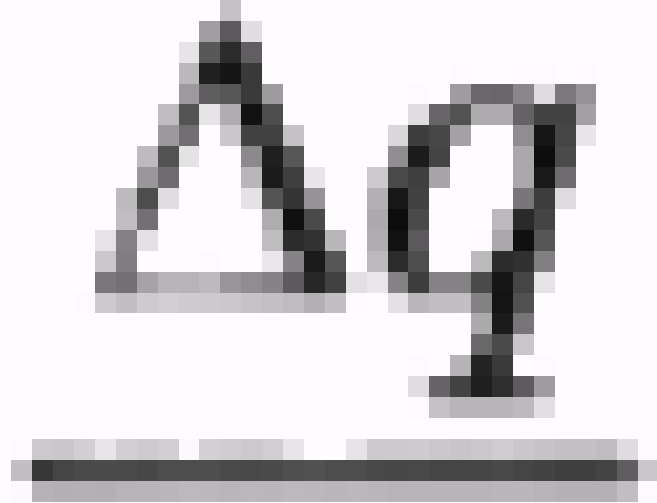
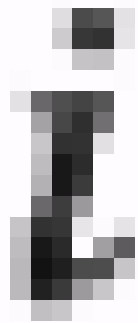
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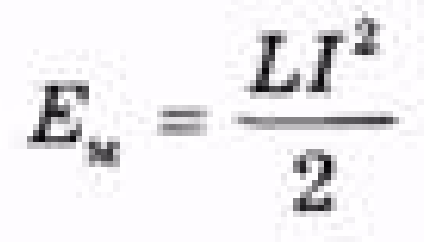
U
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$$E_N = \frac{L_1 L_2}{2}$$

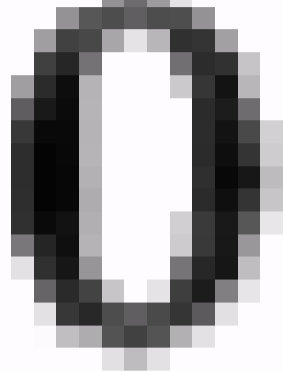
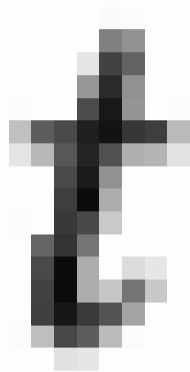
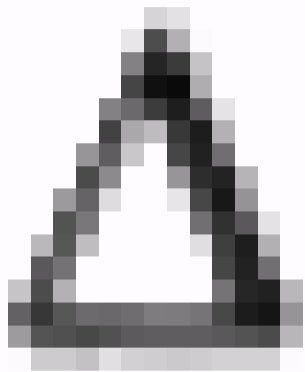
(47.3)

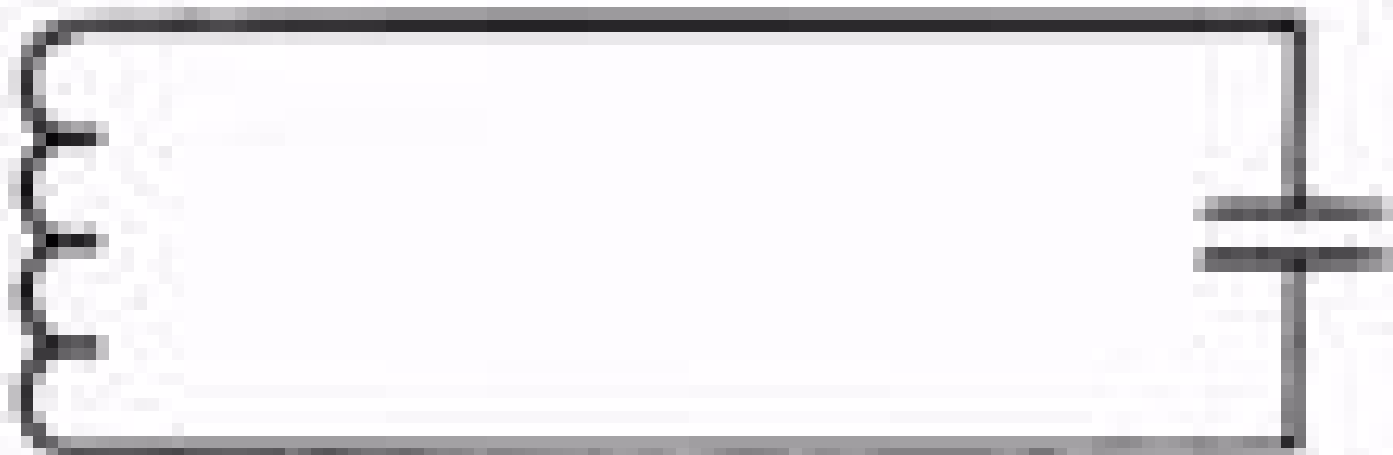




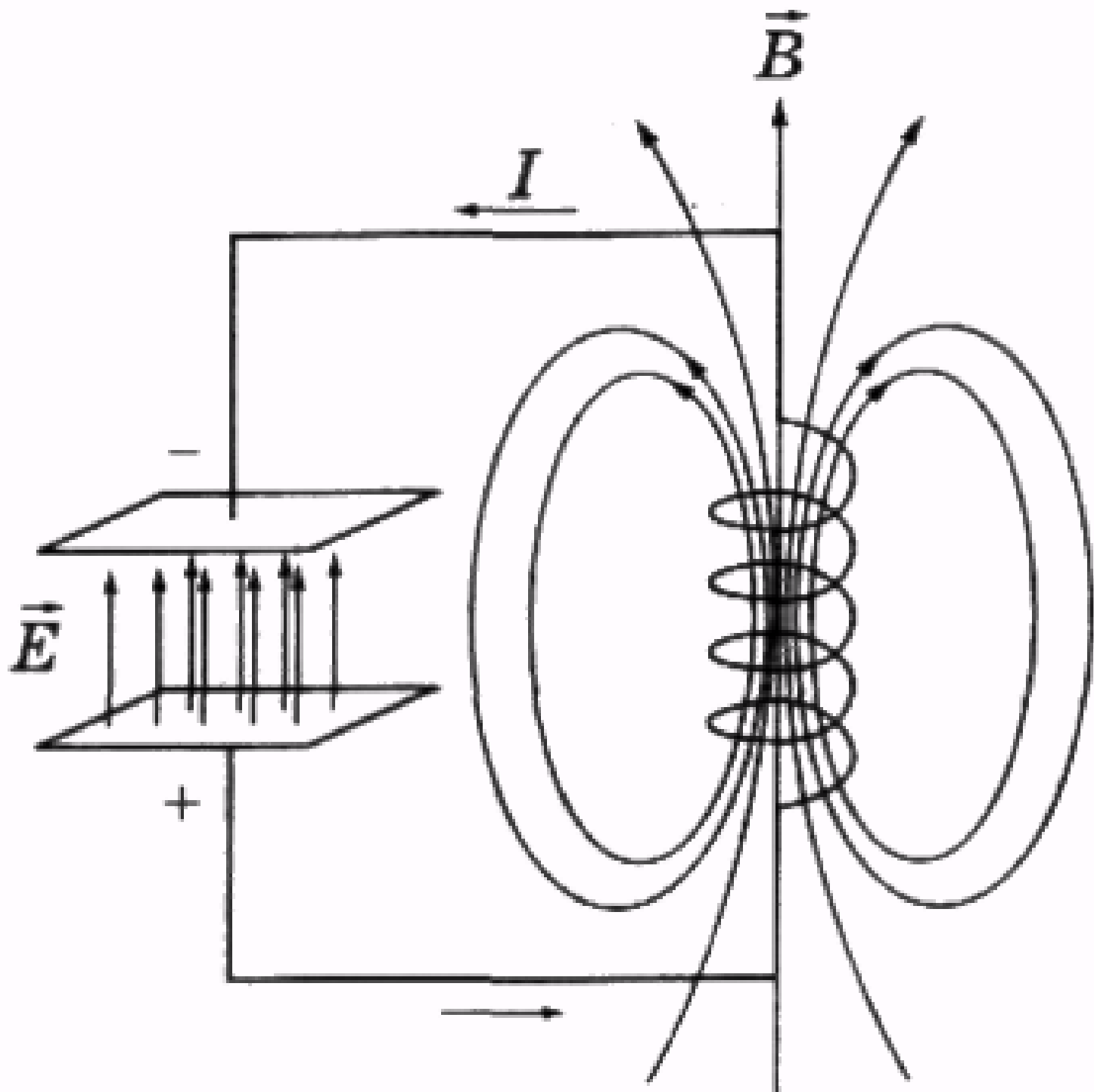


Мал. 2.156





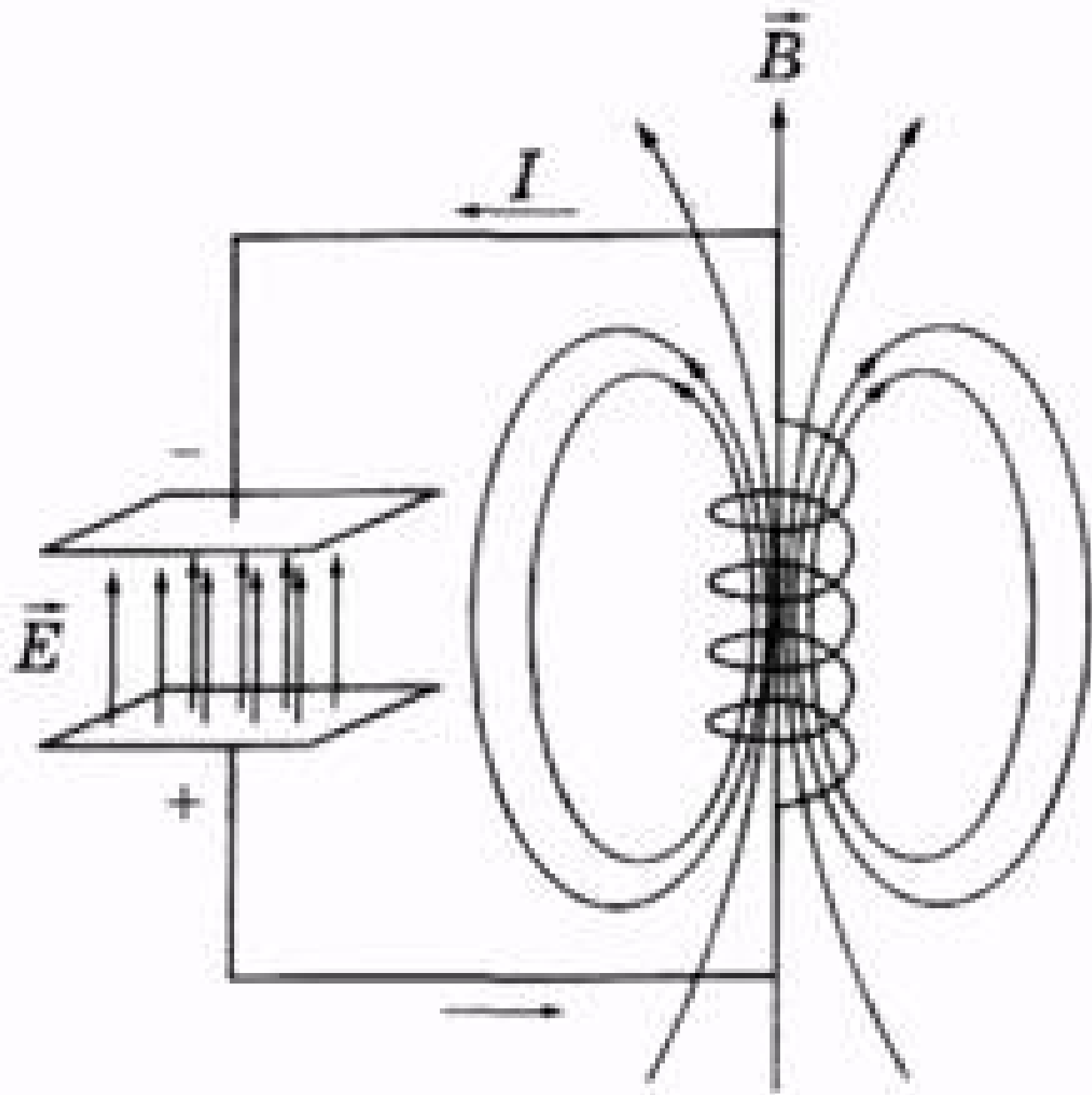
Mar. 2. 156



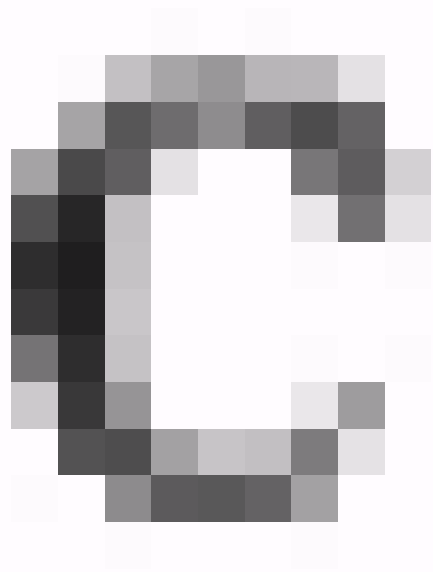
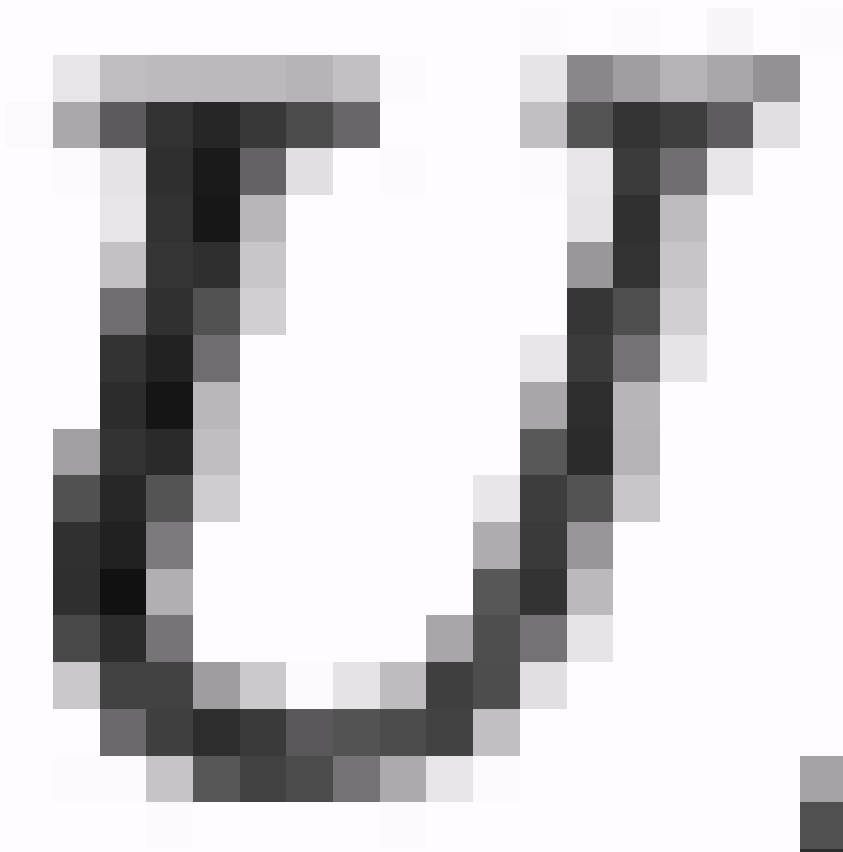
Мал. 2.157

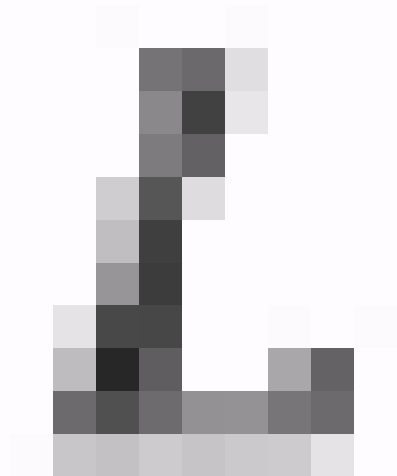
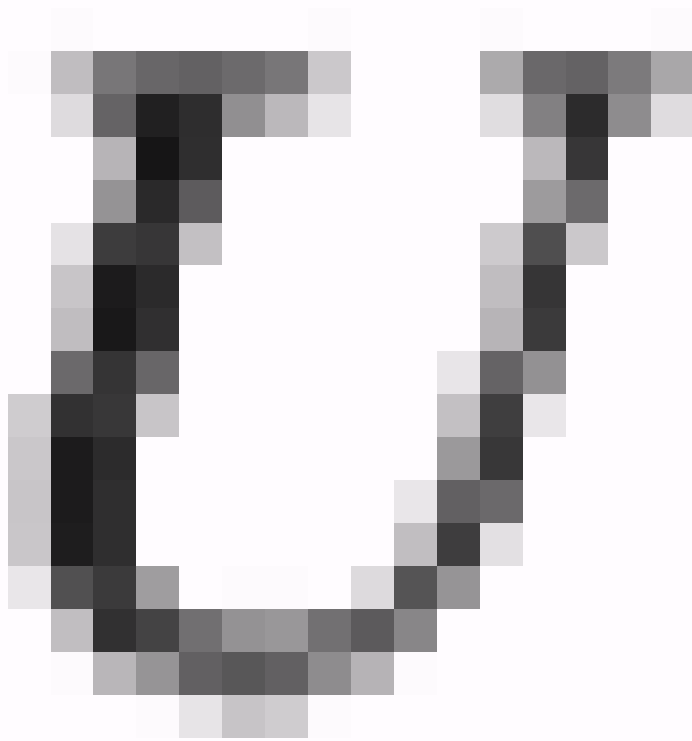
$$\dot{q} = \dot{q}' \quad (48.4)$$

$$U_L = L \dot{q}'^2 \quad (48.5).$$

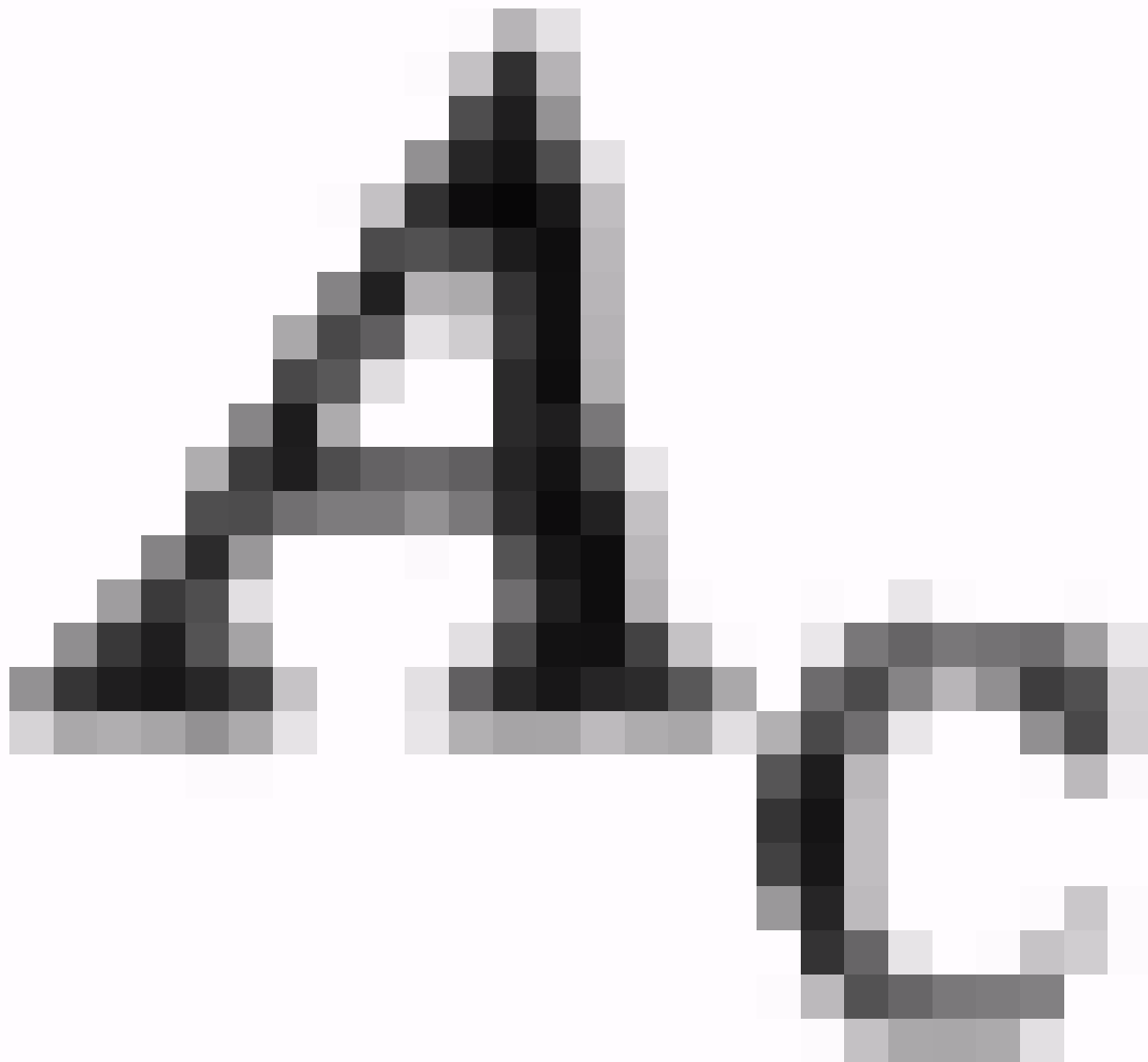


Мал. 2.157









Ac

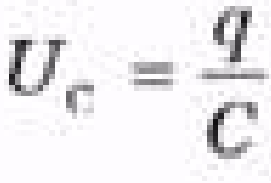
=

QVC

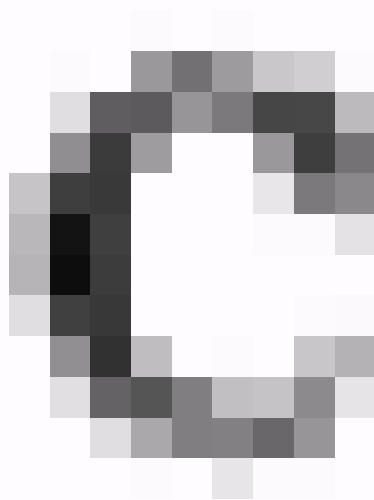
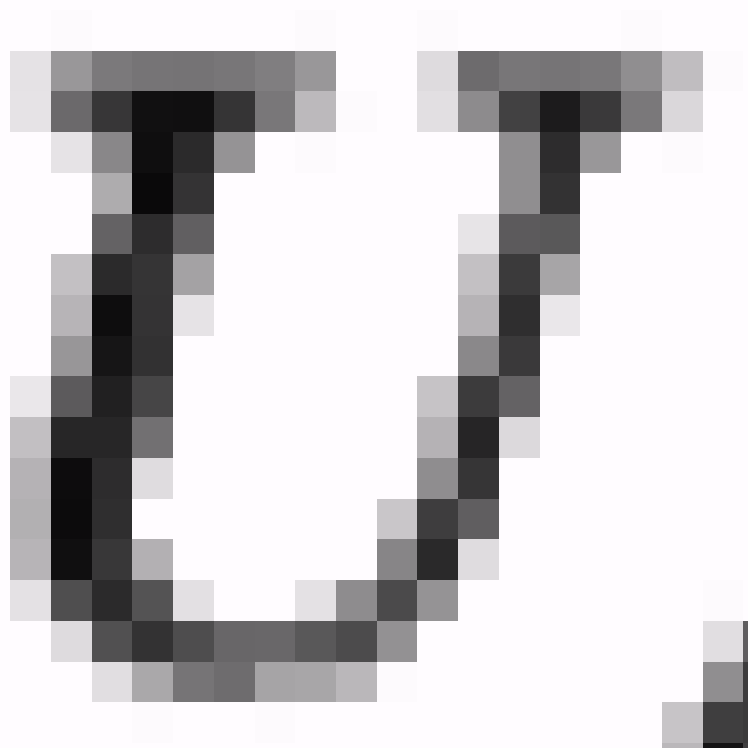
(480)

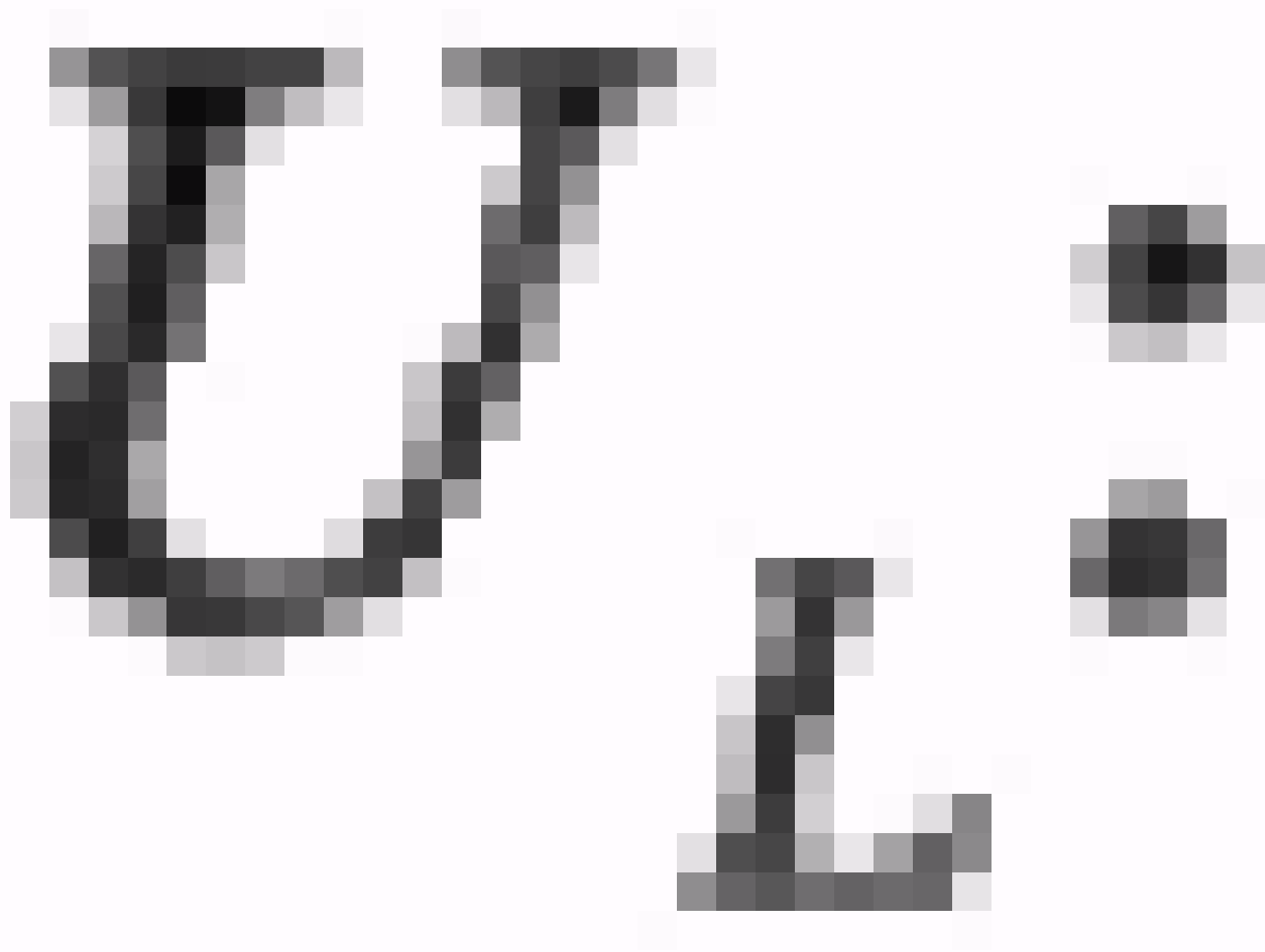


$$v_c = \frac{Q}{C} \quad (48.1)$$



$$A = A_c + A_L = QV^T_c + QV^T_L = 0 \quad (48.8)$$



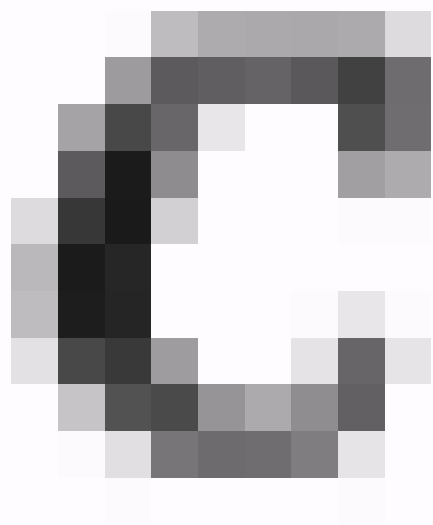
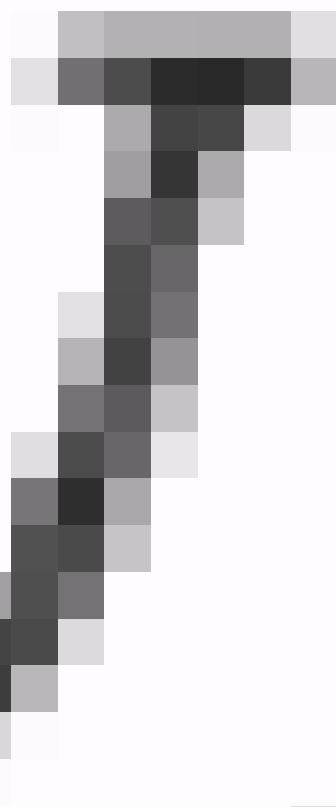
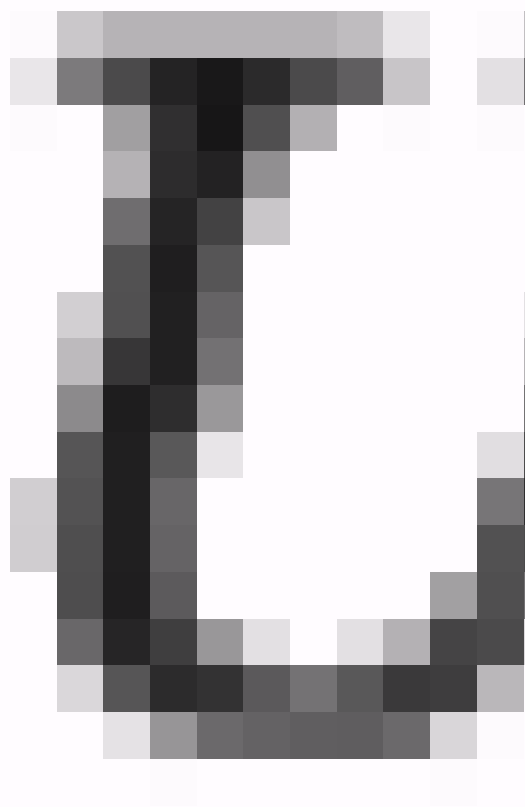


$$U_C = -U_L \quad (48.9).$$

$$\frac{q}{C} = -Lq'', \quad q'' = -\frac{1}{LC}q \quad (48.10).$$

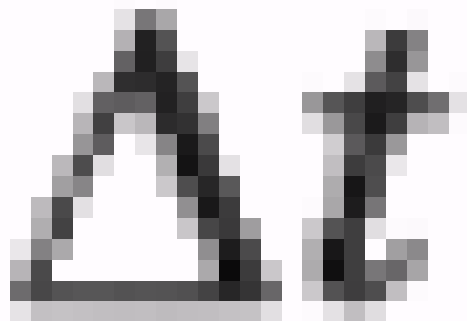
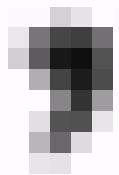
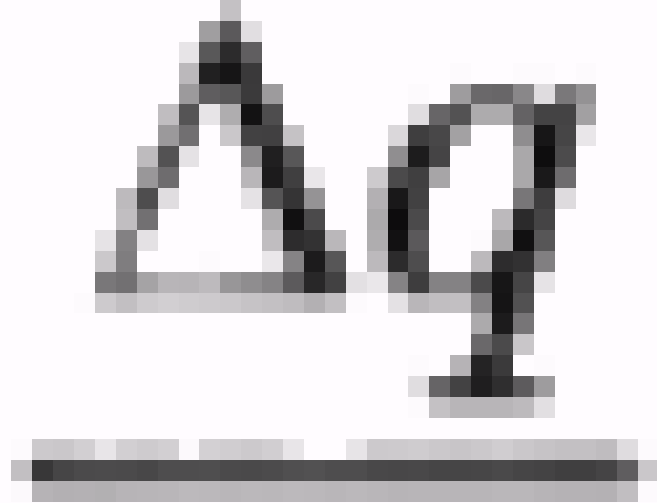
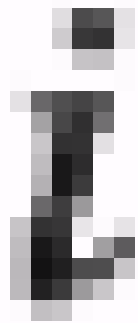
$$q = q_0 \cos \omega t \quad (48.11),$$

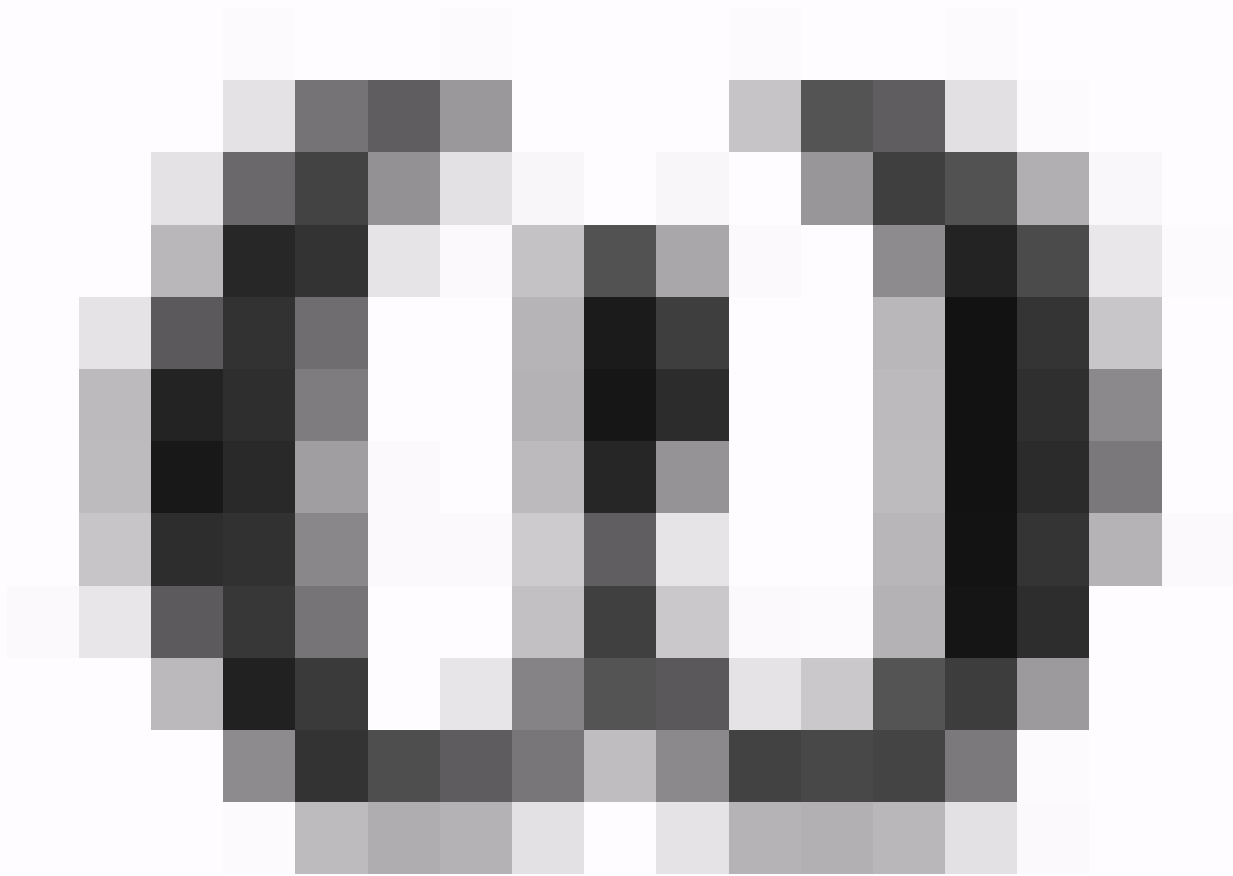
де
$$\omega = \sqrt{\frac{1}{LC}} \quad (48.12).$$

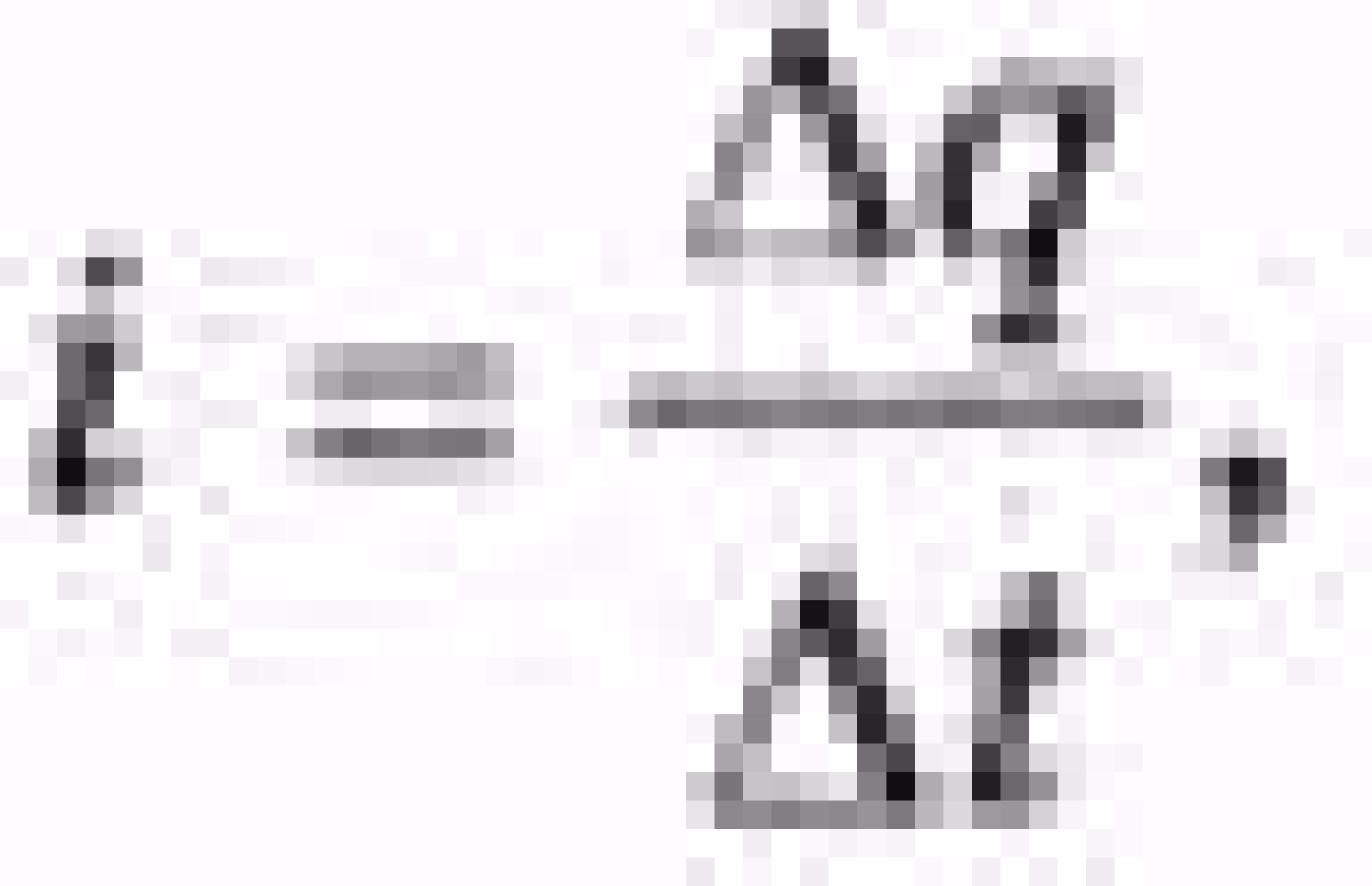


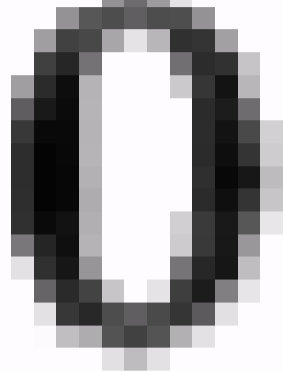
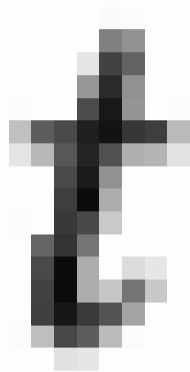
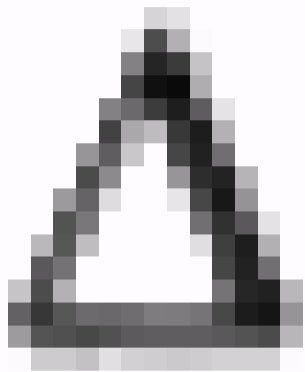
$$V_c = \frac{Q_0}{C} \cos \omega t \quad (48.13)$$

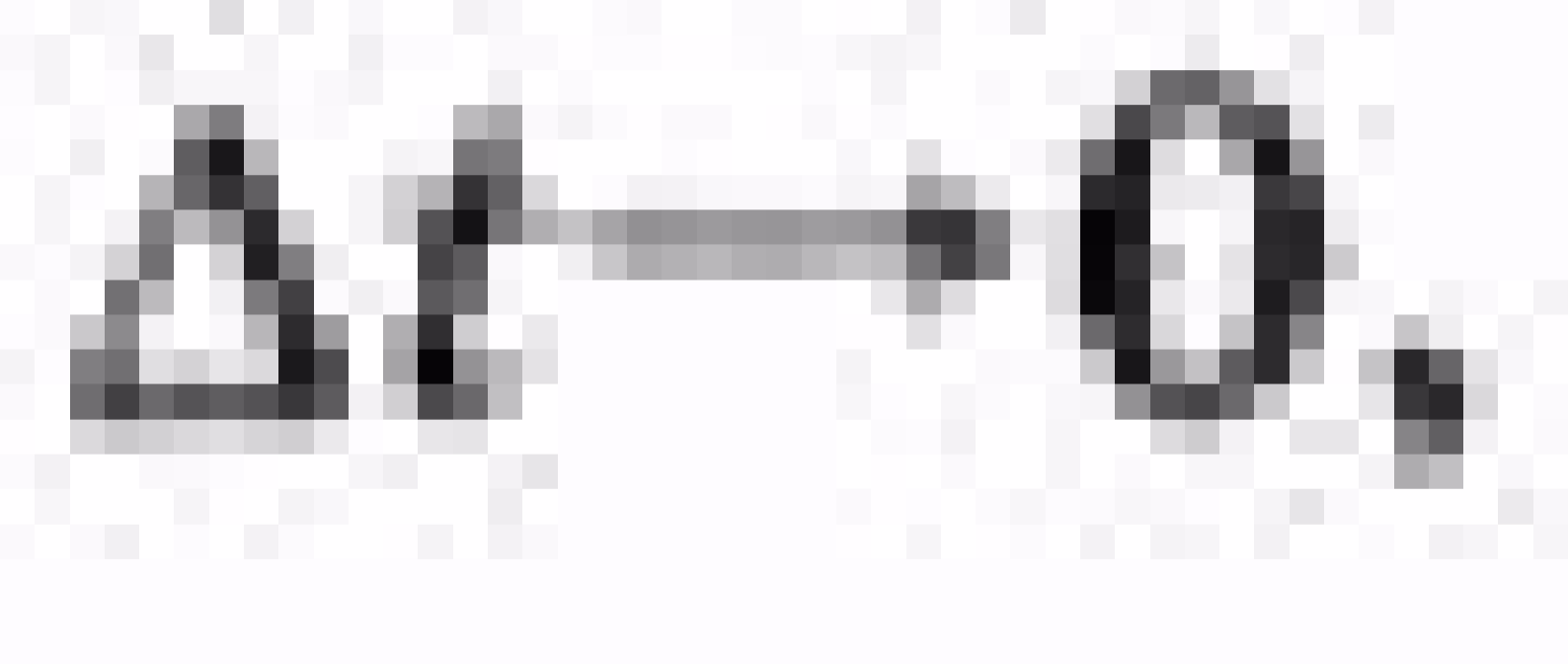






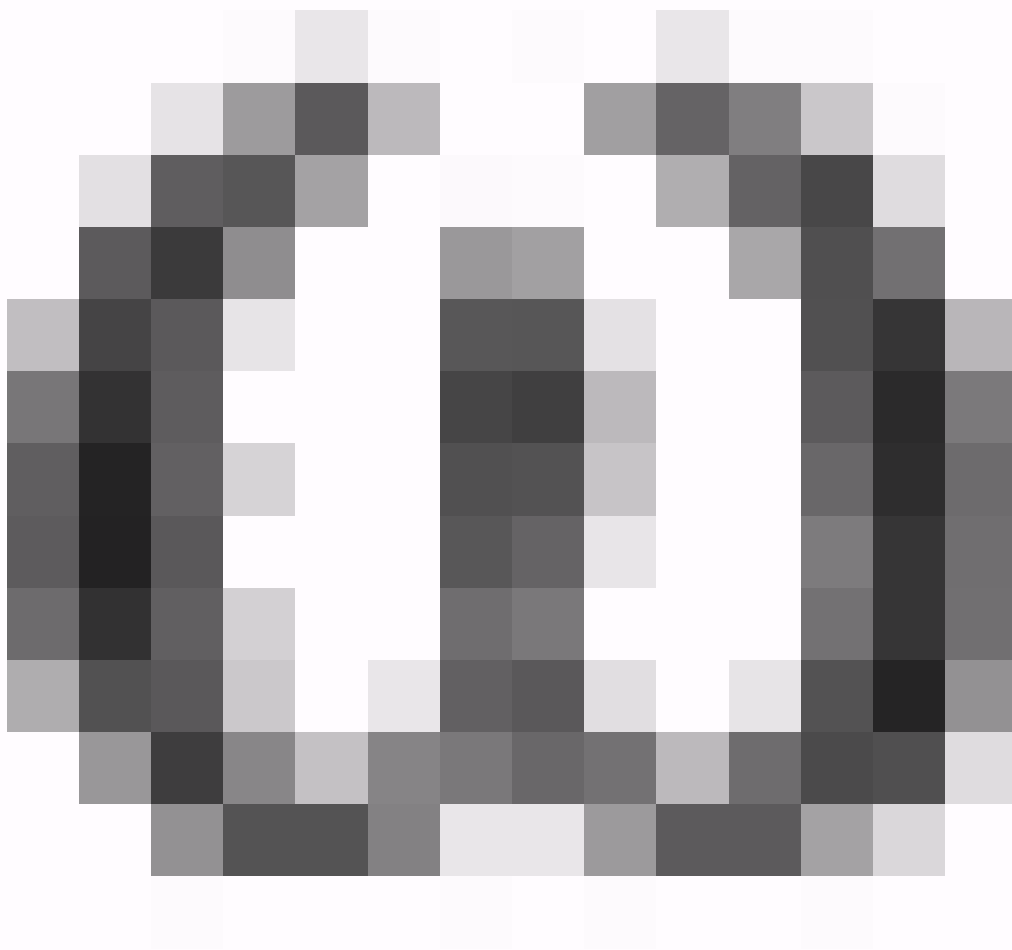


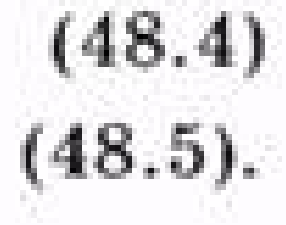
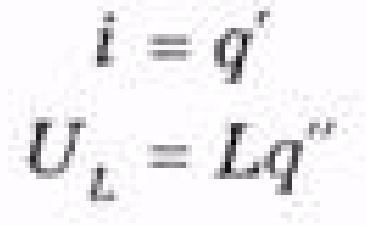




$$\dot{q} = \dot{q}' \quad (48.4)$$

$$U_L = L \dot{q}'^2 \quad (48.5).$$



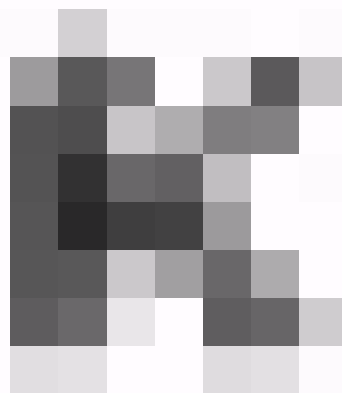
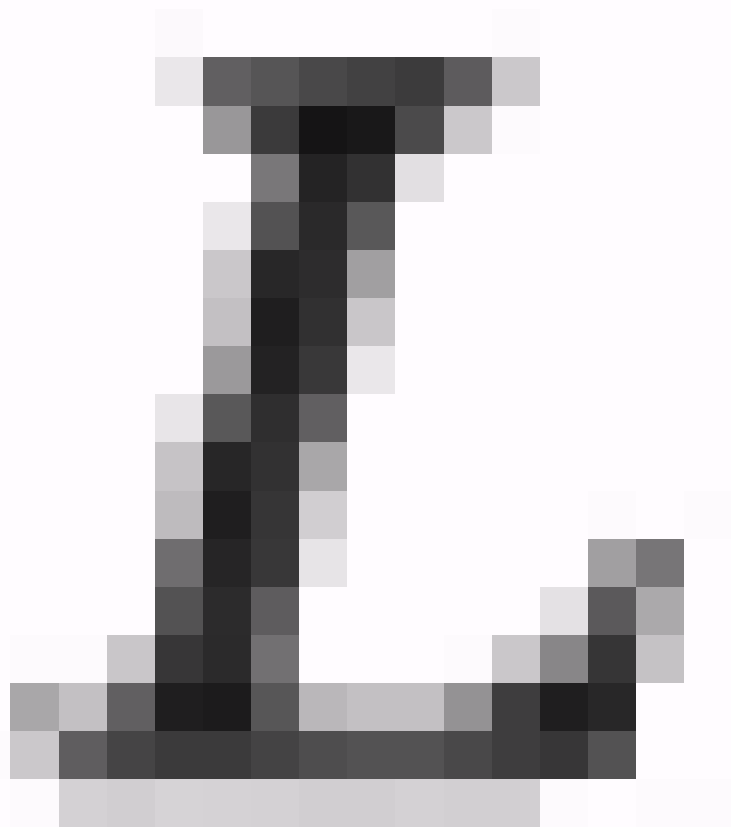


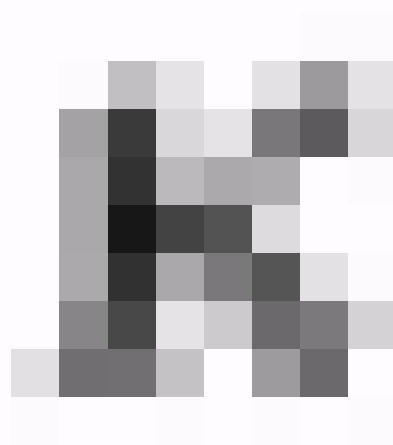
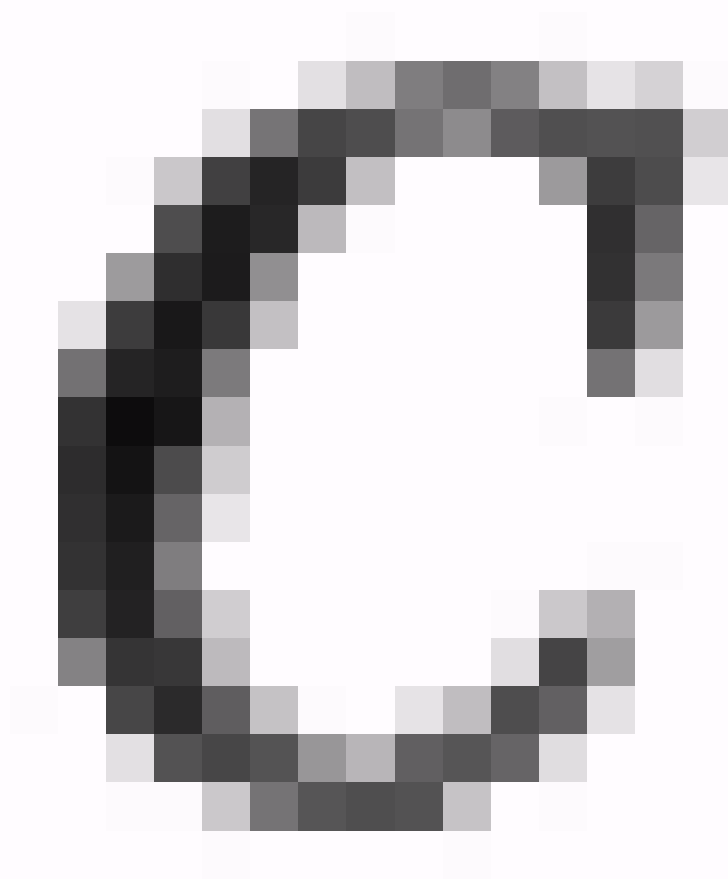
$$T = \frac{2\pi}{\omega}$$

(B.15)

$$T = 2\pi\sqrt{LC}$$

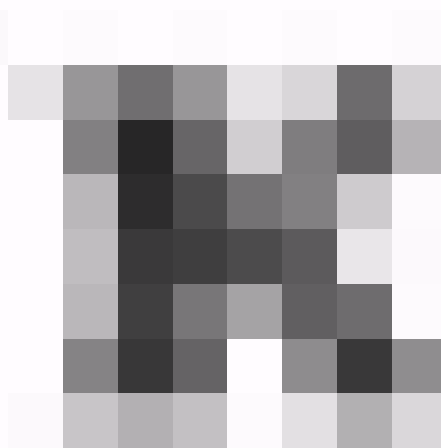
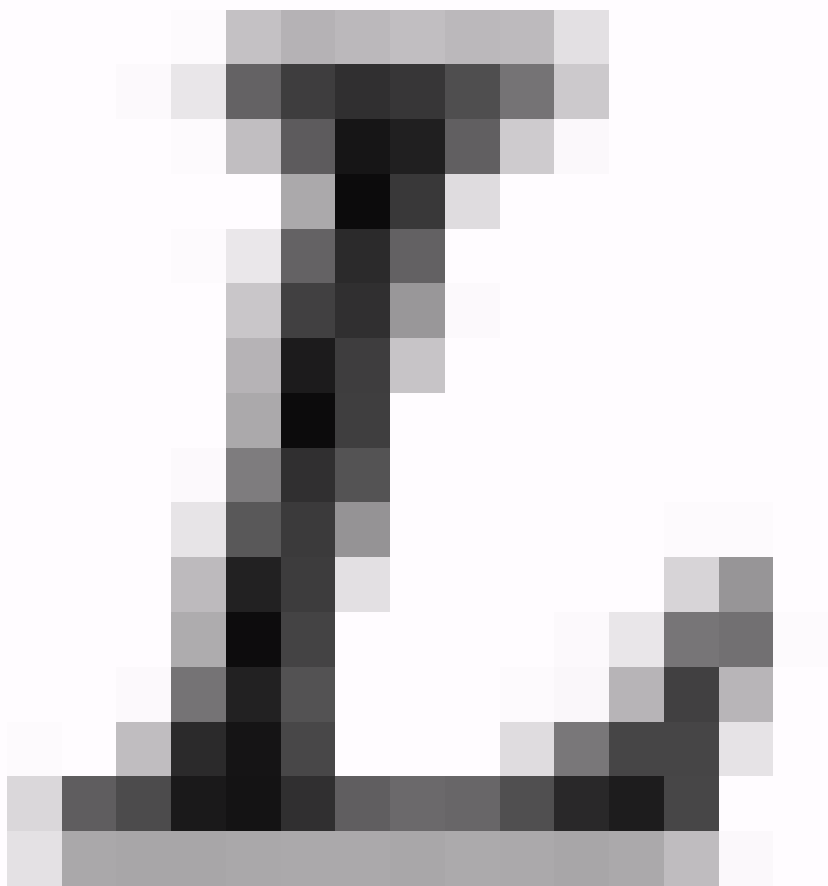
(B.15)





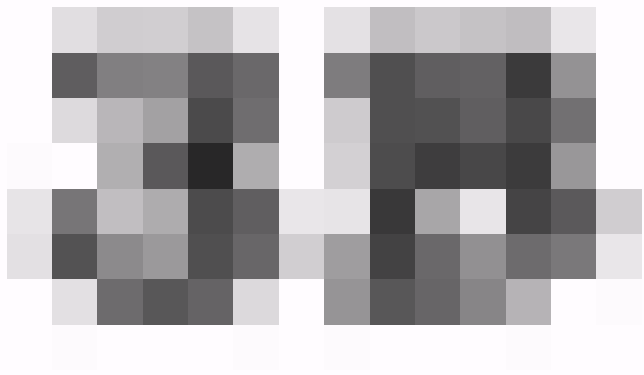
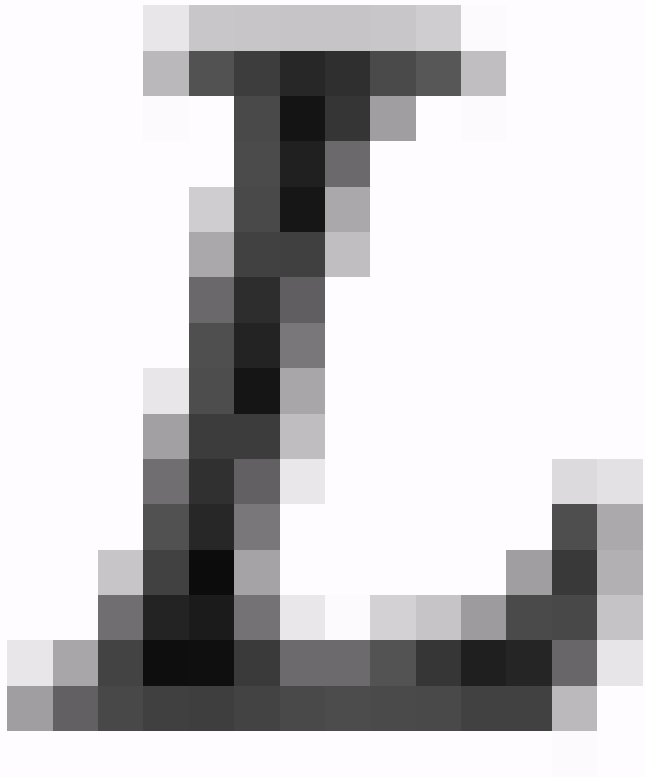




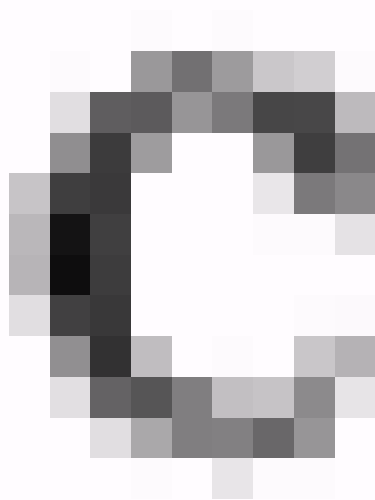
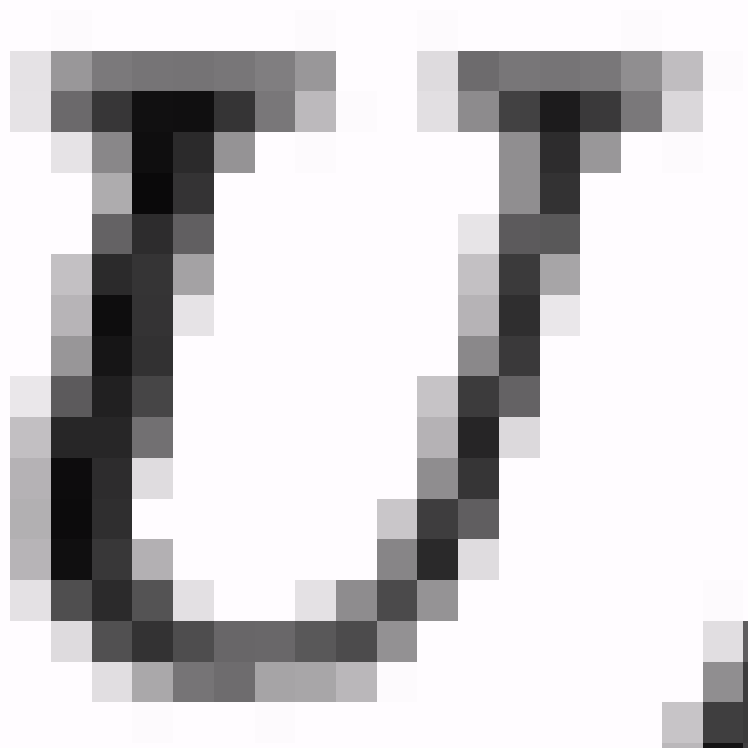


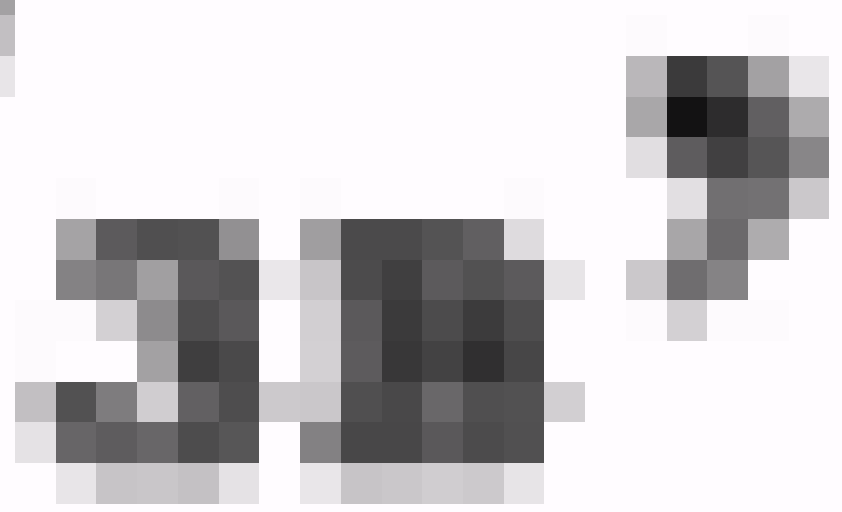
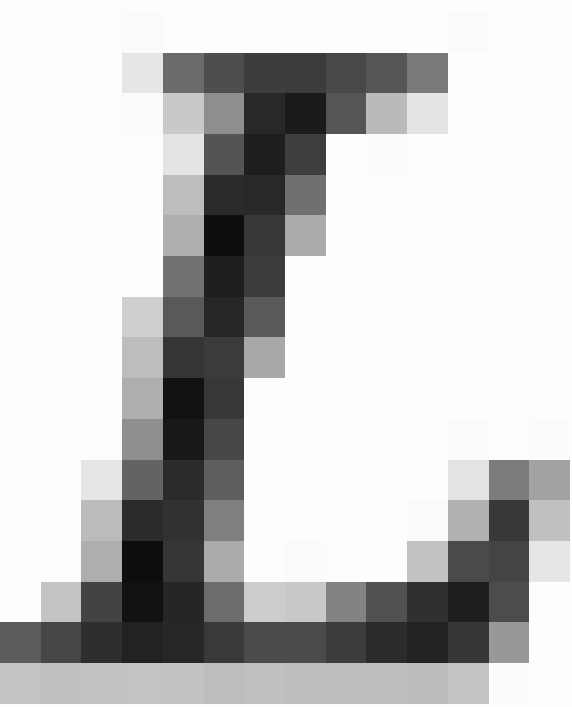


$$A = A_c + A_L = QV^T_c + QV^T_L = 0 \quad (48.8)$$

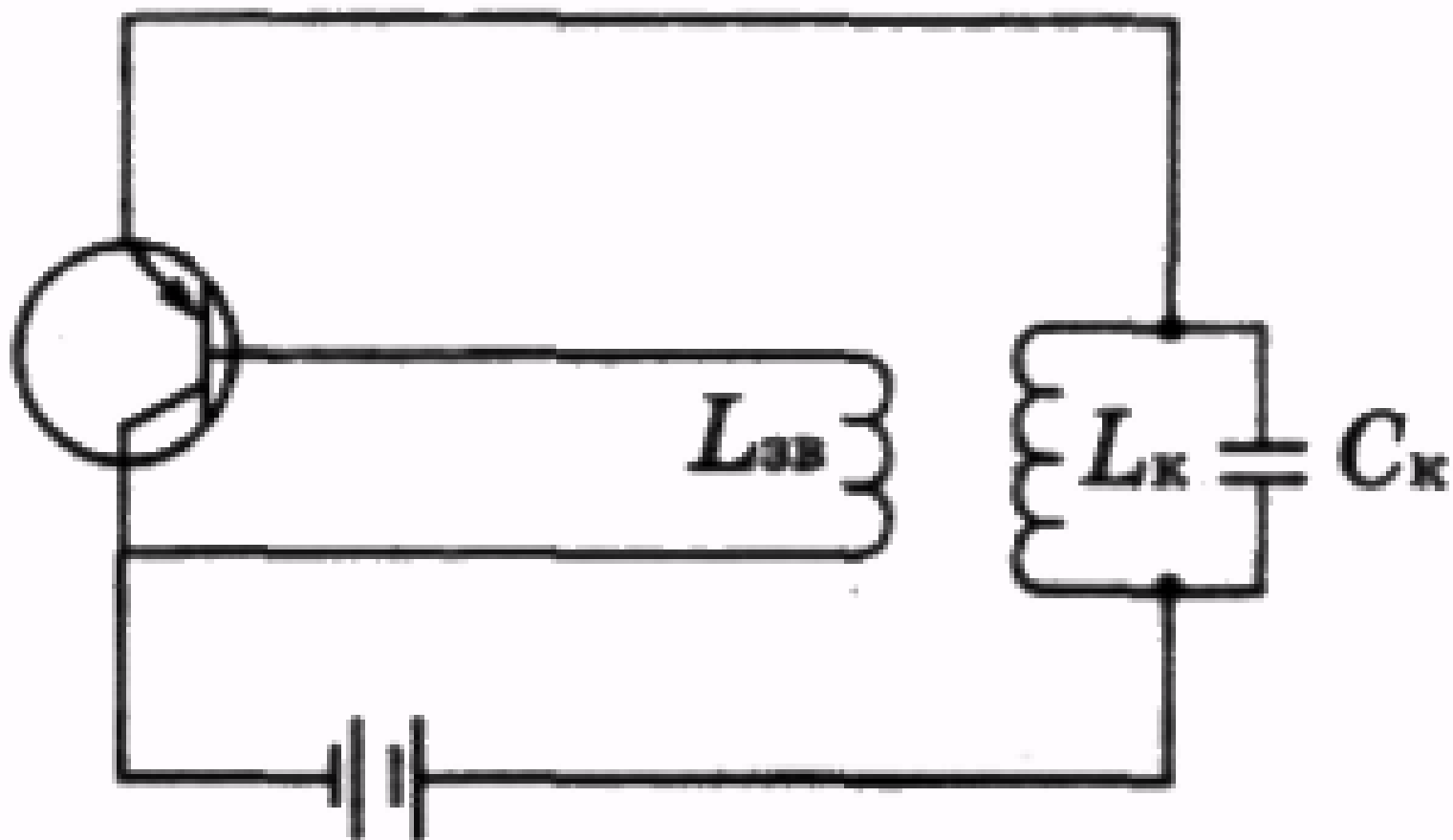


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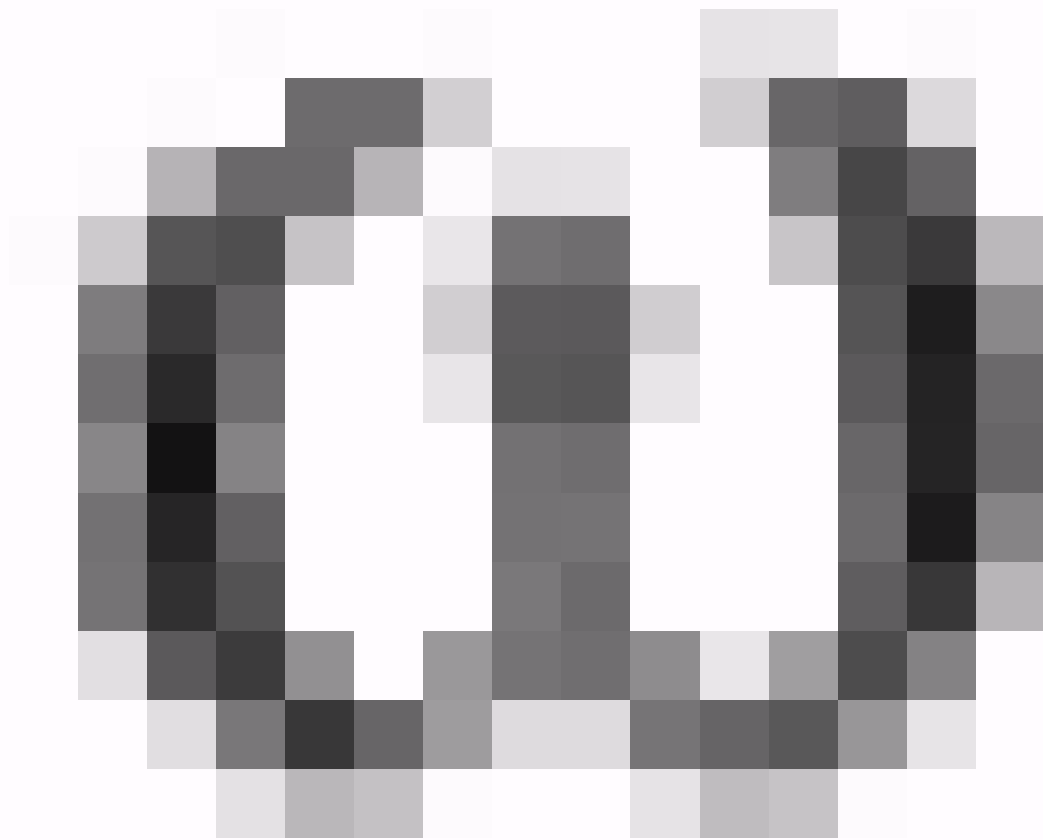


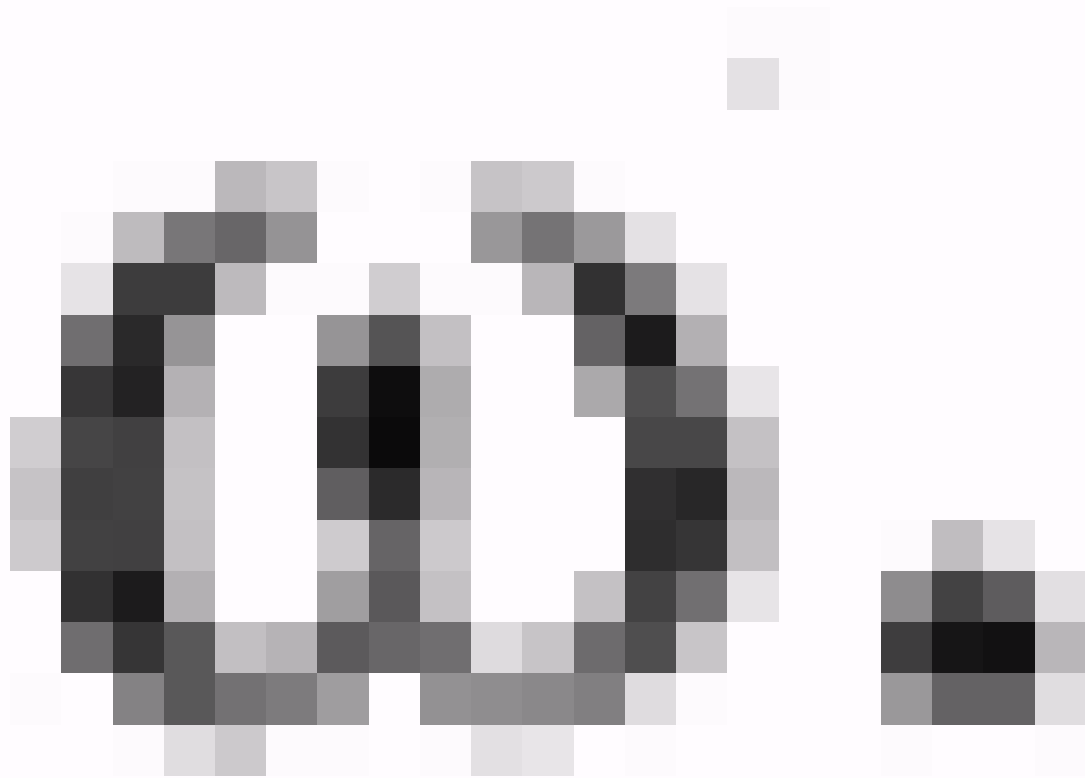


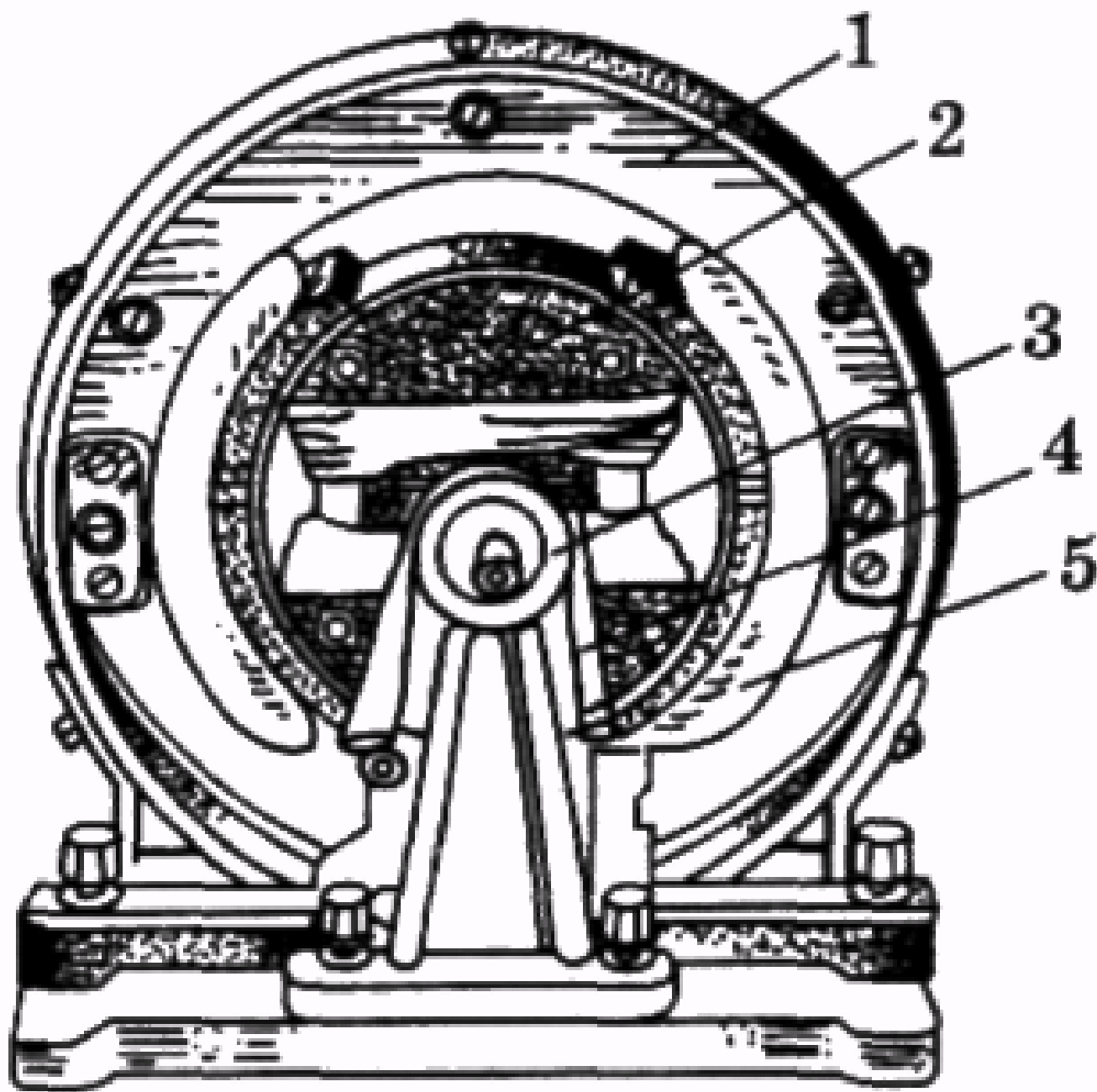




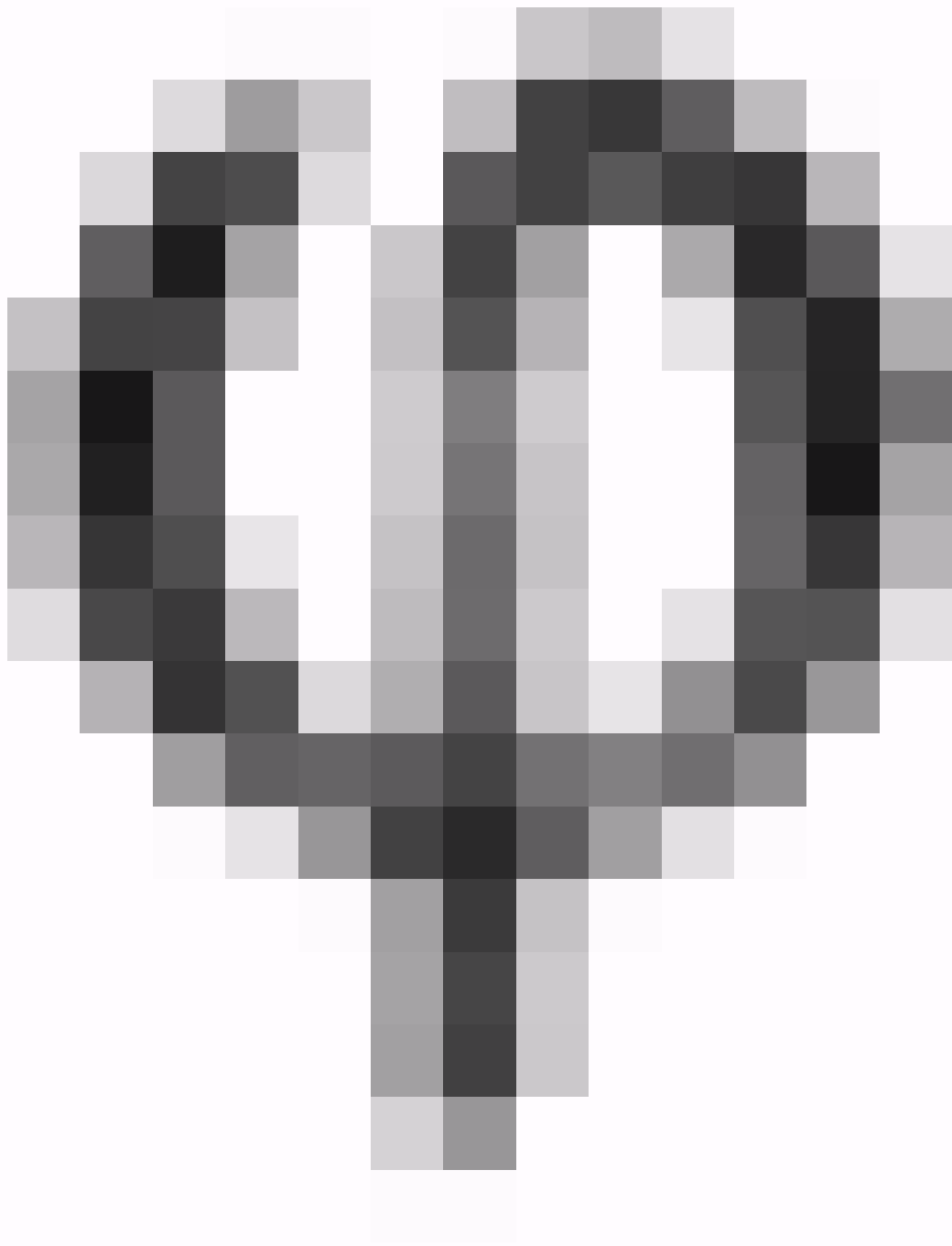
Мал. 2.158



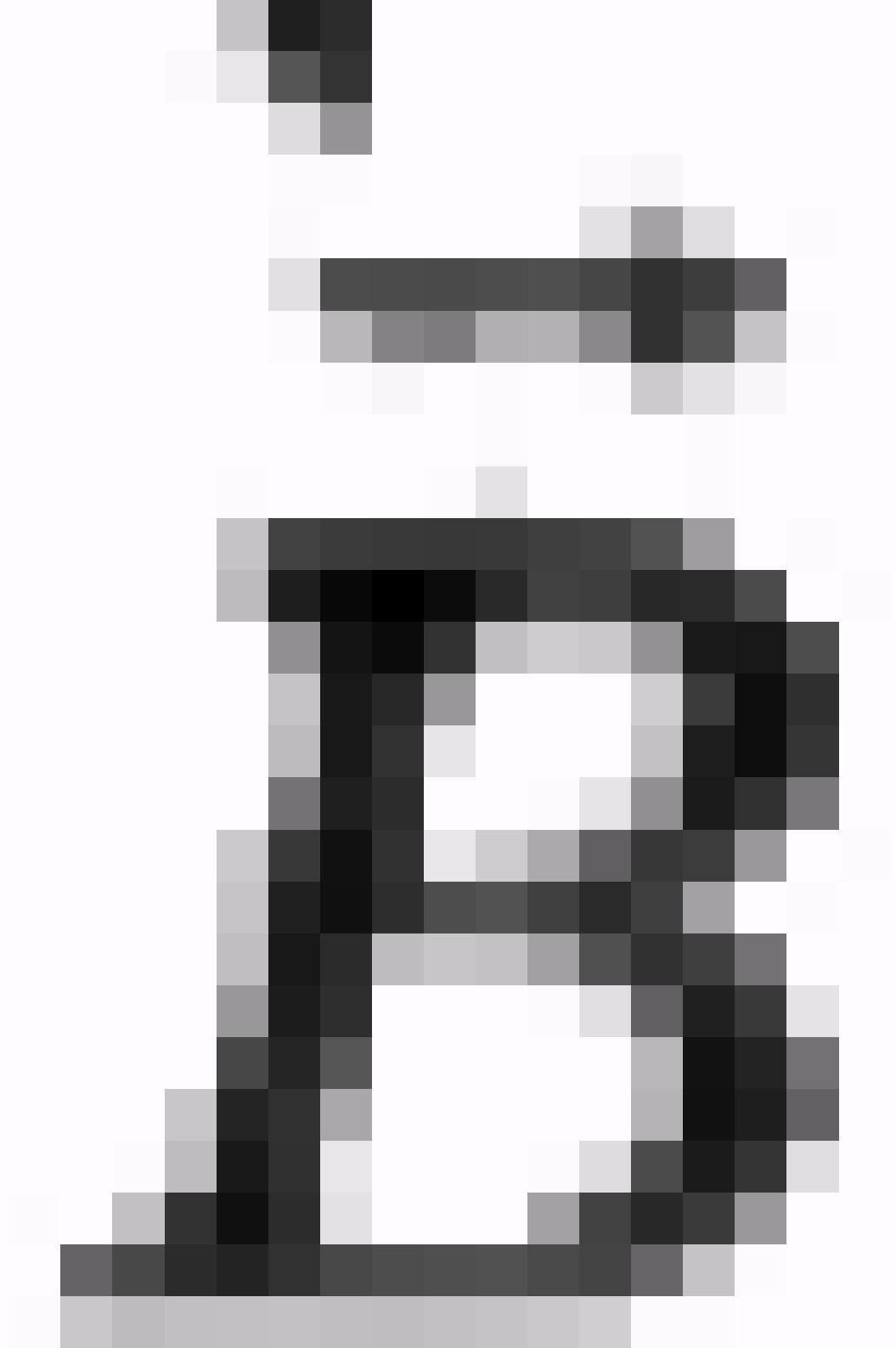


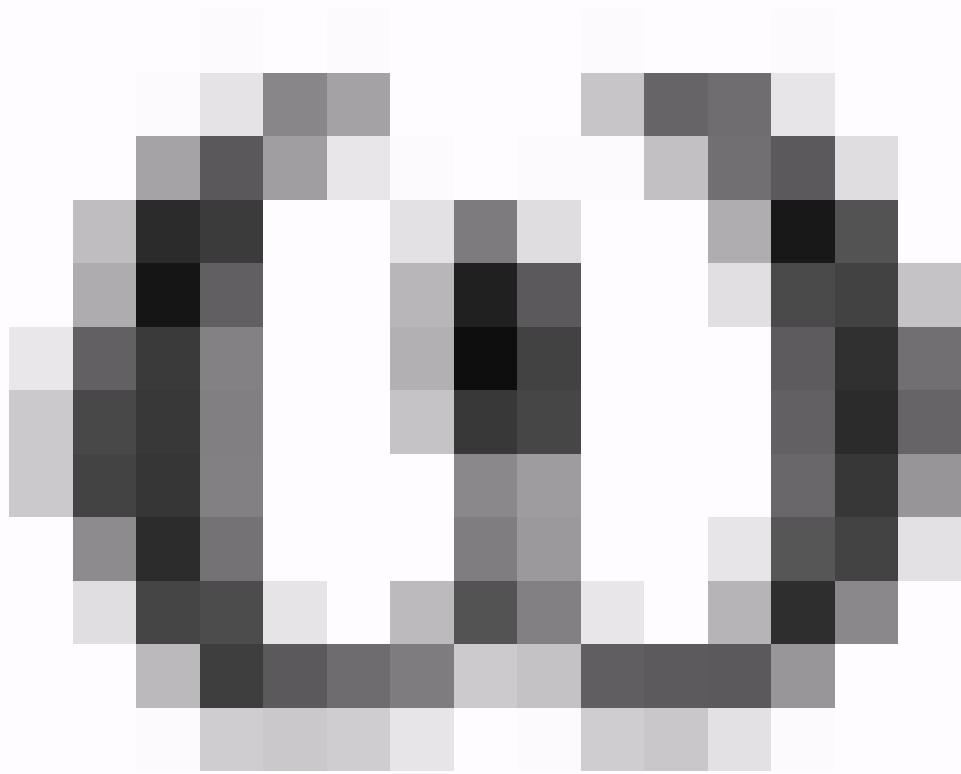


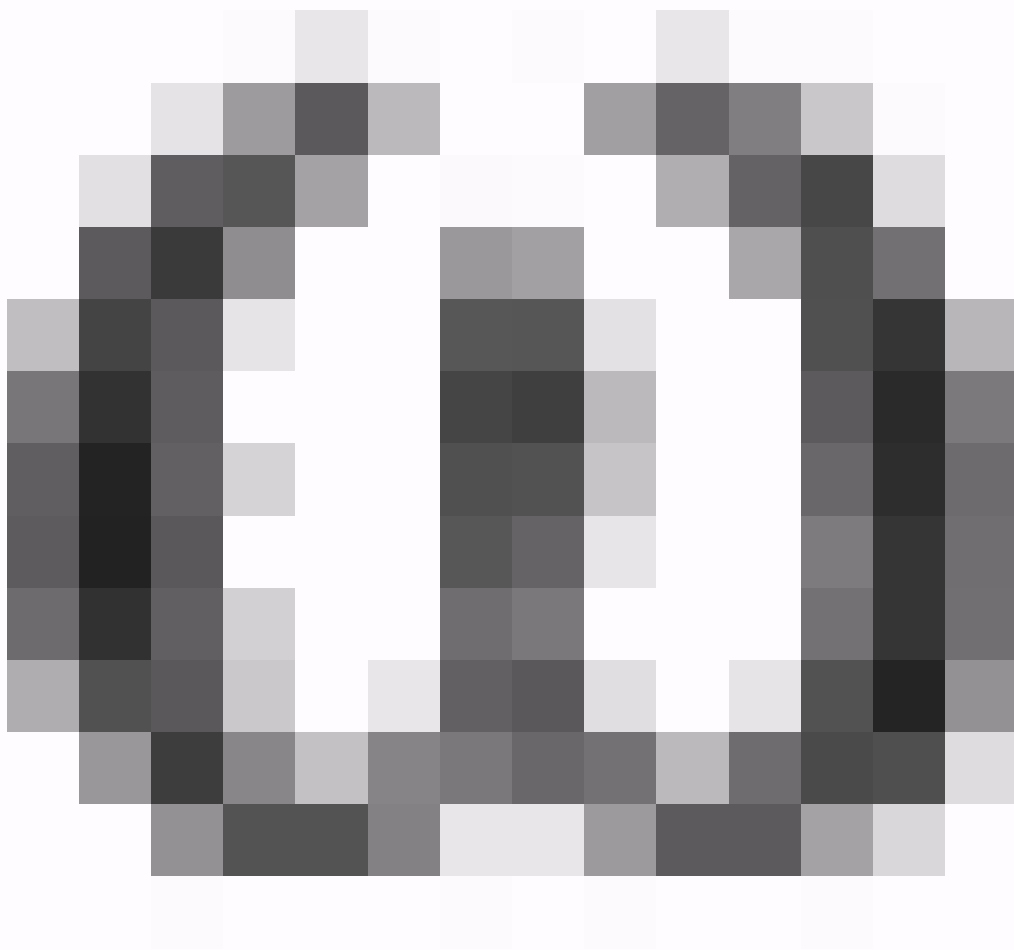
Мал. 2.159

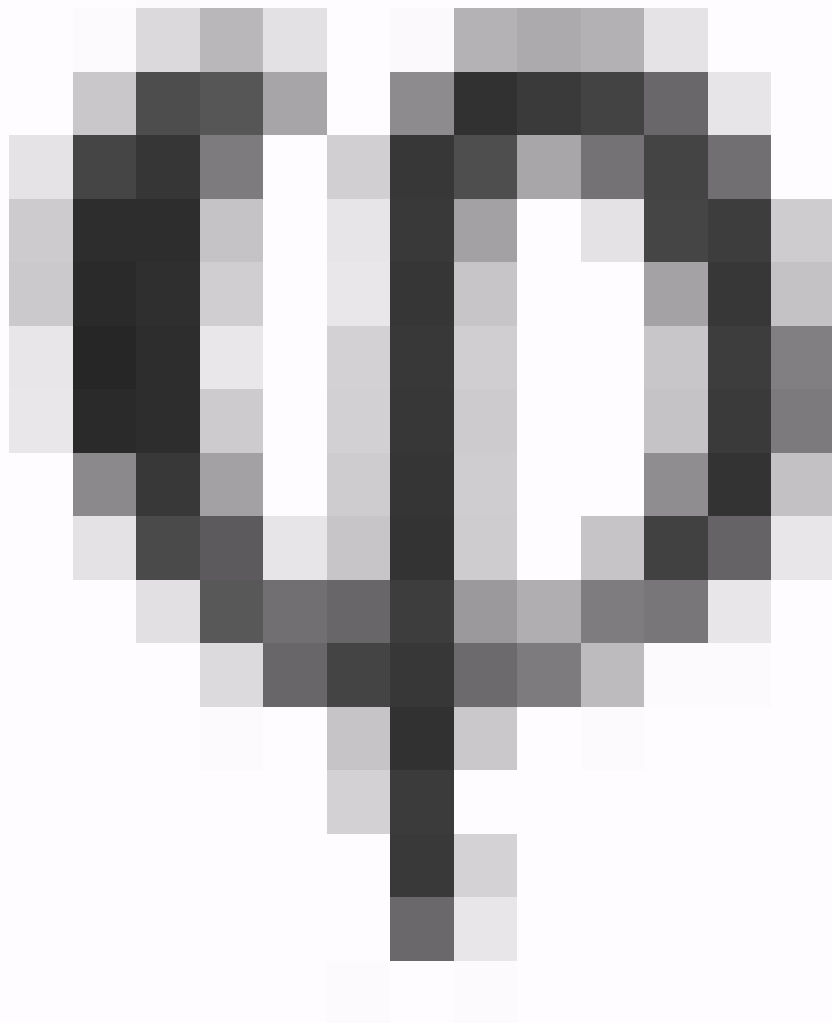


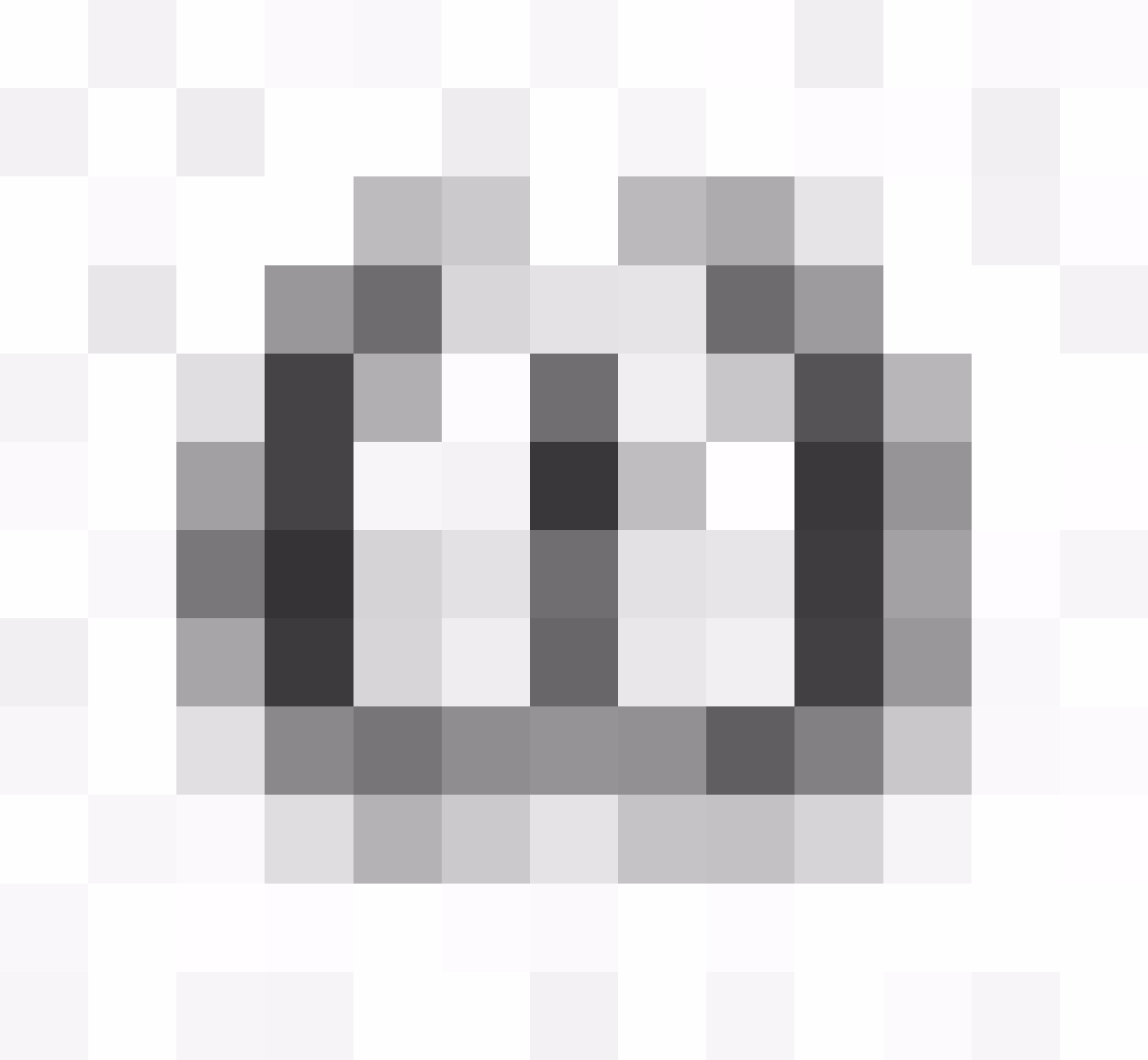
$\Phi = BS \phi$ (40.1)



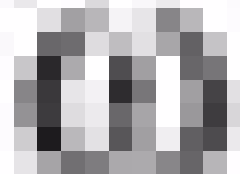
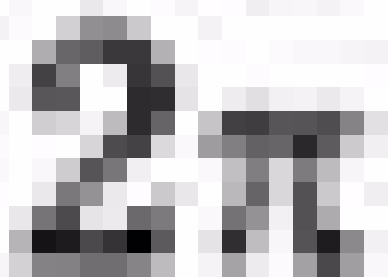
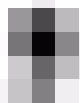


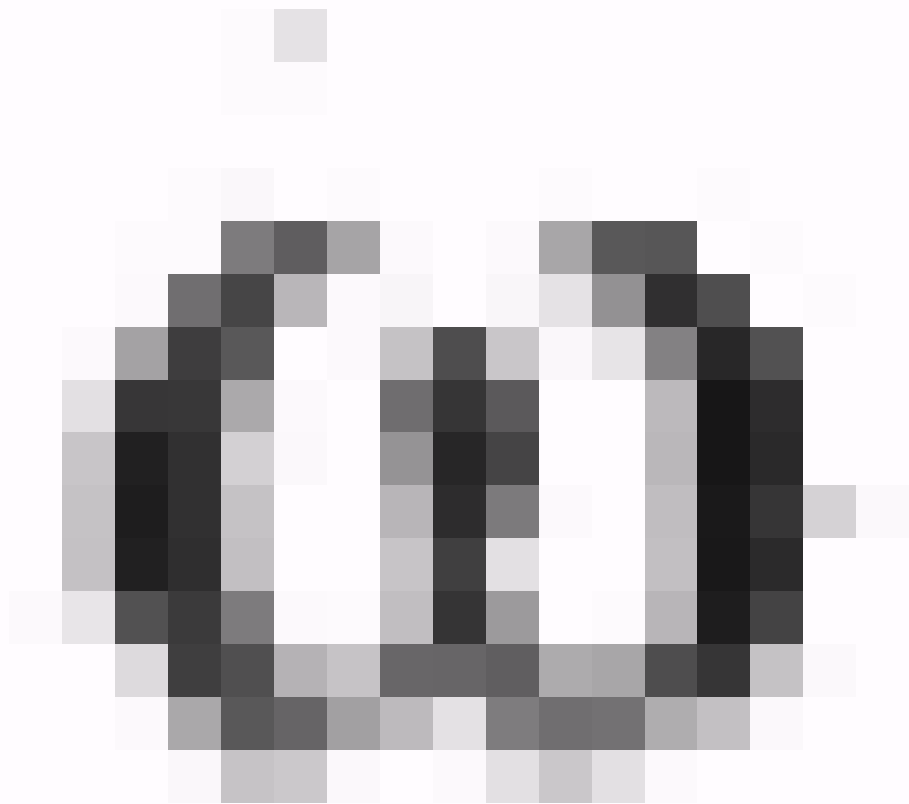


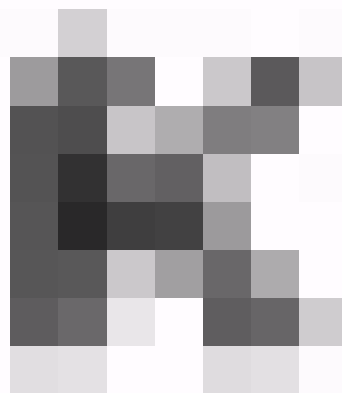
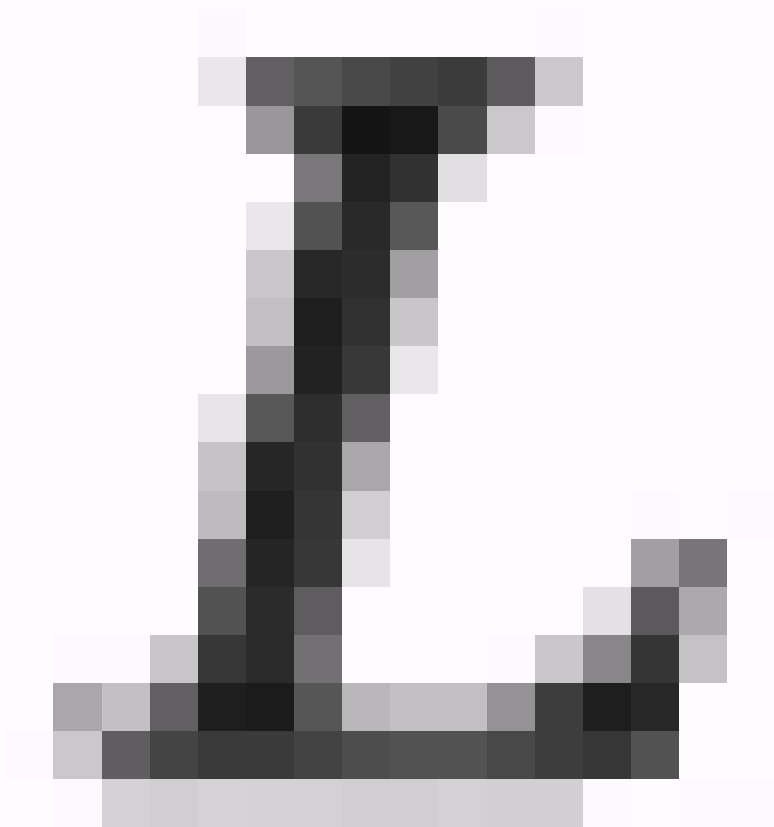


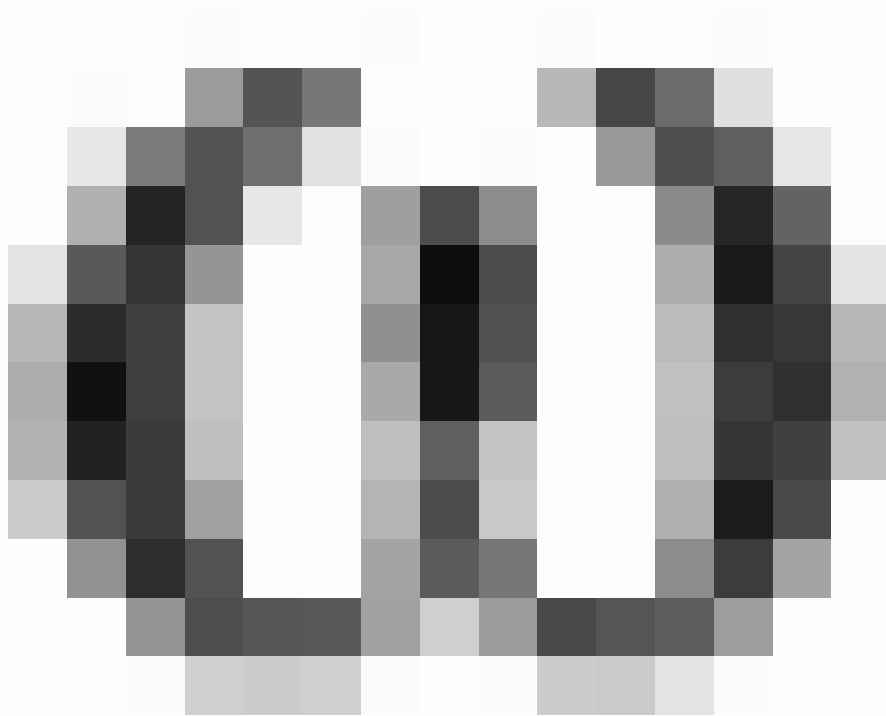


$$T = \frac{2\pi}{\omega}$$

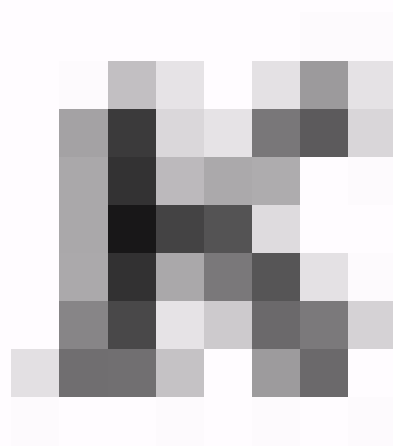
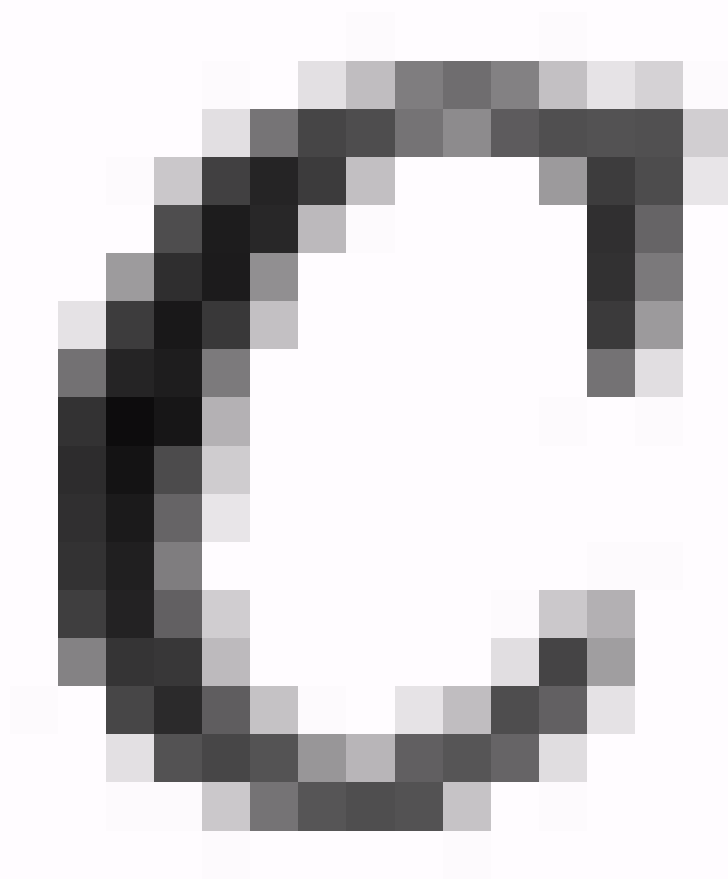






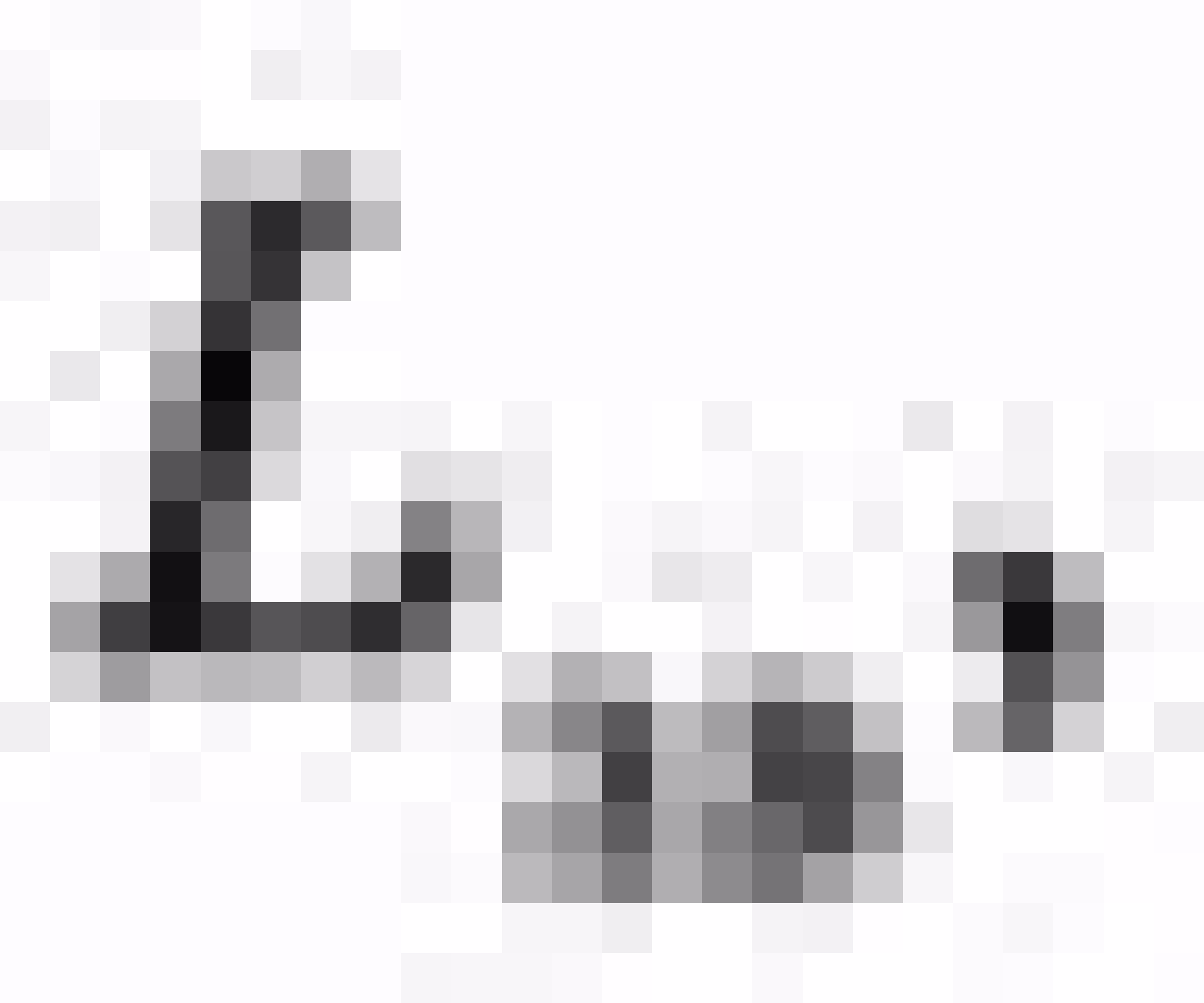


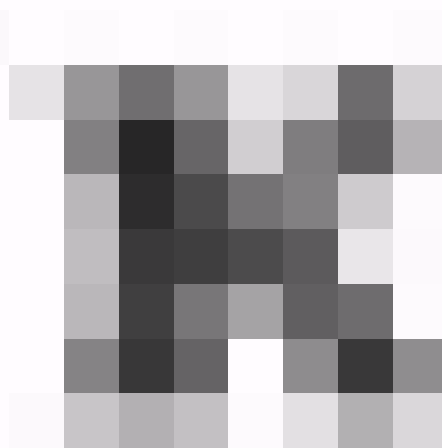
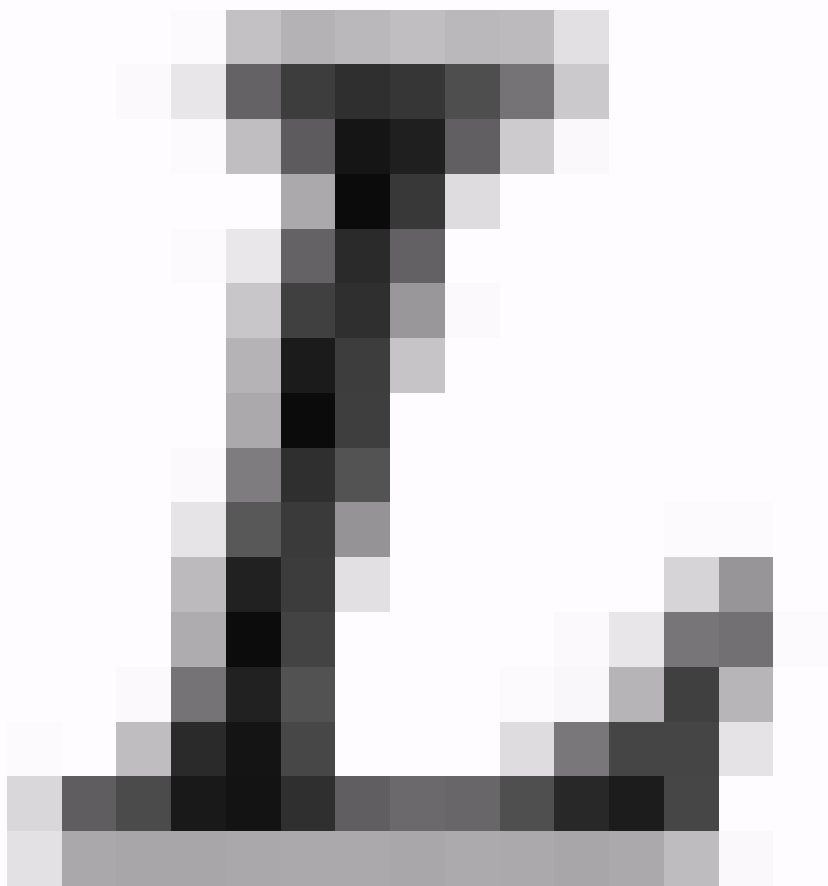


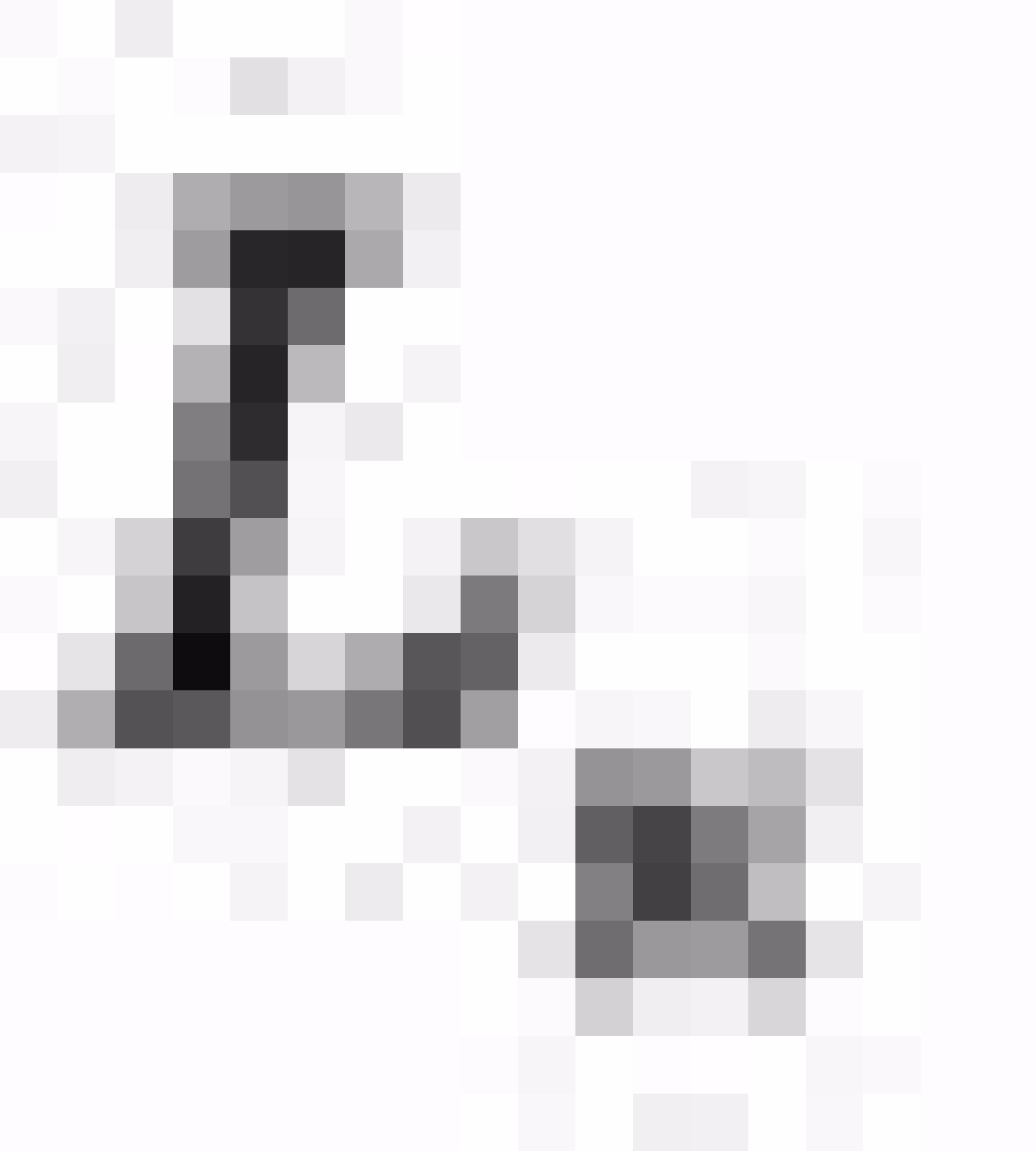


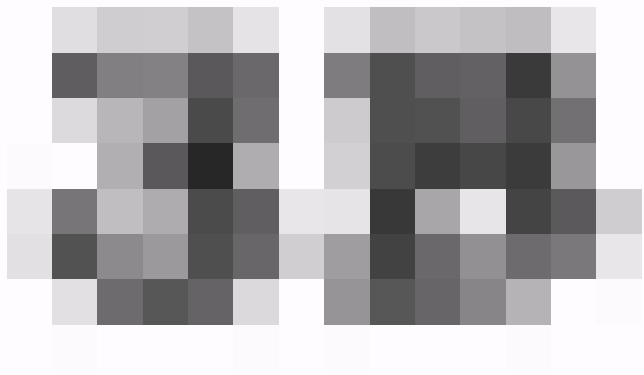
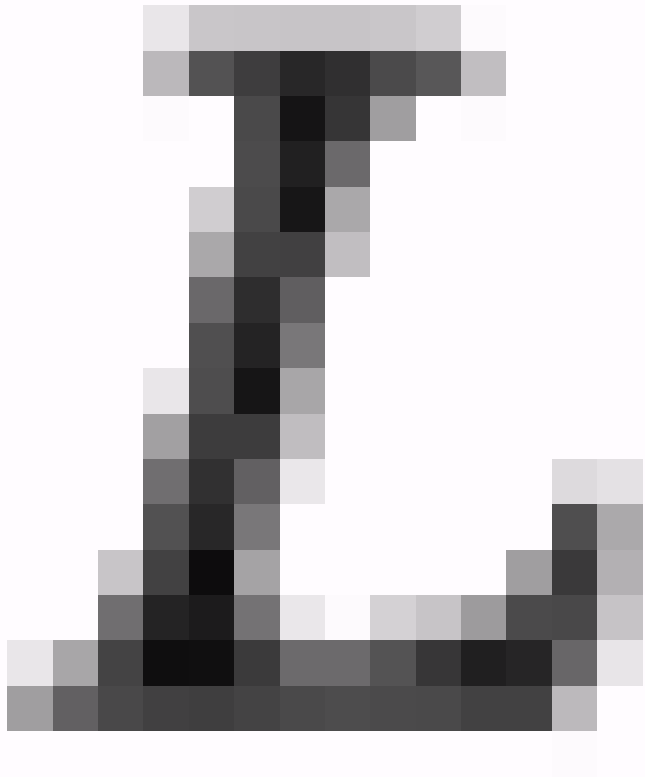




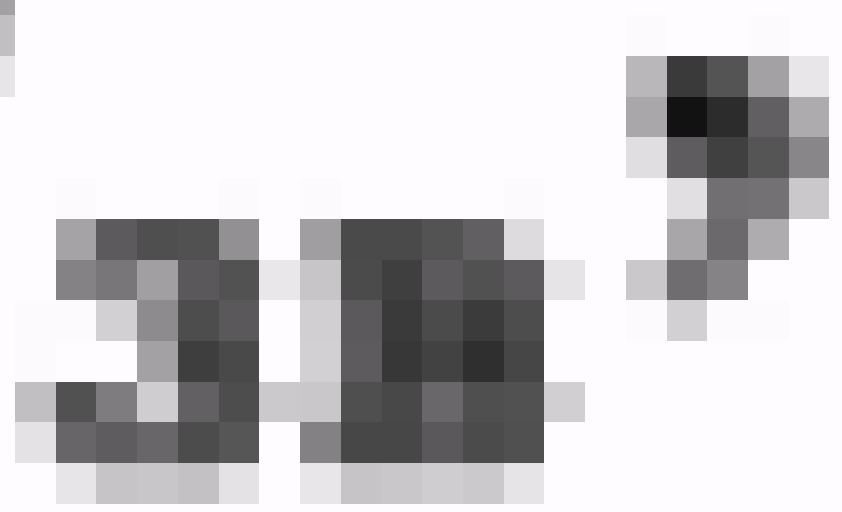
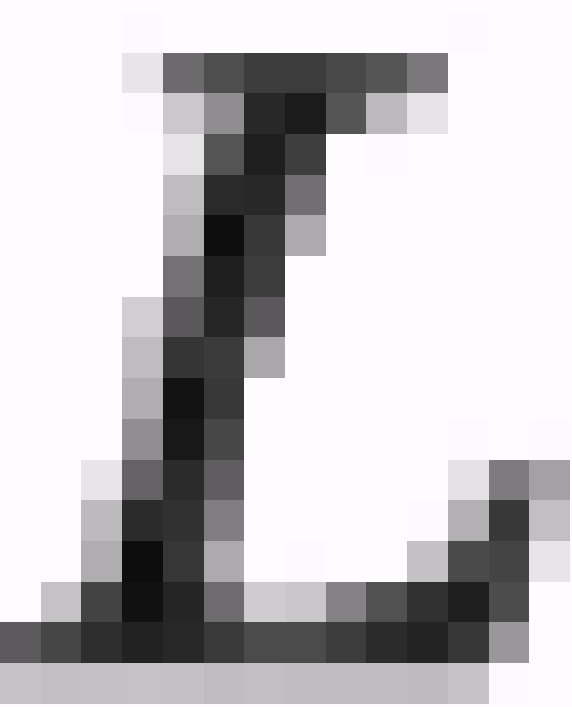


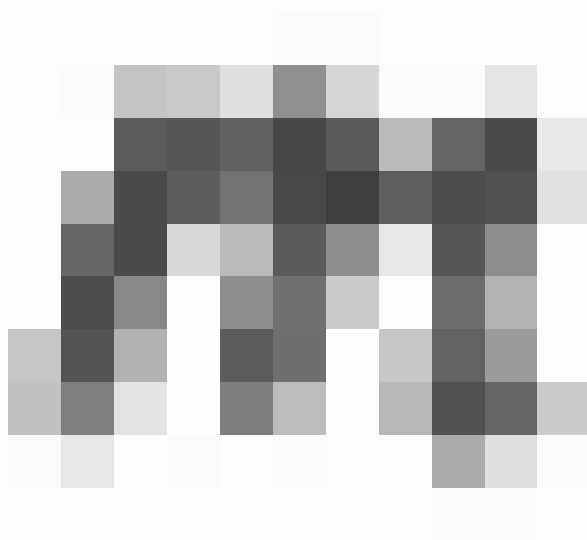
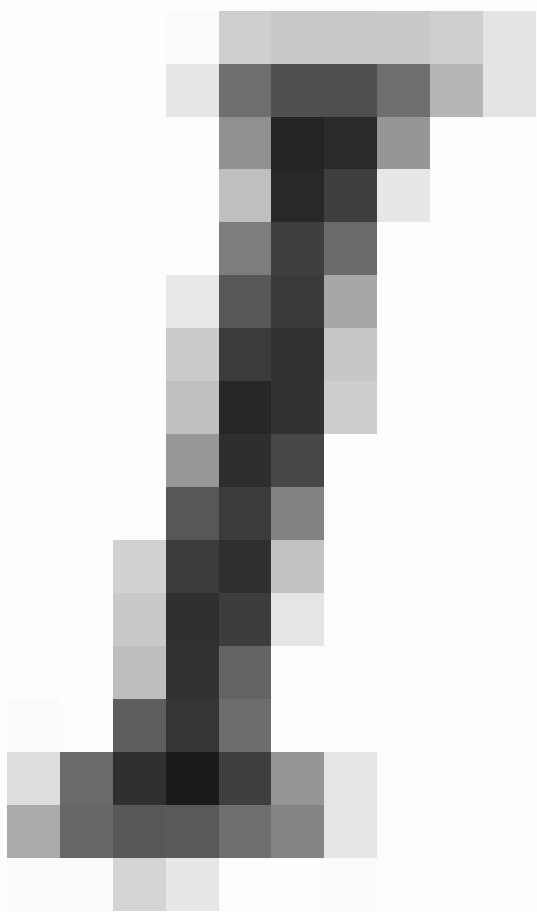




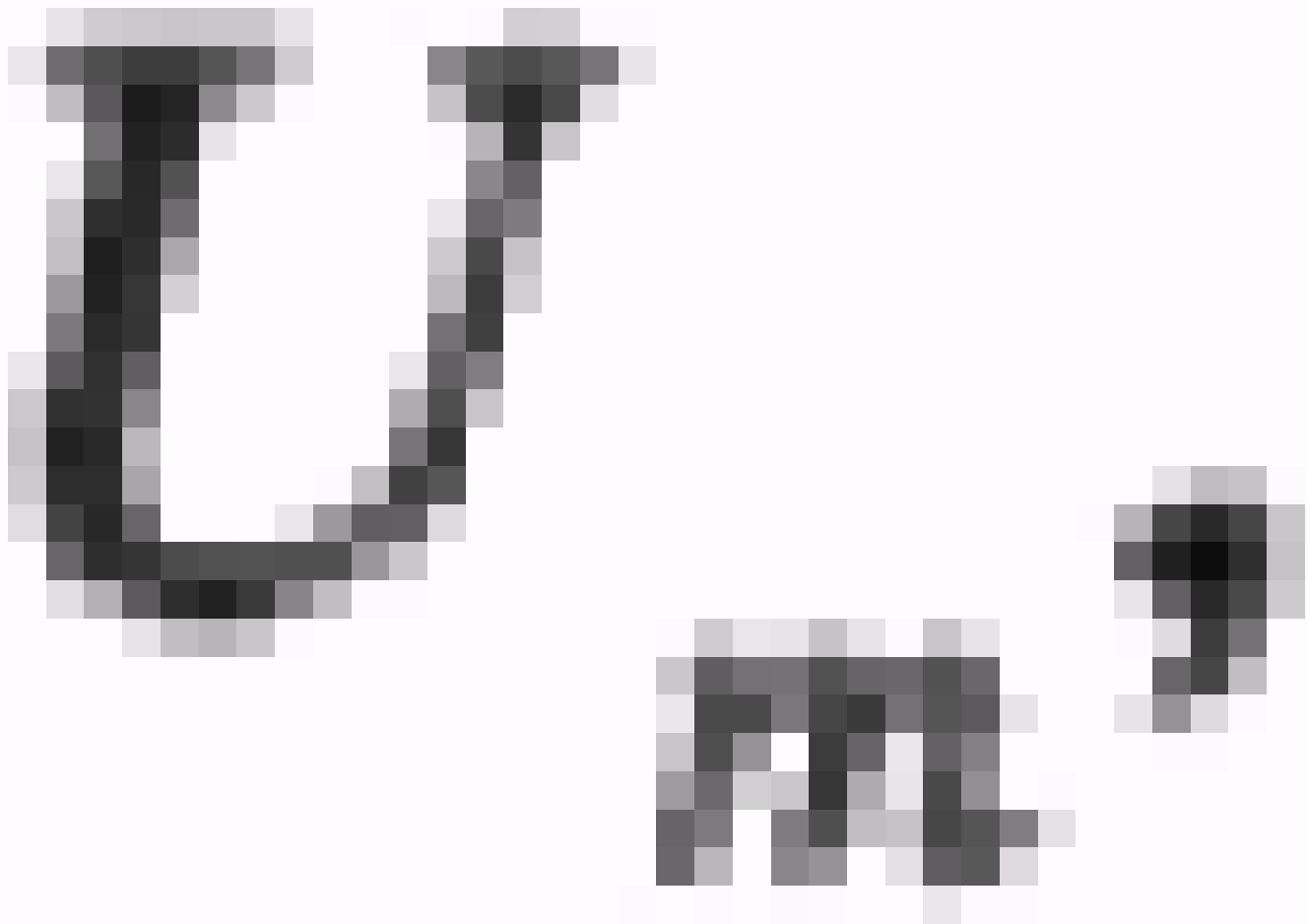




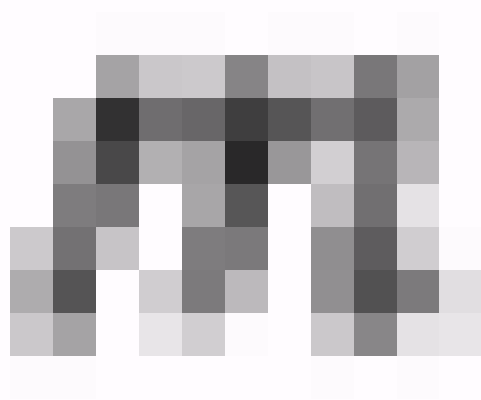
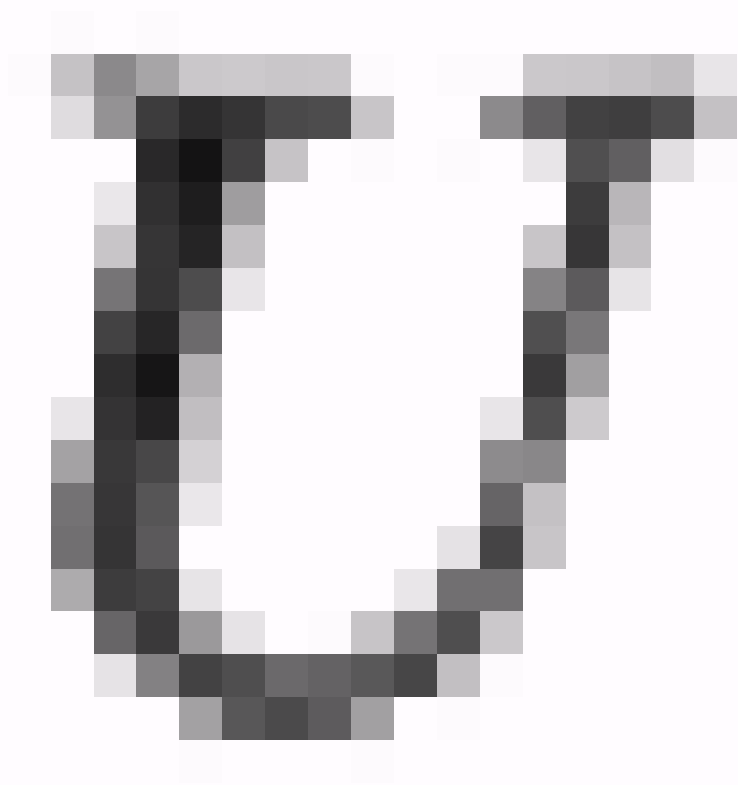


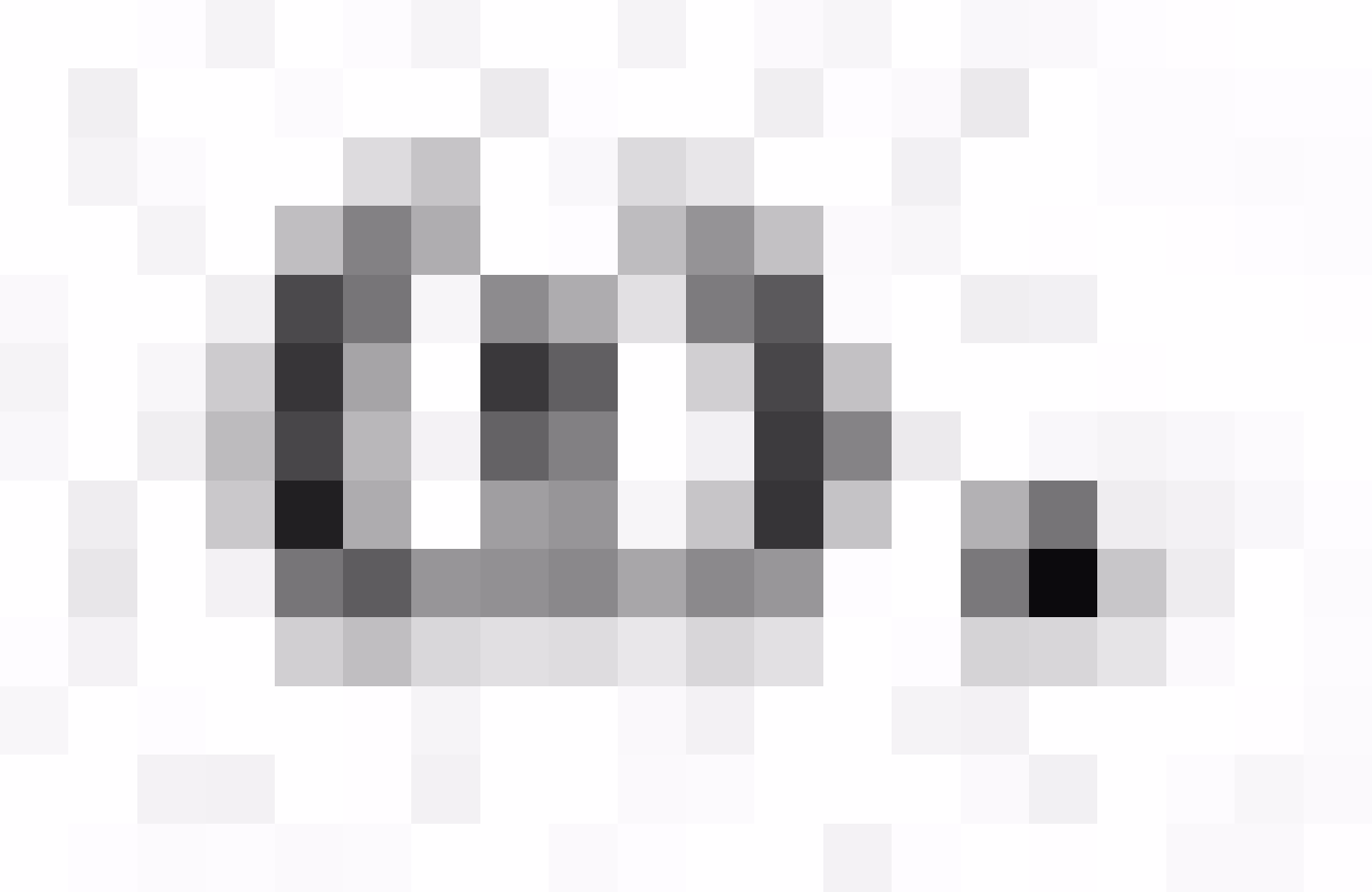


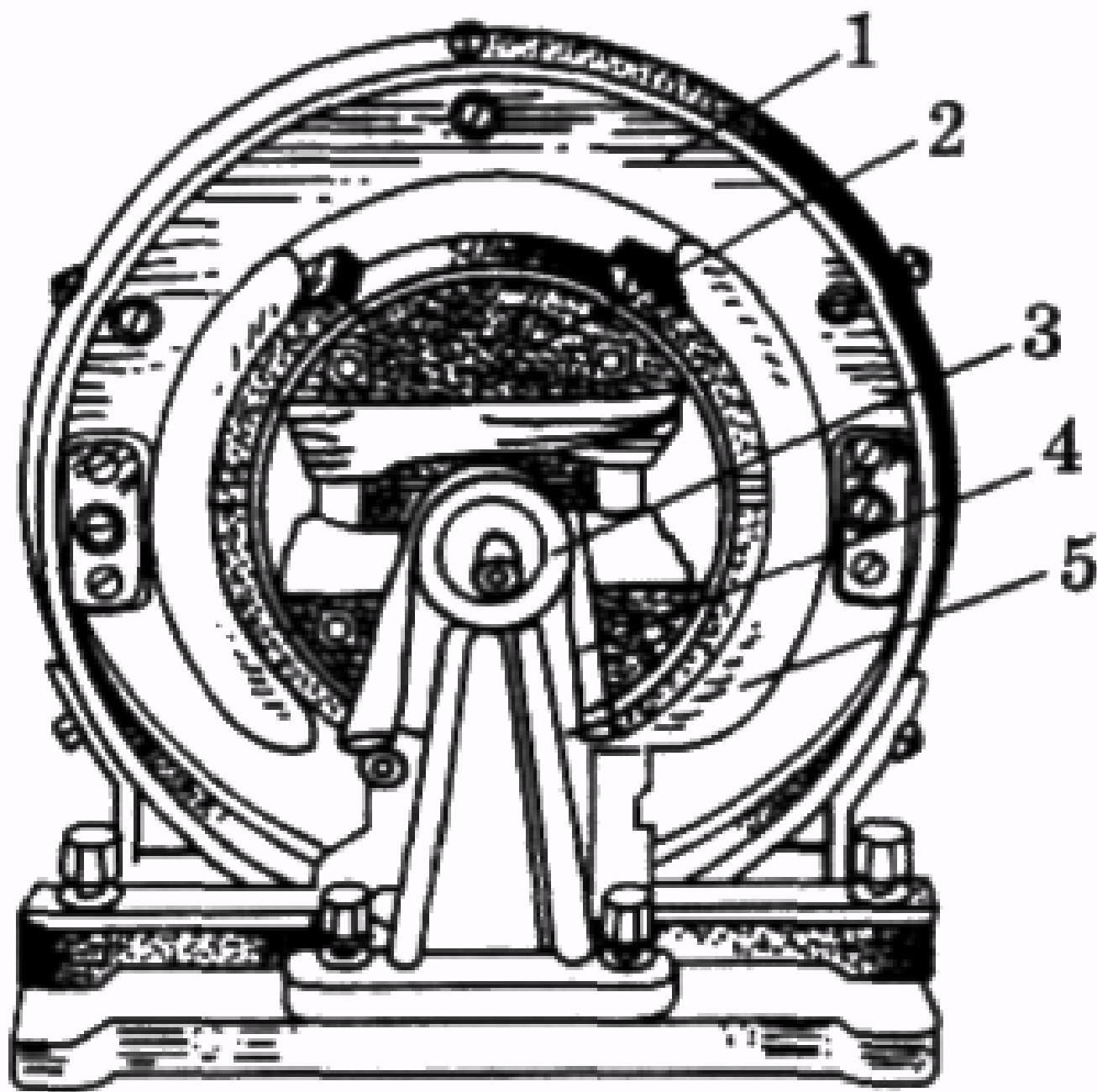




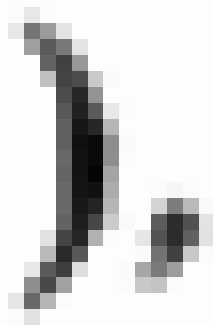
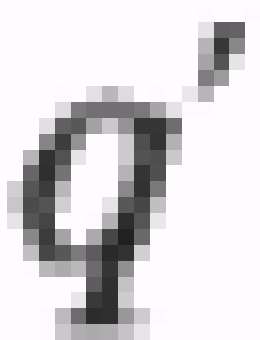
$v = U_m \cos \omega t$ (50.1)

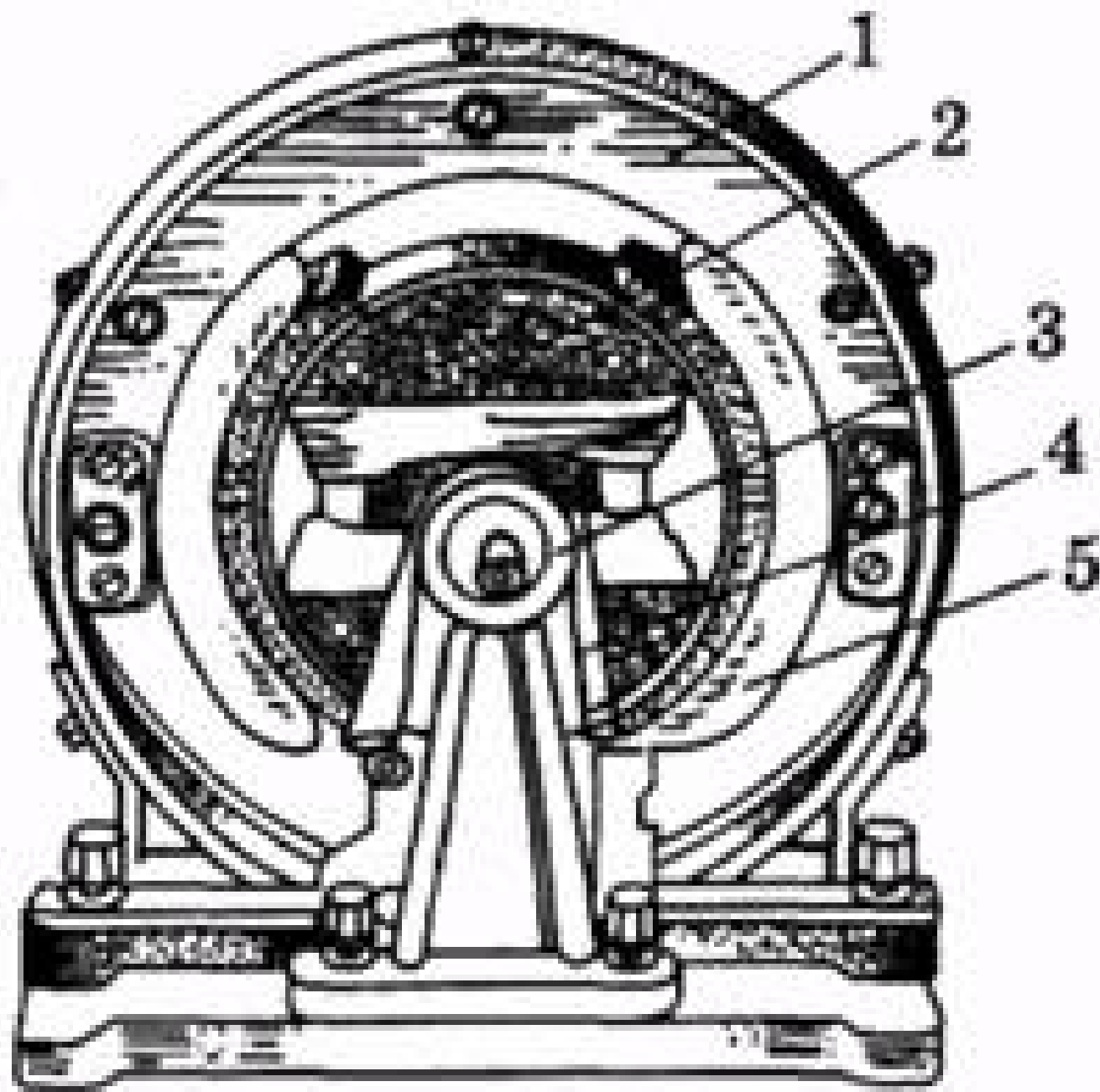




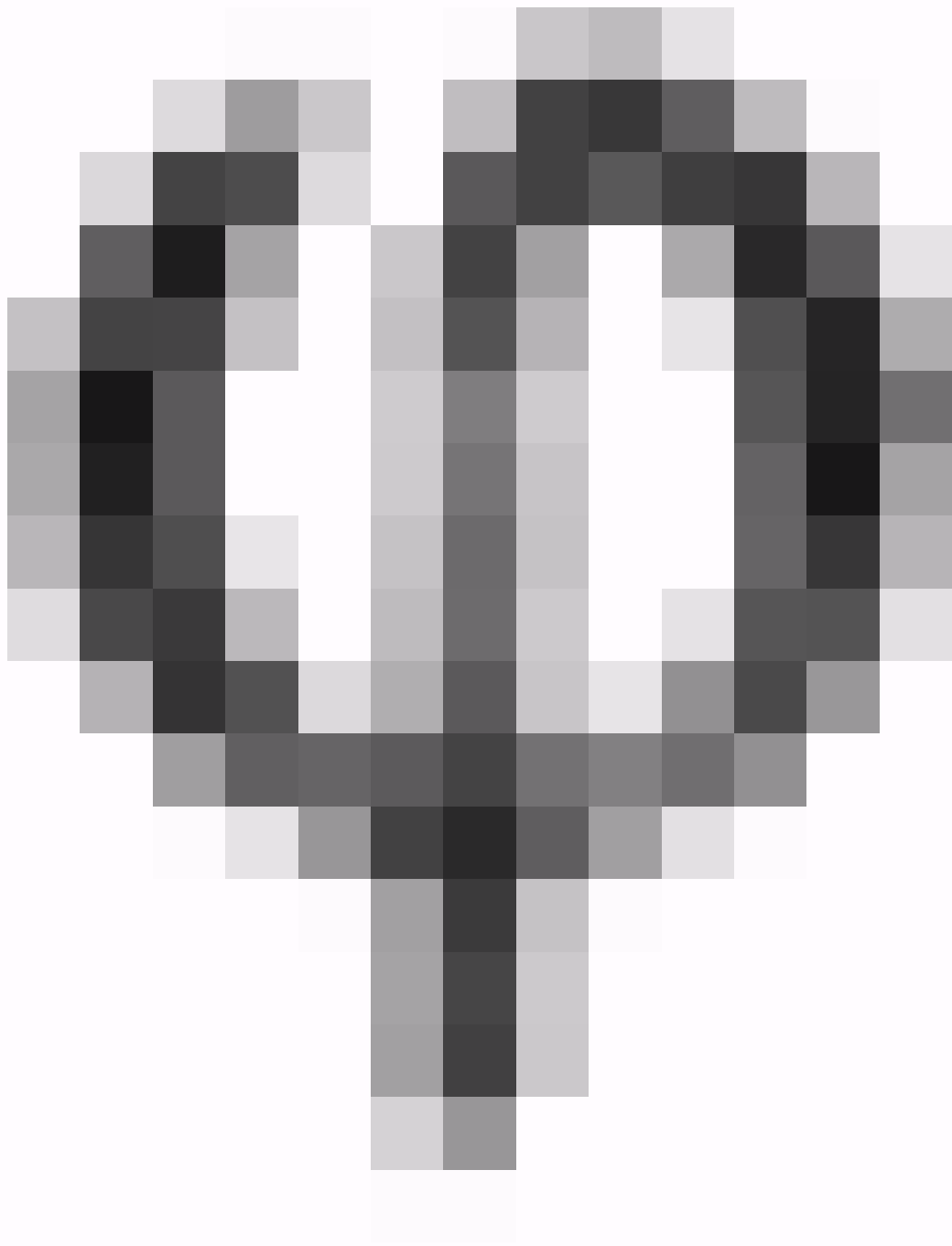


Мал. 2.159

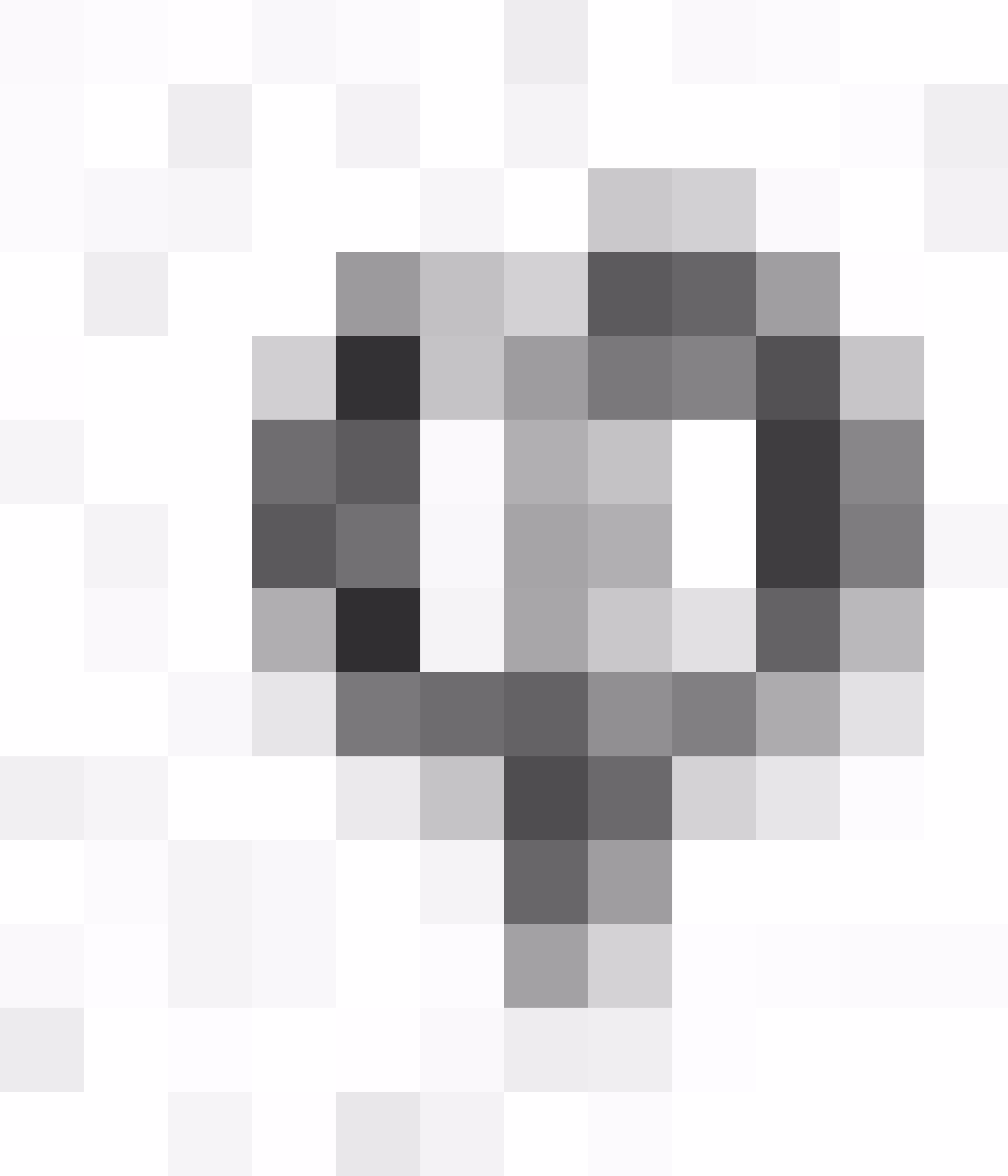




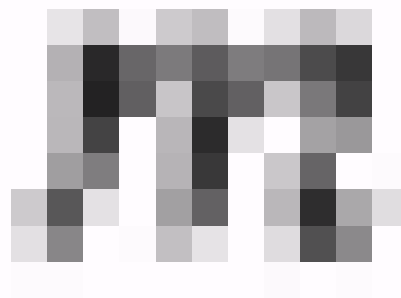
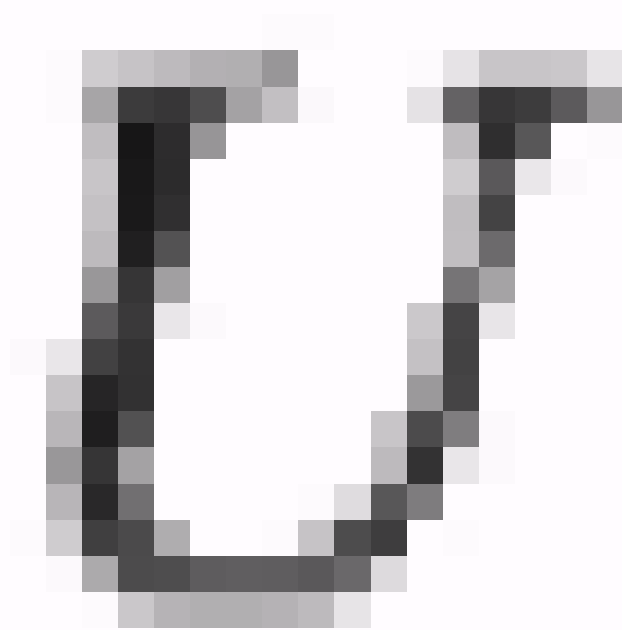
Мал. 2.159

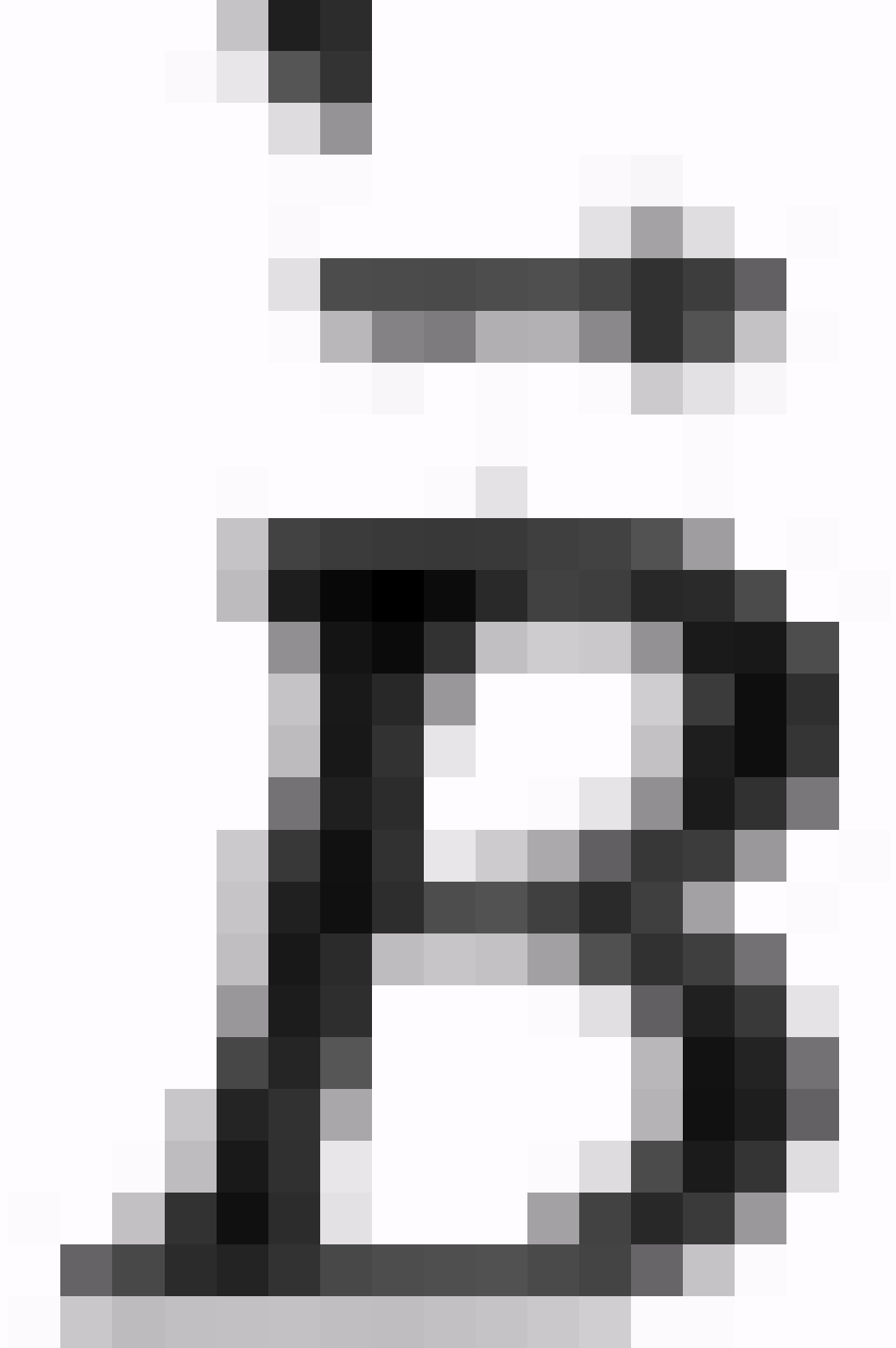


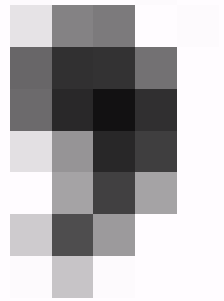
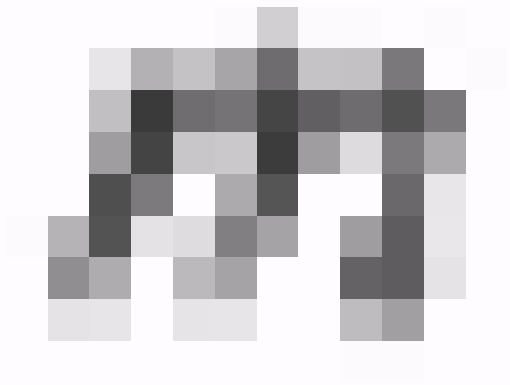
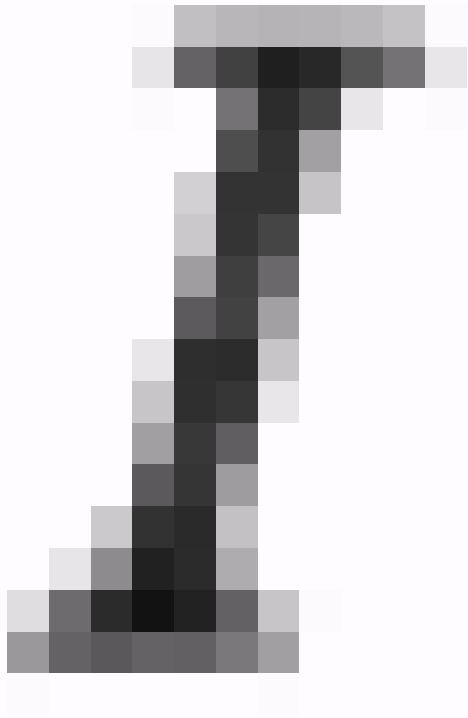
$$i = -V_m \omega C \sin \omega t = V_m \omega C \cos \left(\omega t + \frac{\pi}{2} \right) \quad (50.3).$$

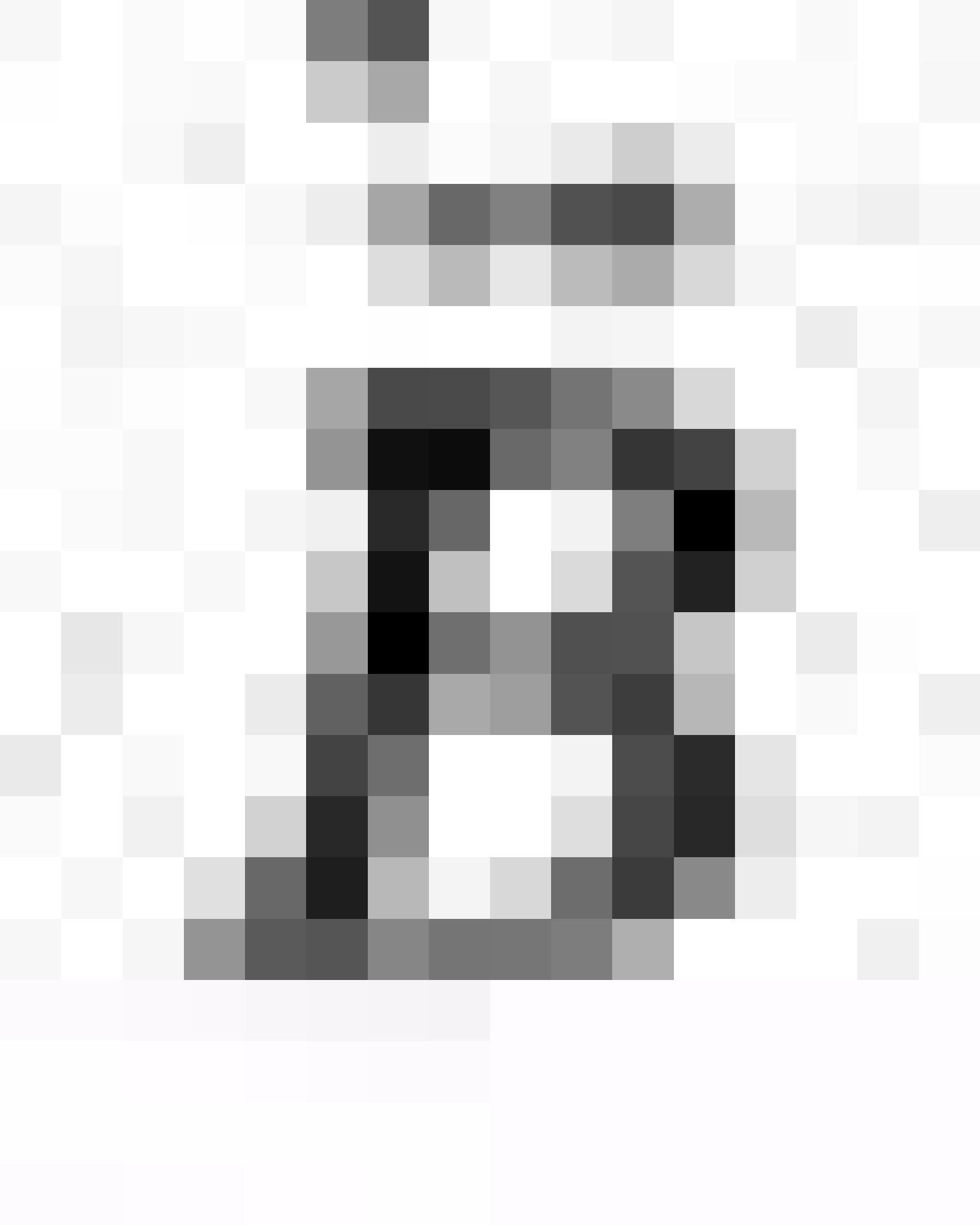


$\Phi = BS \phi$ (40.1)







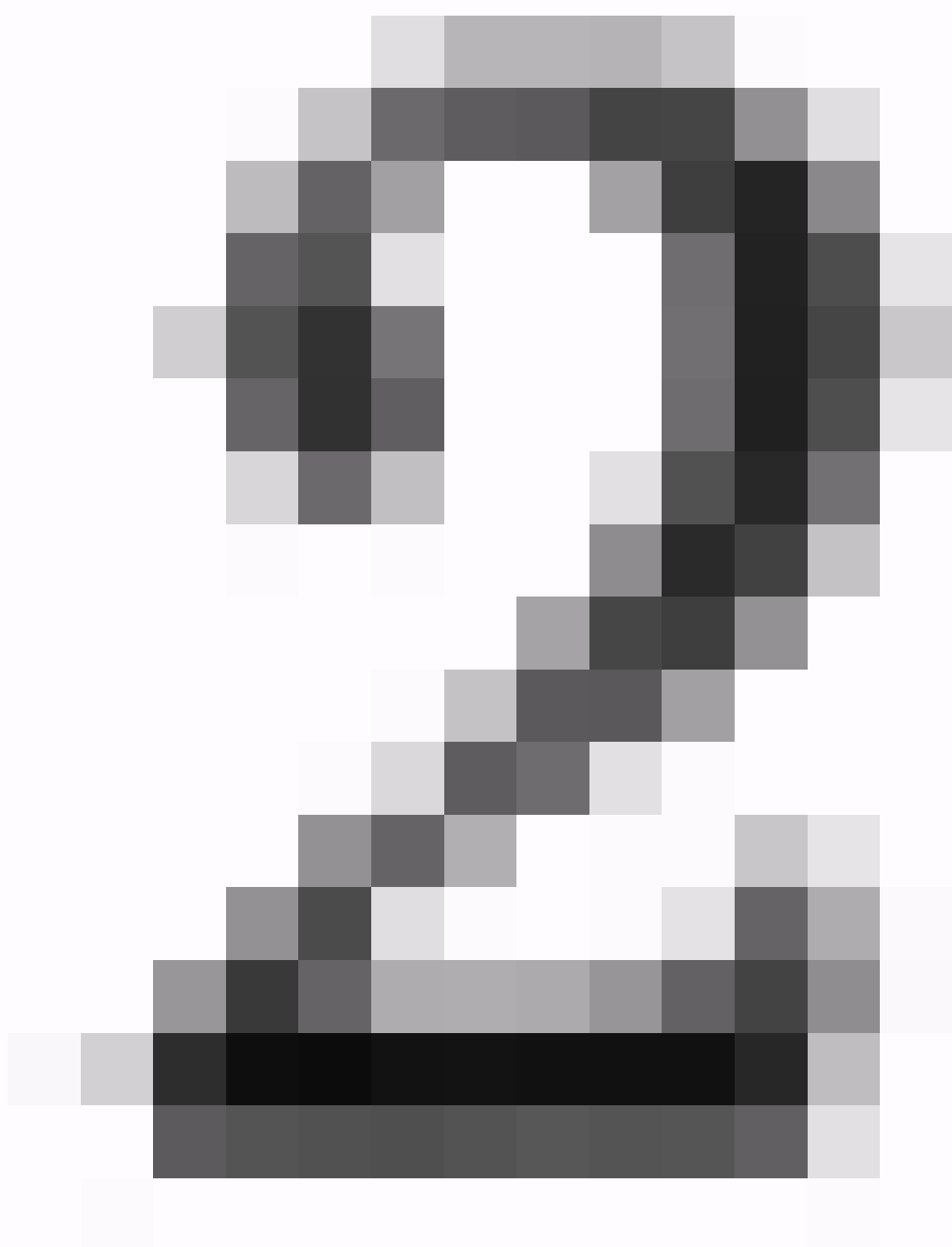
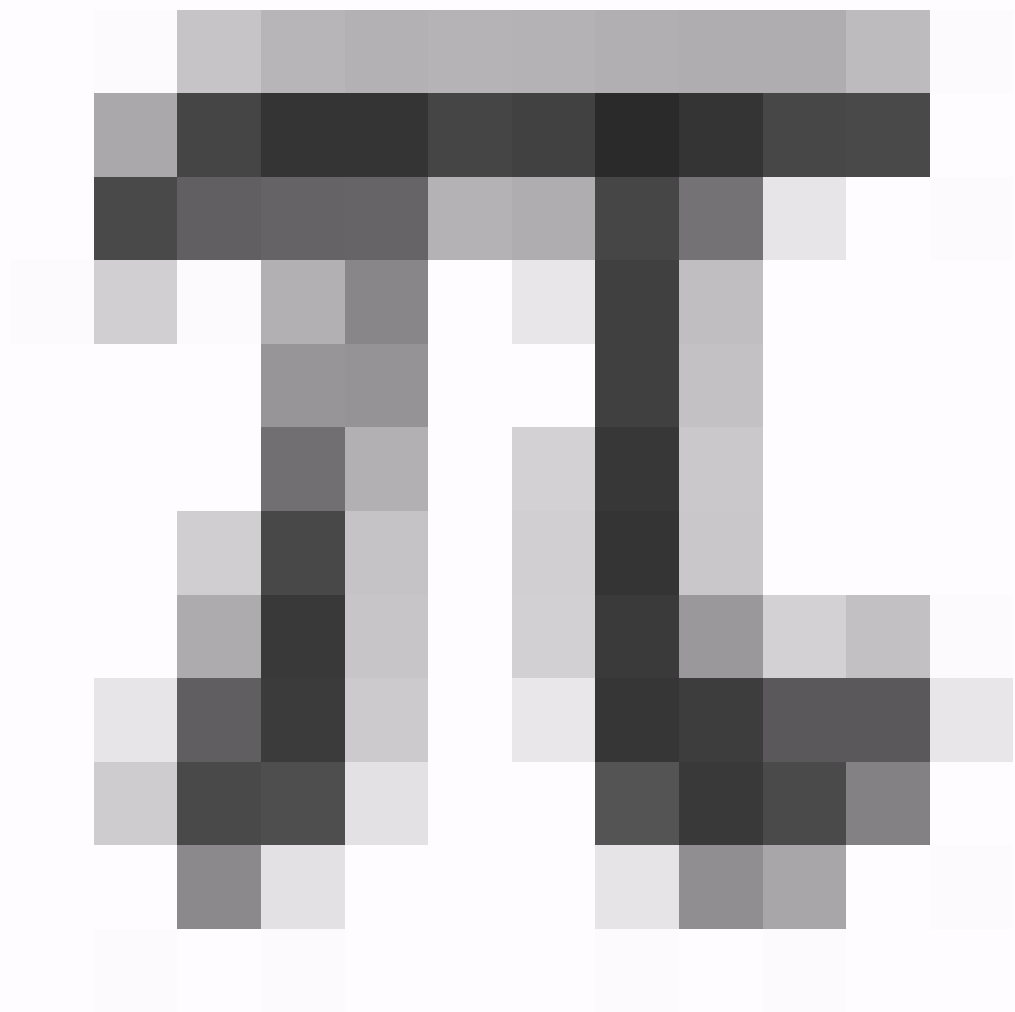


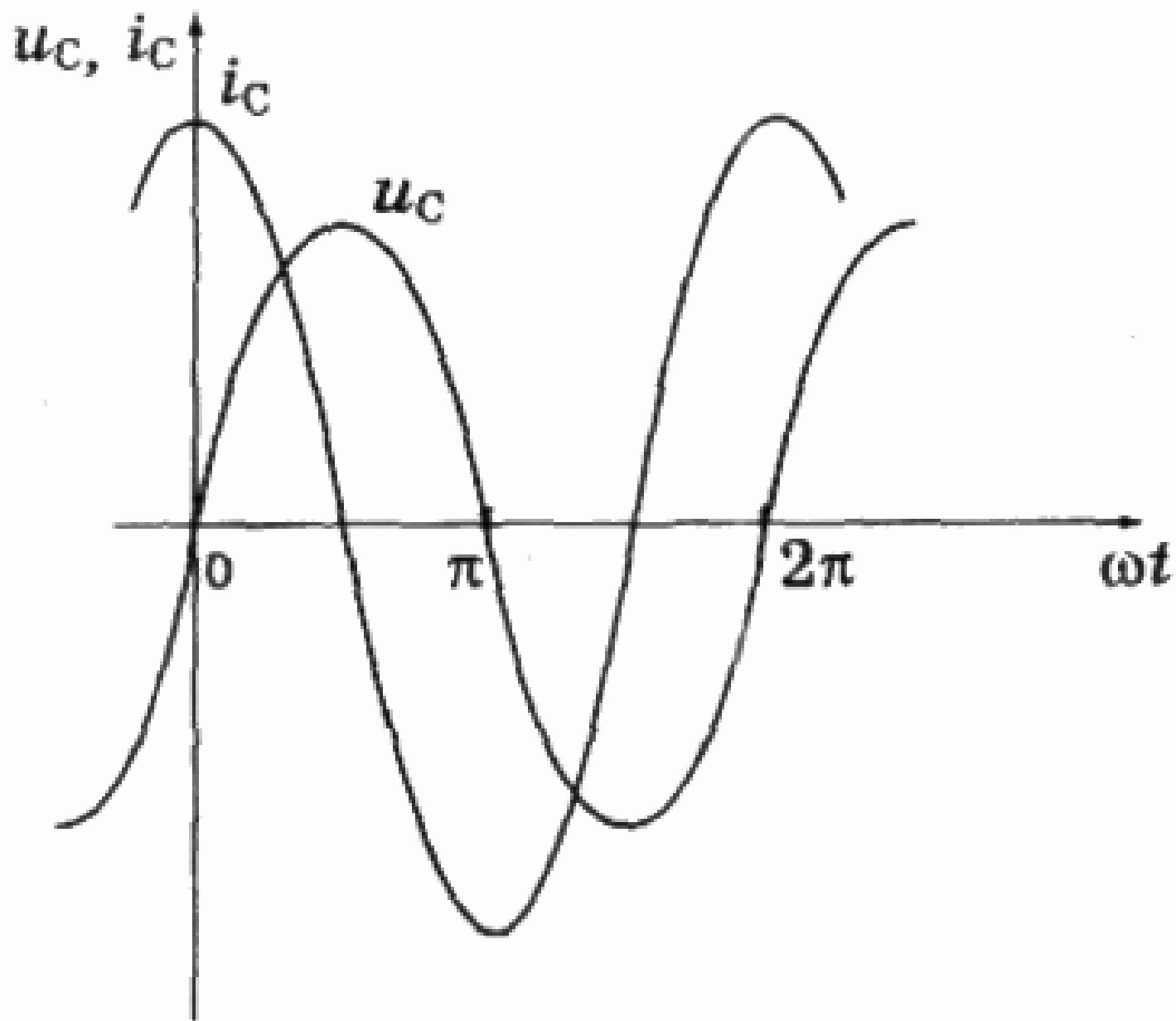
Im

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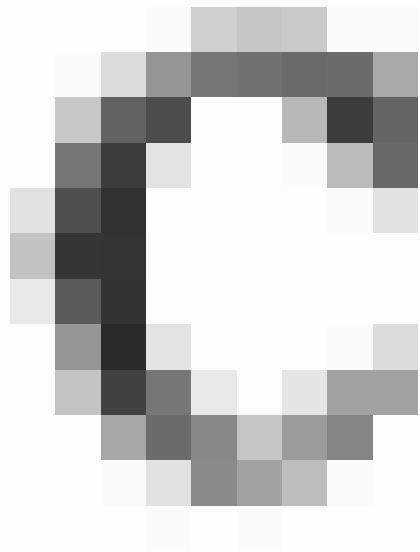
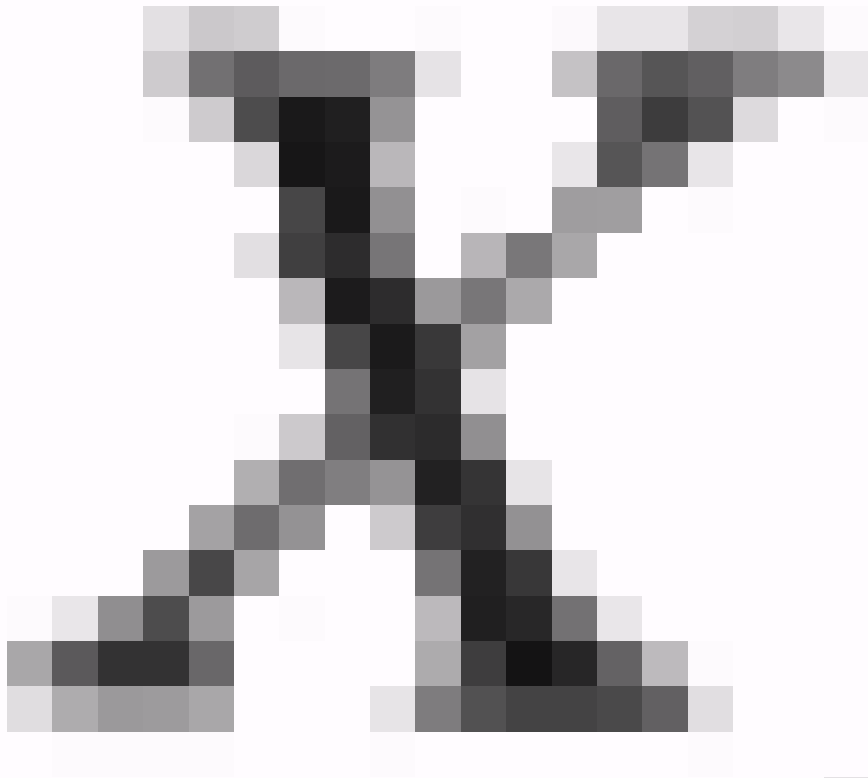
V_{max} C

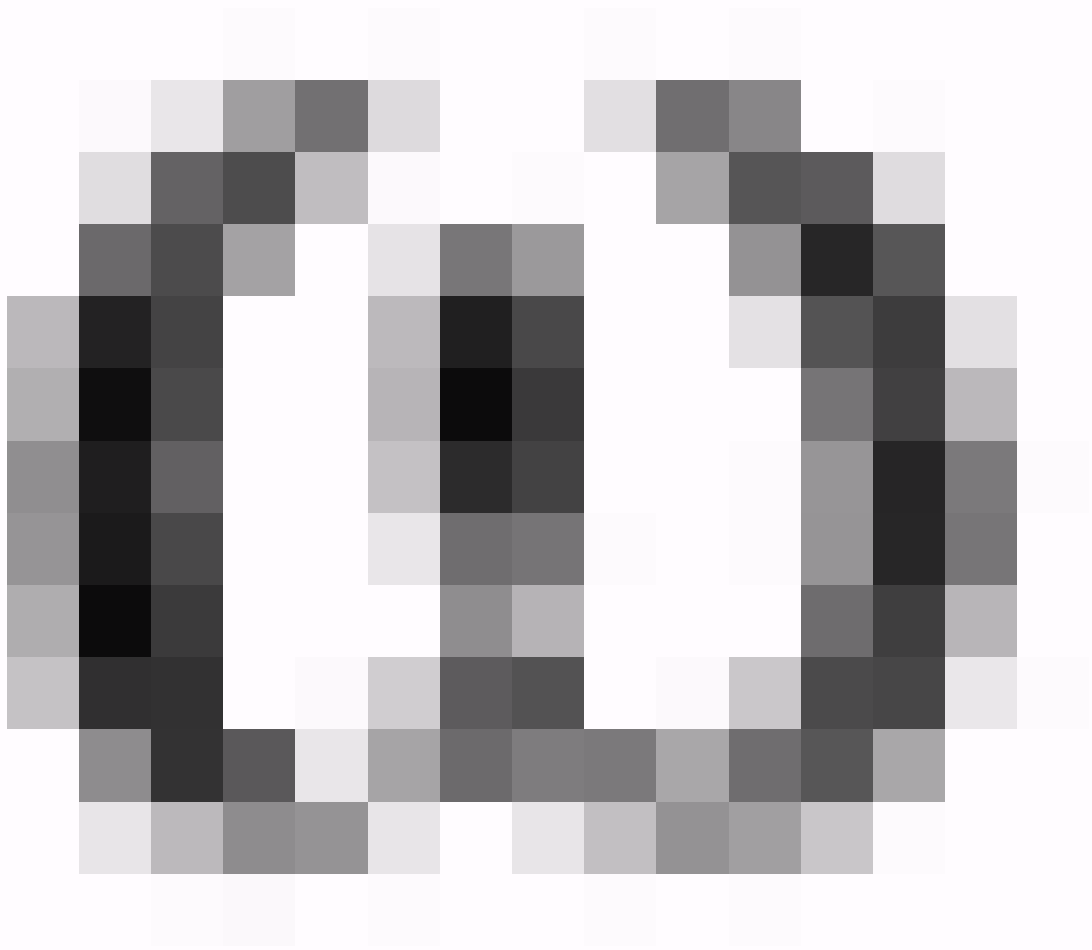
(50.4)

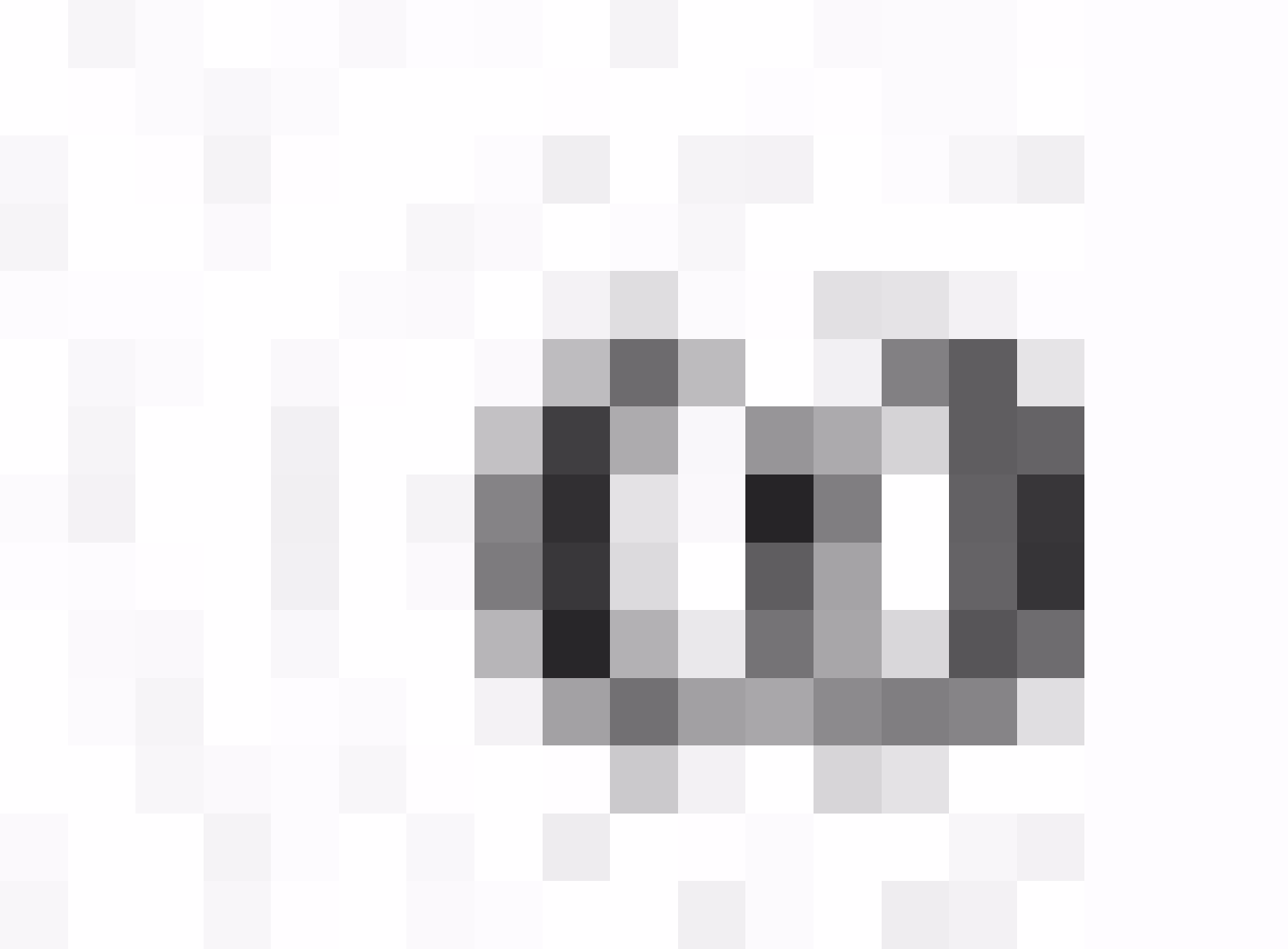




Мал. 2.161

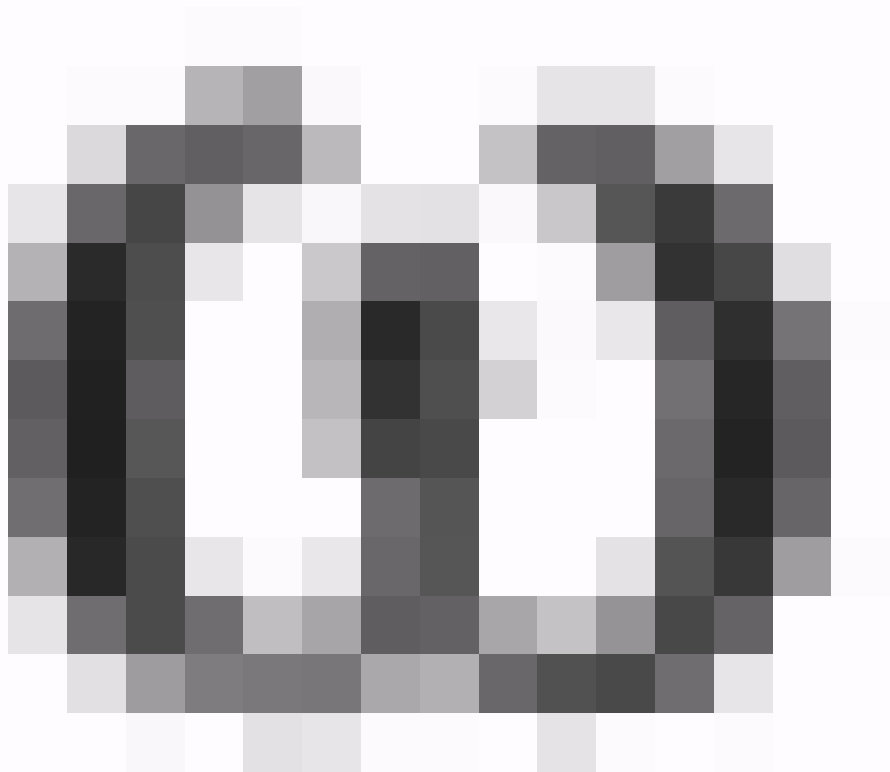


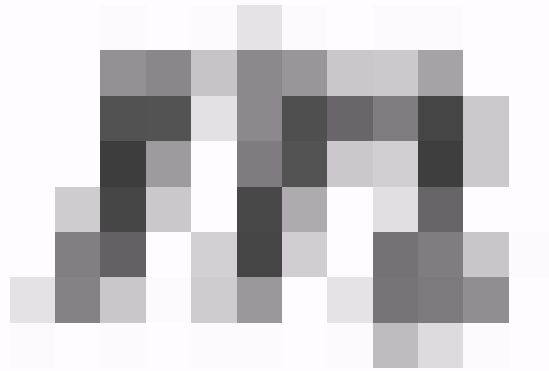
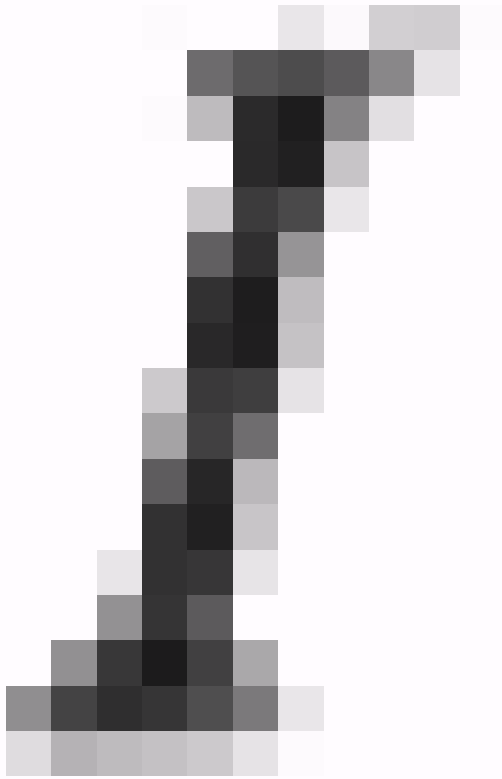


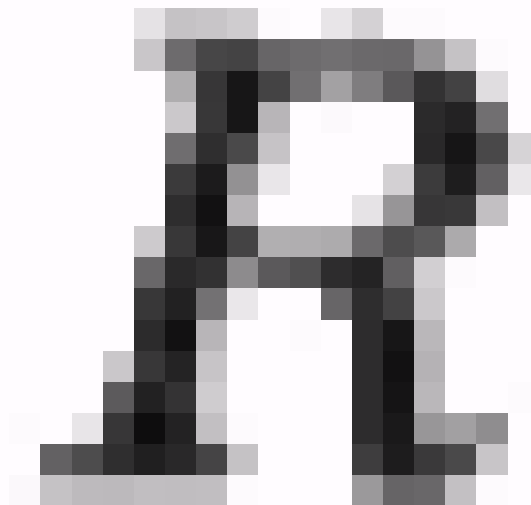
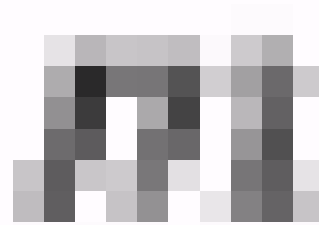
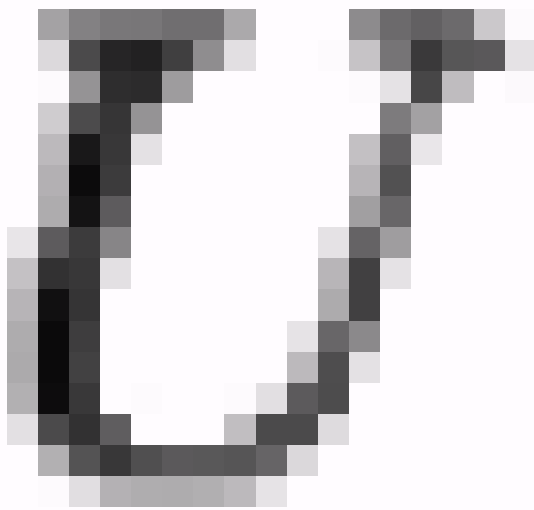


$$X_c = \frac{1}{\omega C} \quad (50.5)$$

$$I_m = \frac{U_m}{X_c} \quad (50.6)$$







I

A

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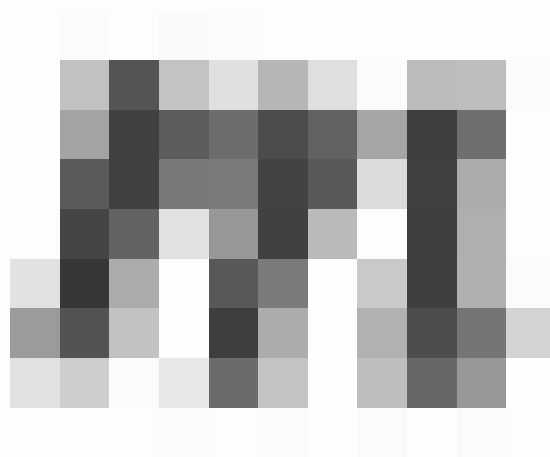
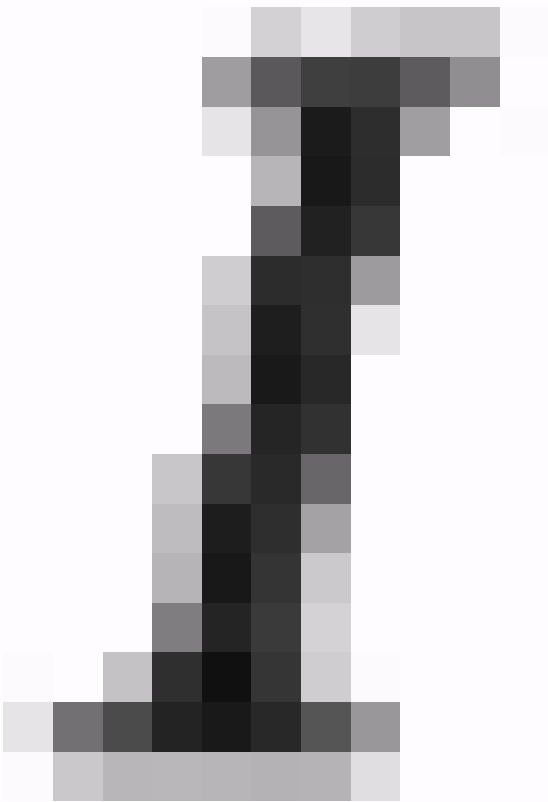
U

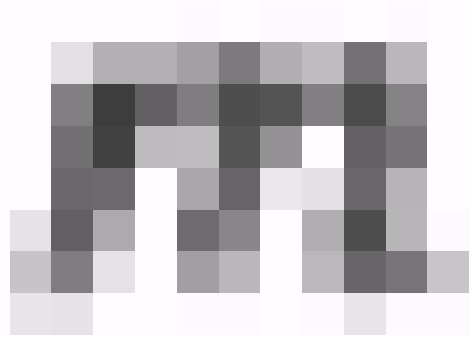
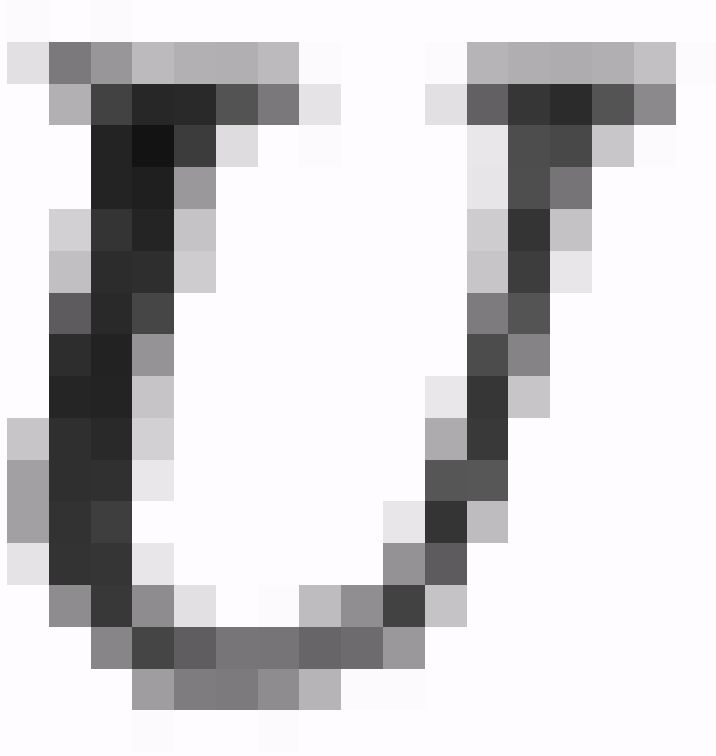
A

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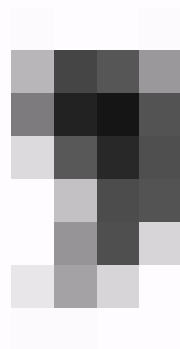
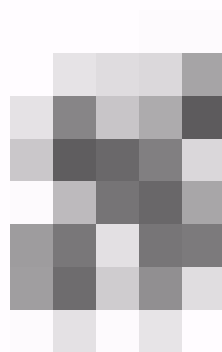
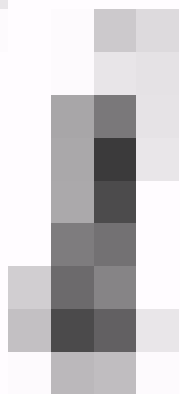
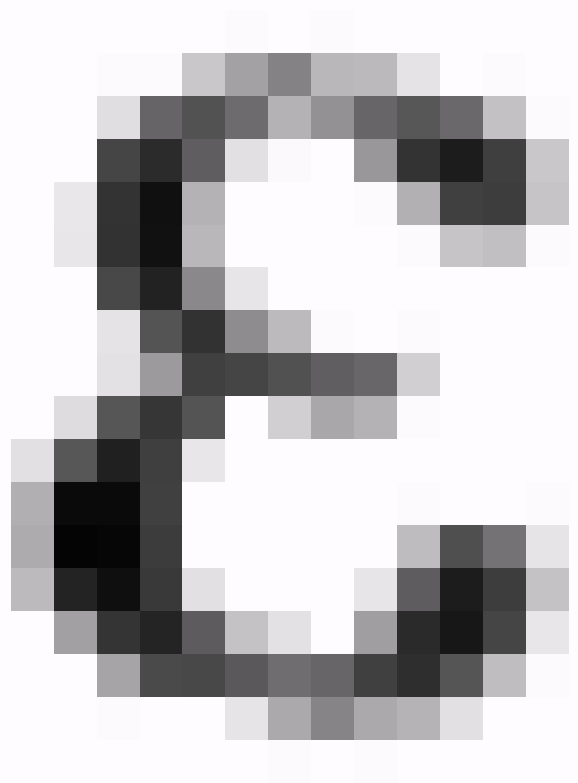
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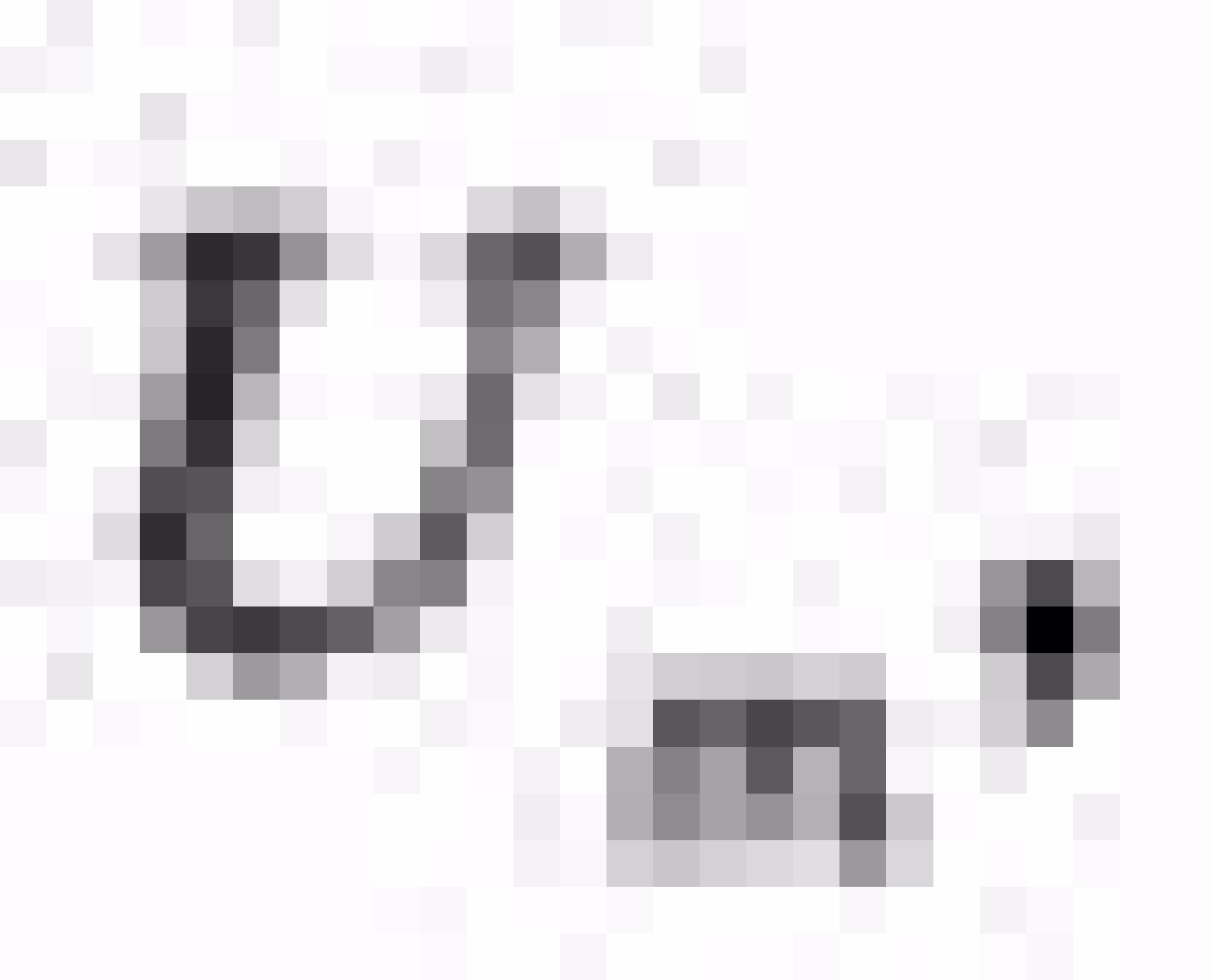
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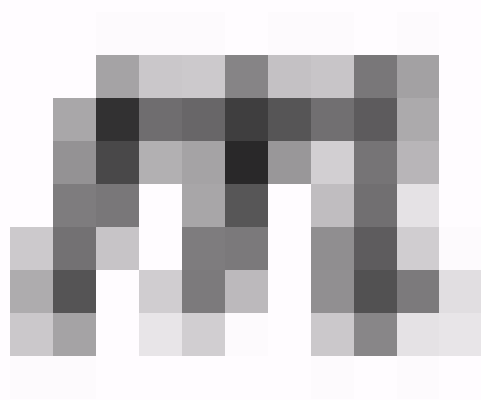
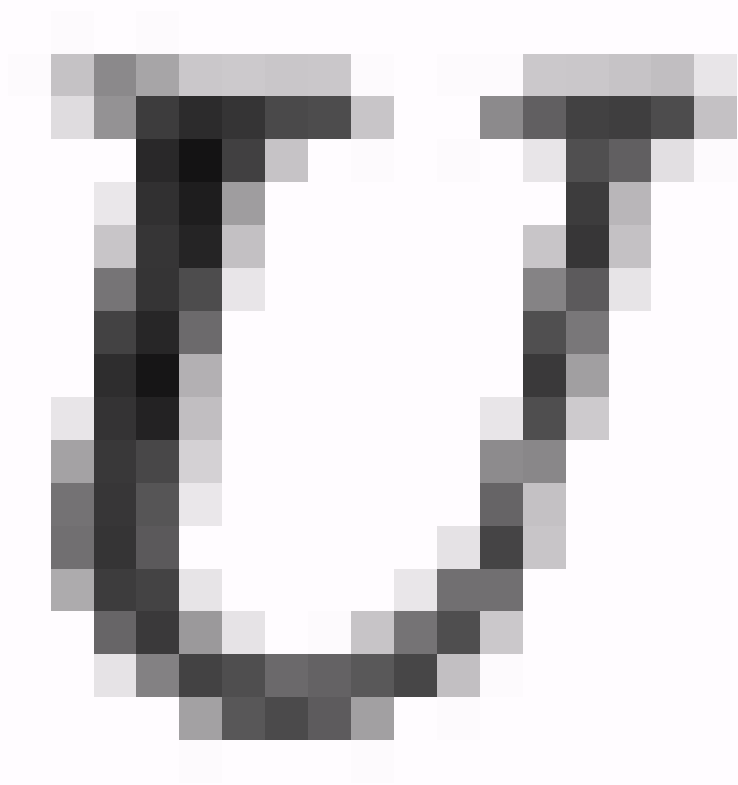








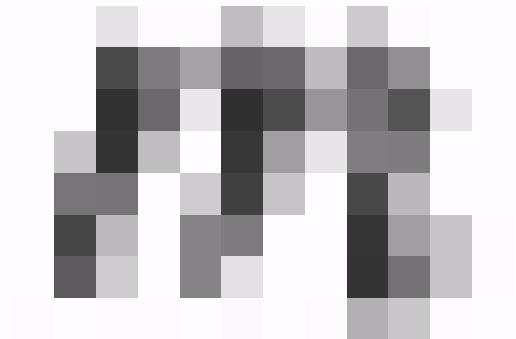
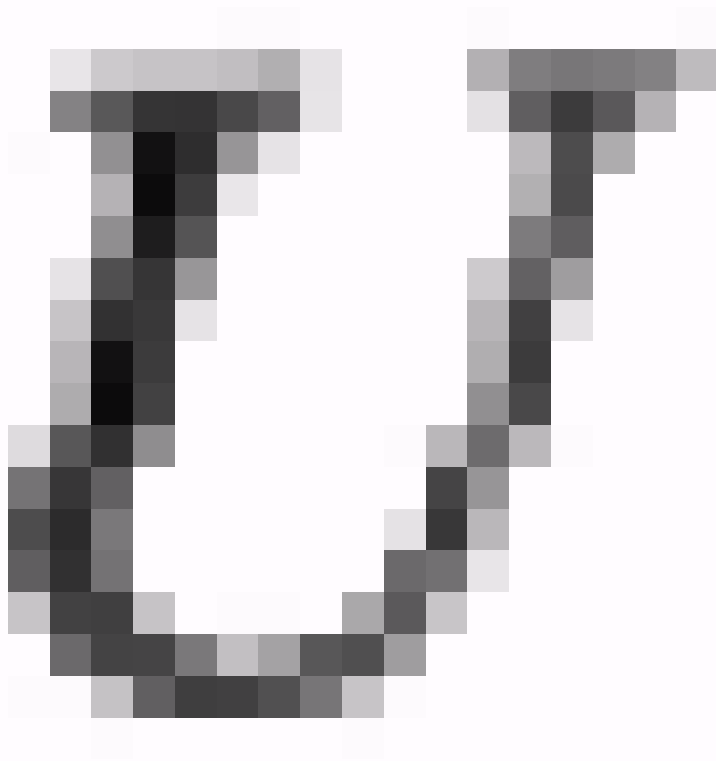


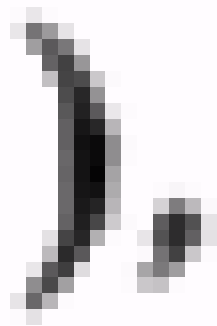
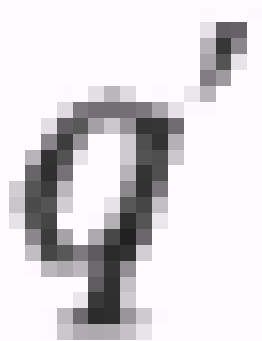


$$u = -I I_m \omega \sin \omega t = I I_m \omega \cos \left(\omega t + \frac{\pi}{2} \right) \quad (50.8)$$



Q = WC = V_m C₀₈ wt (50.2)



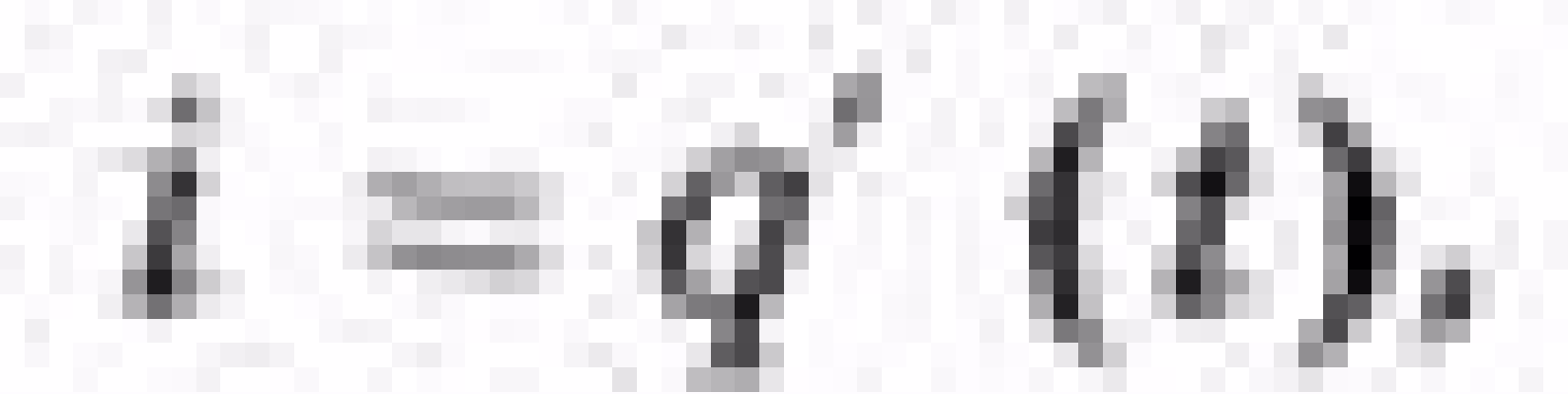


V_m

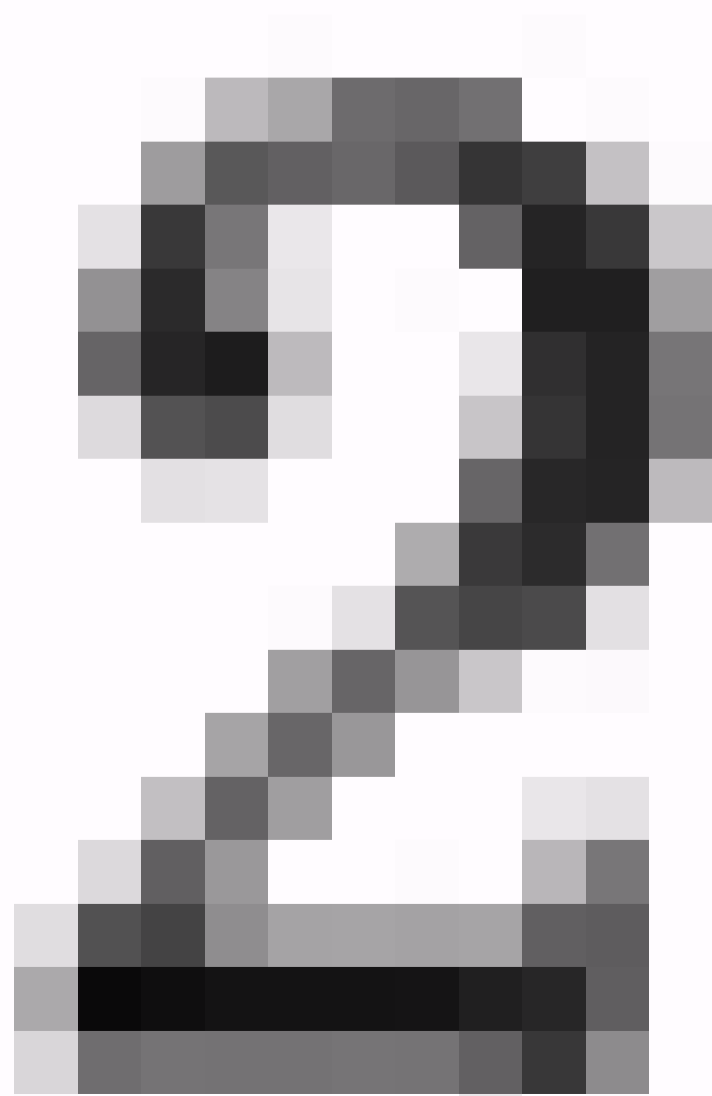
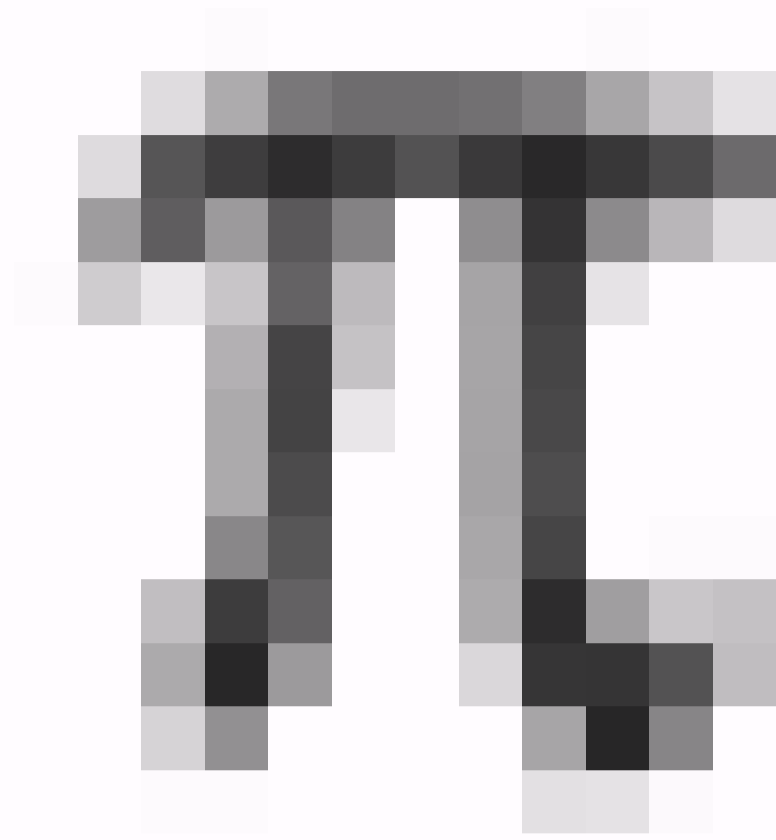
=

$I_{wo} M$

(50.9)



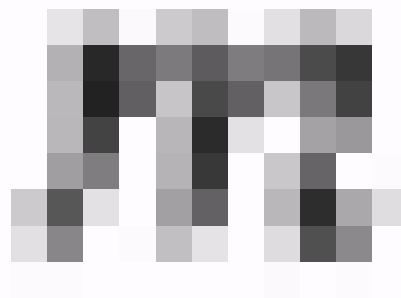
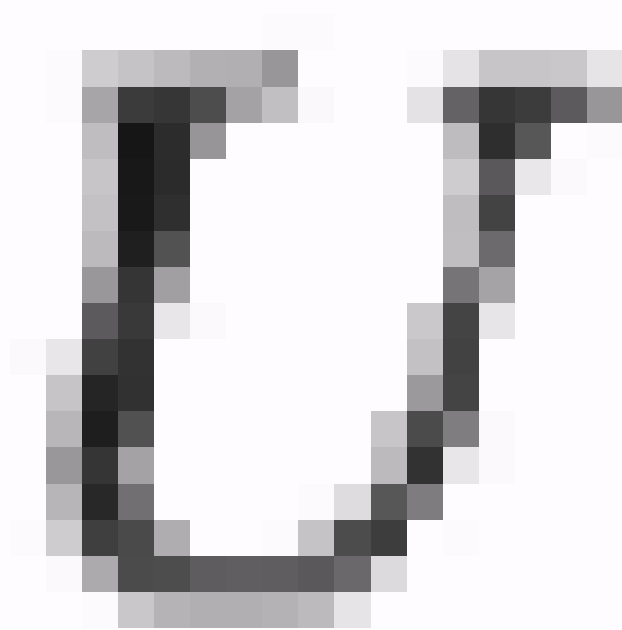
$$i = -V_m \omega C \sin \omega t = V_m \omega C \cos \left(\omega t + \frac{\pi}{2} \right) \quad (50.3).$$

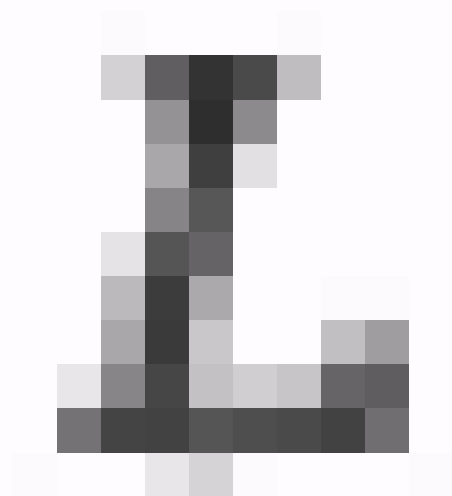
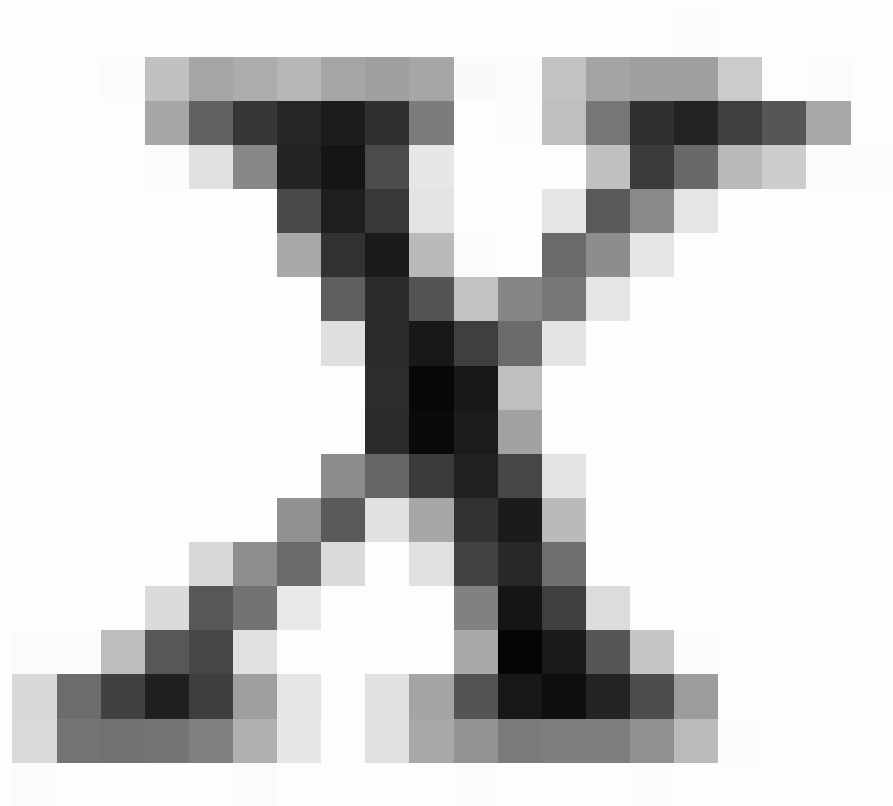


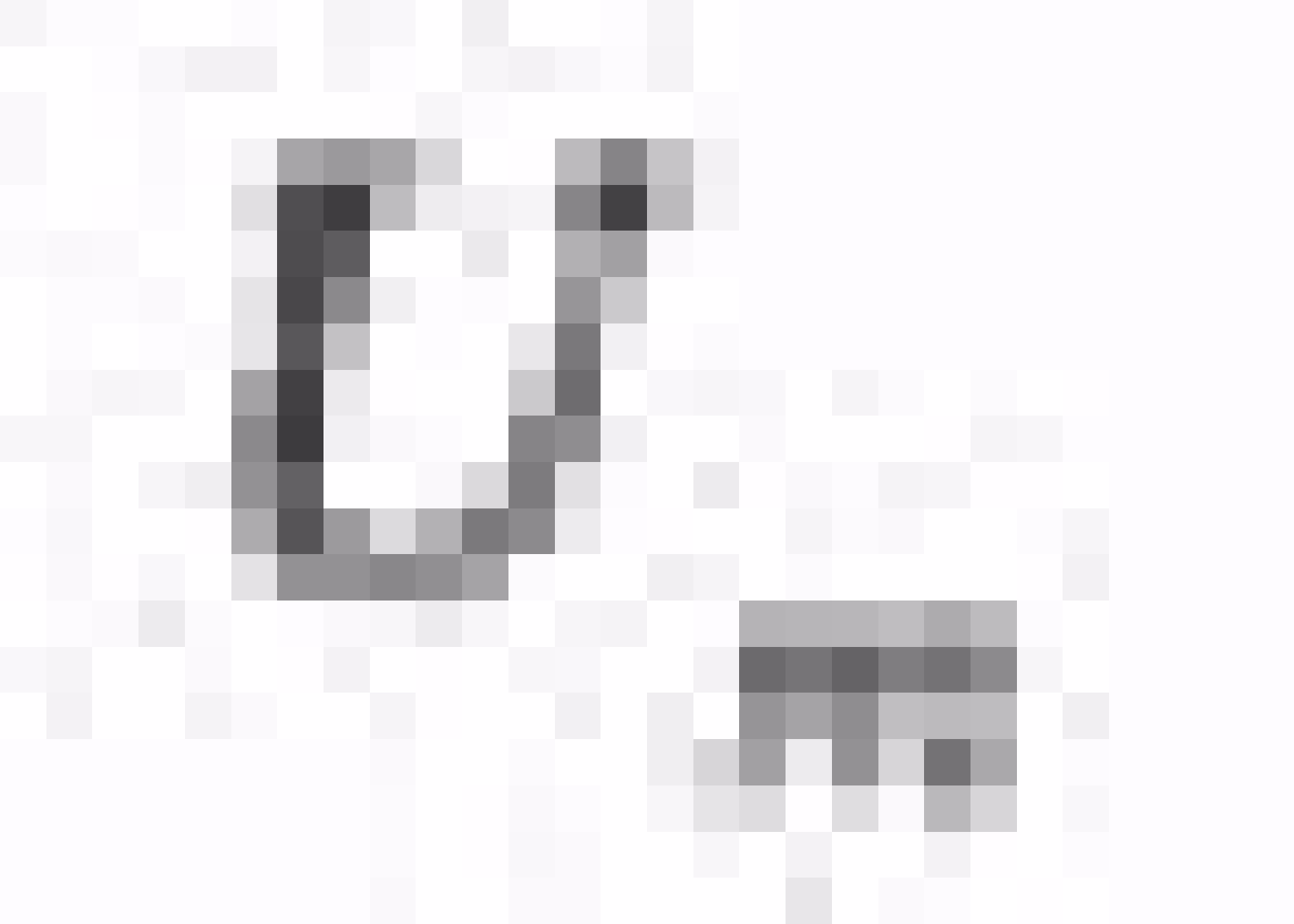
1. $\frac{1}{x} = x^{-1}$

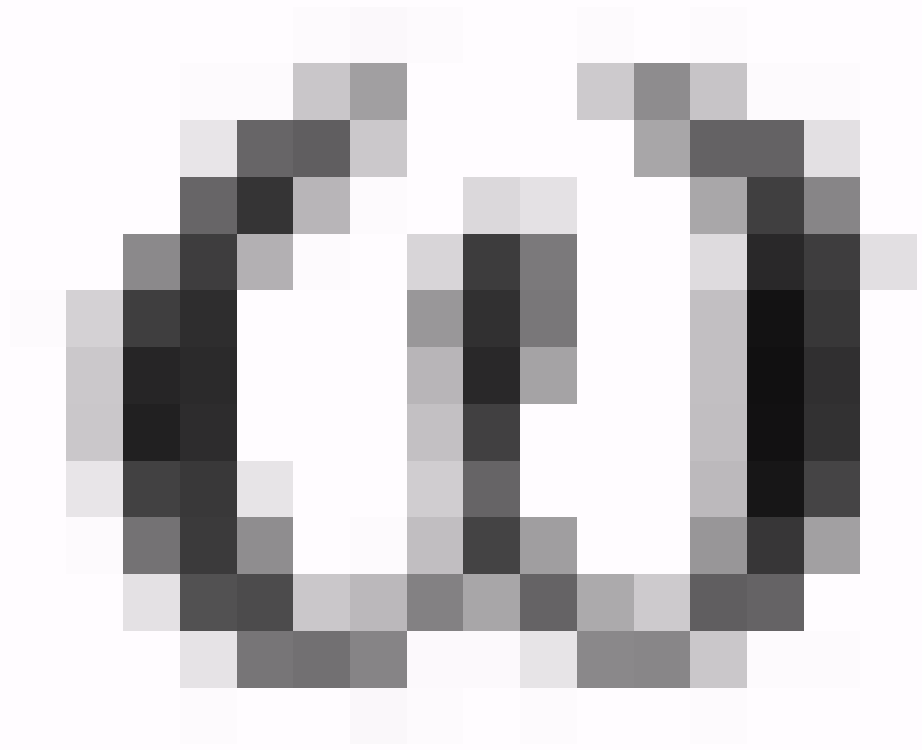
2. $\frac{d}{dx} x^{-1} = -1 x^{-2}$

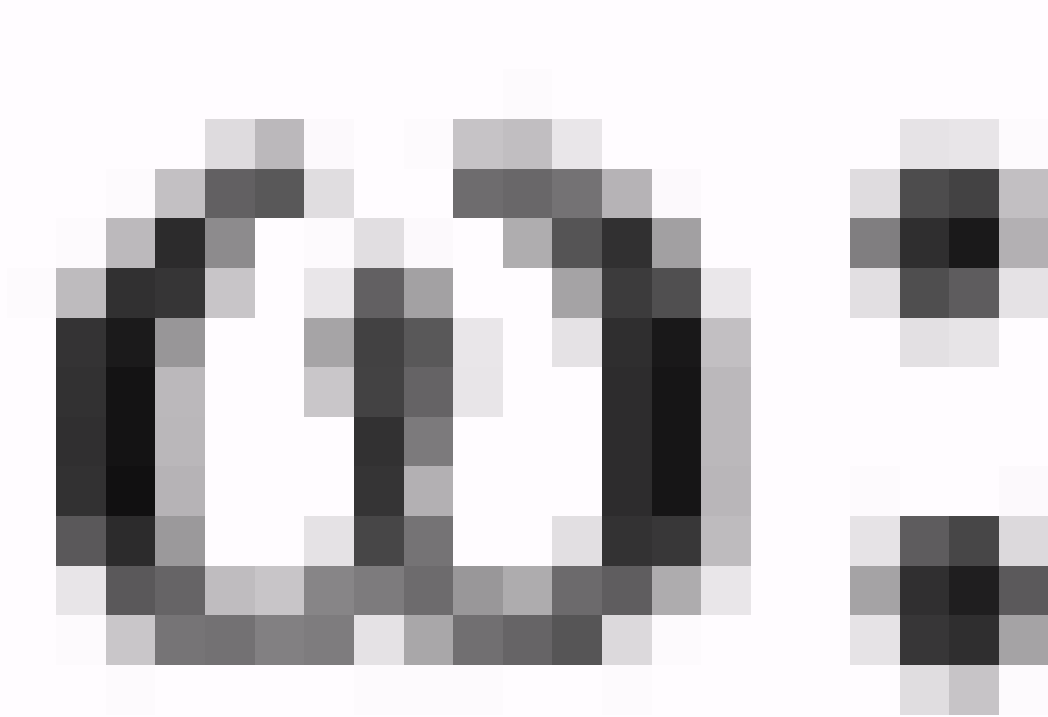
3. $= -\frac{1}{x^2}$











$X_1 = \omega_1$

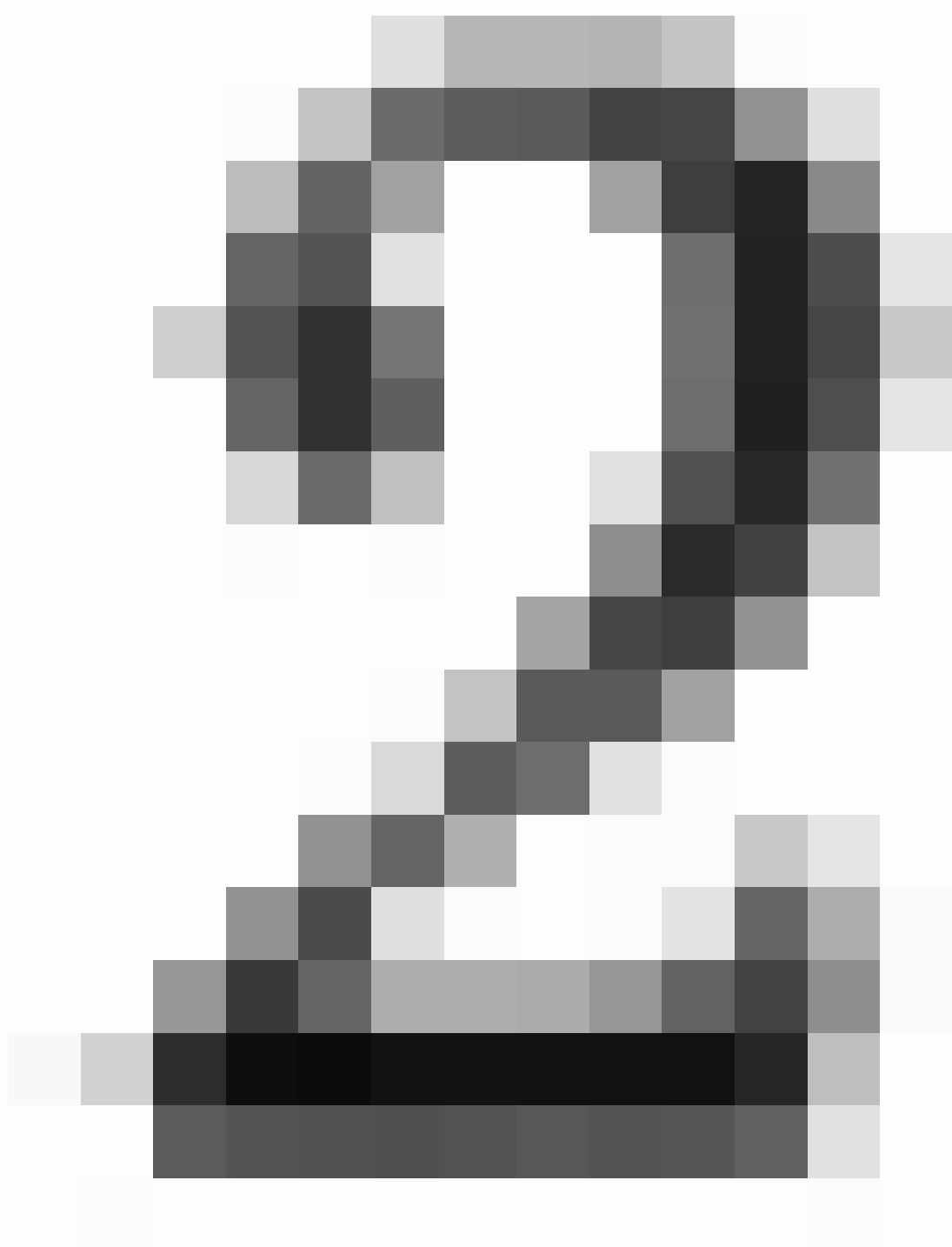
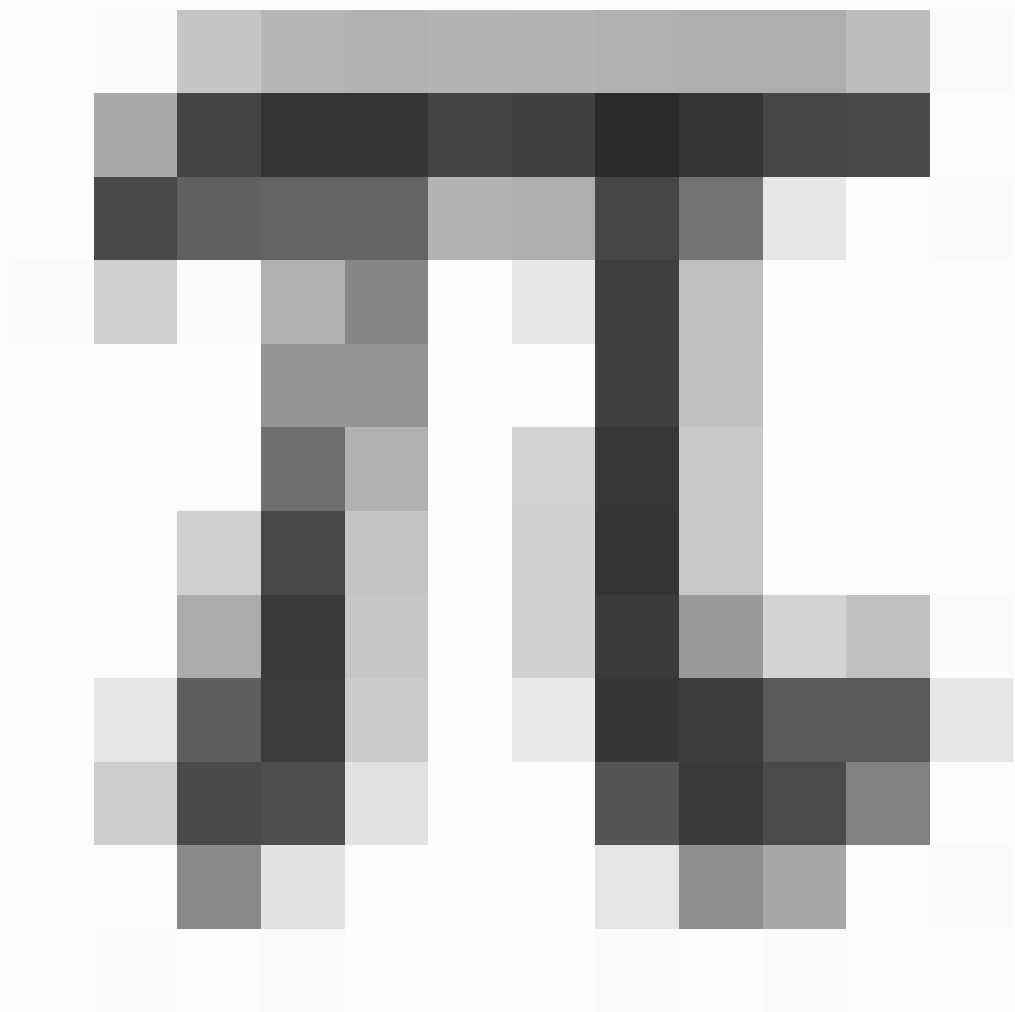
(50, 10)

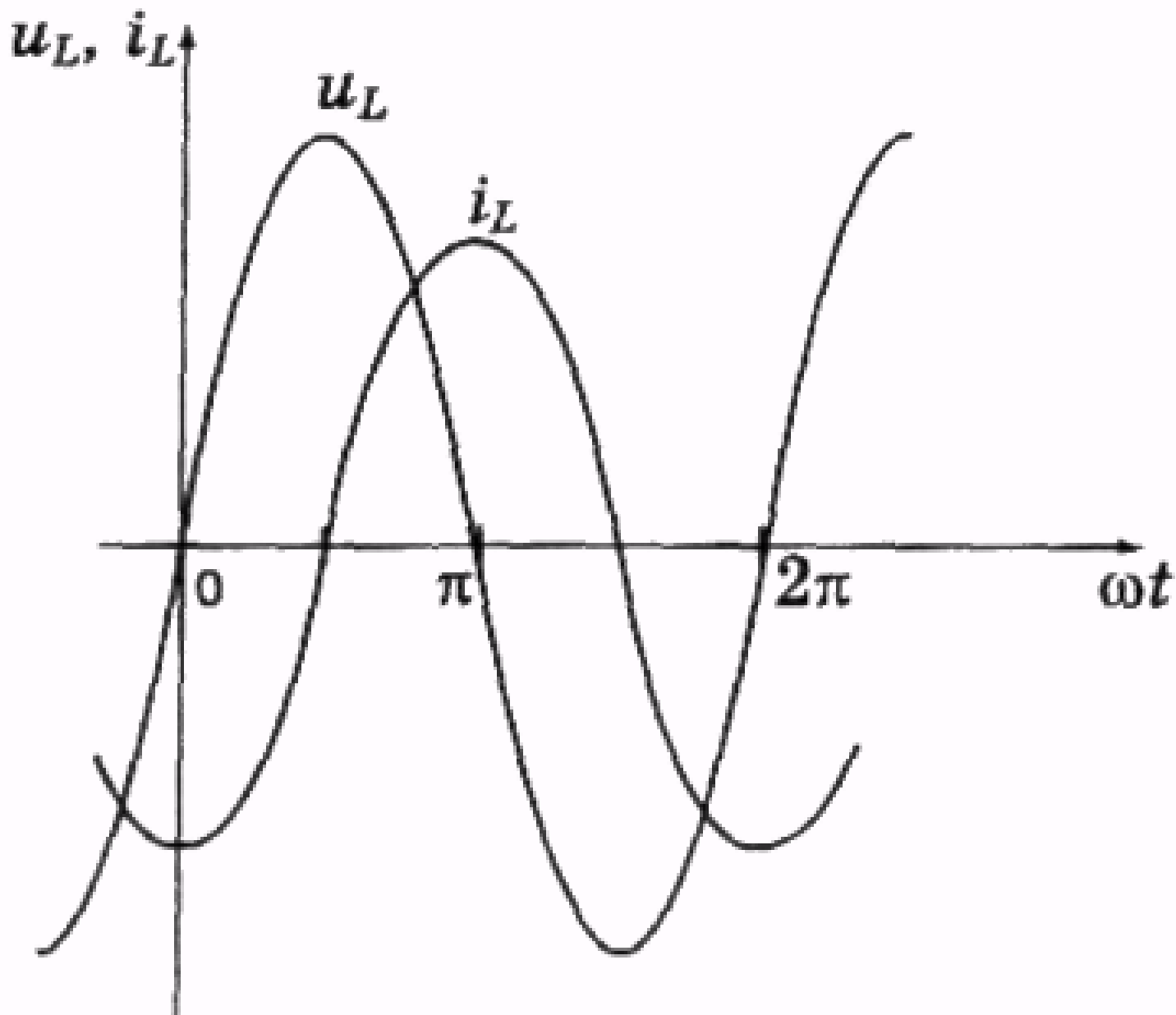
1

2

3

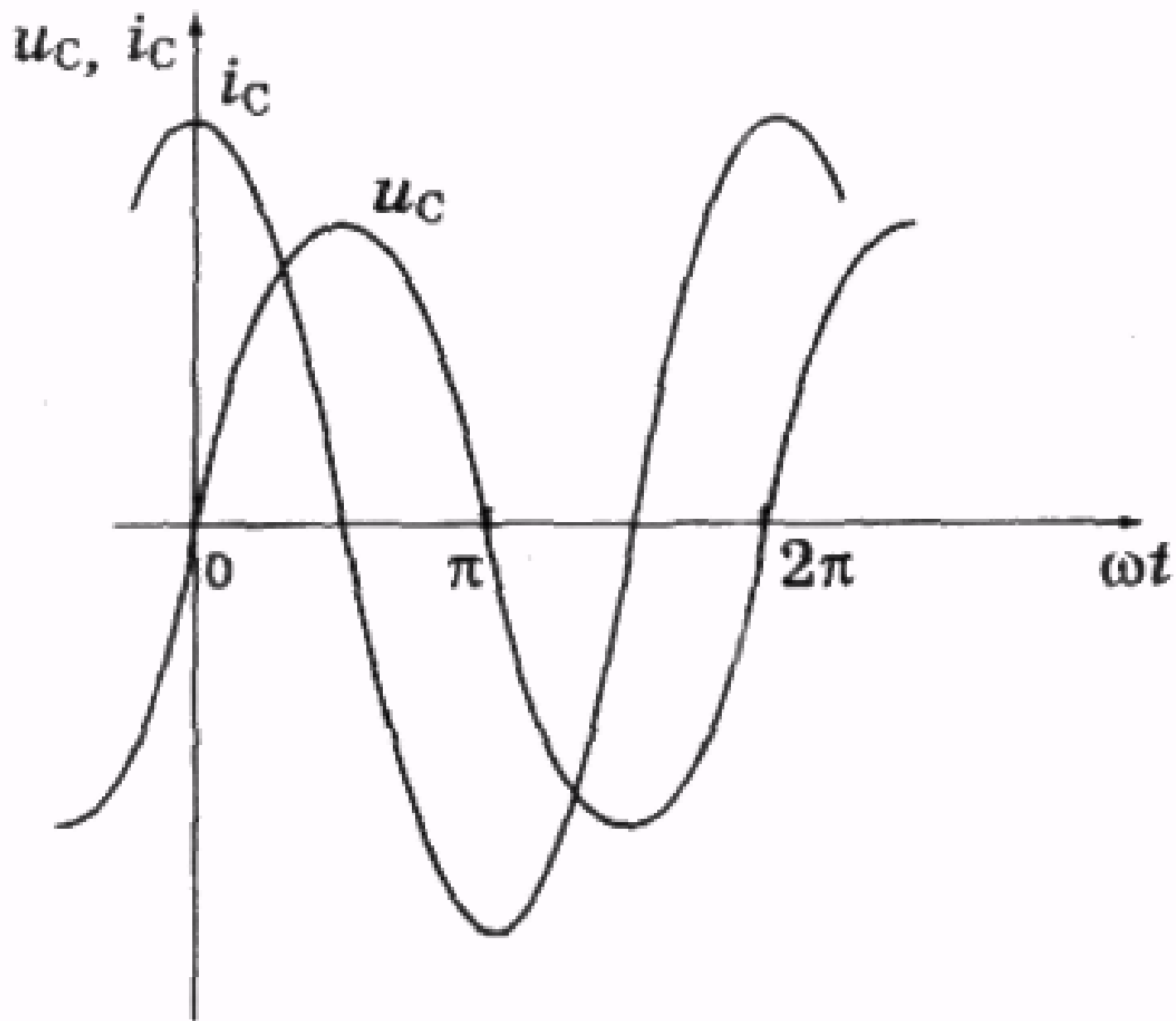
4



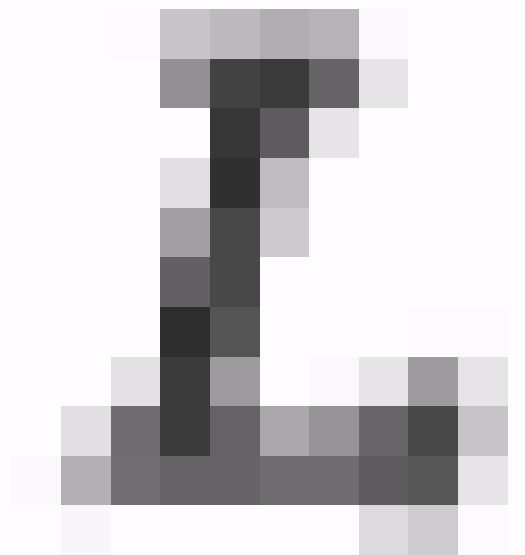
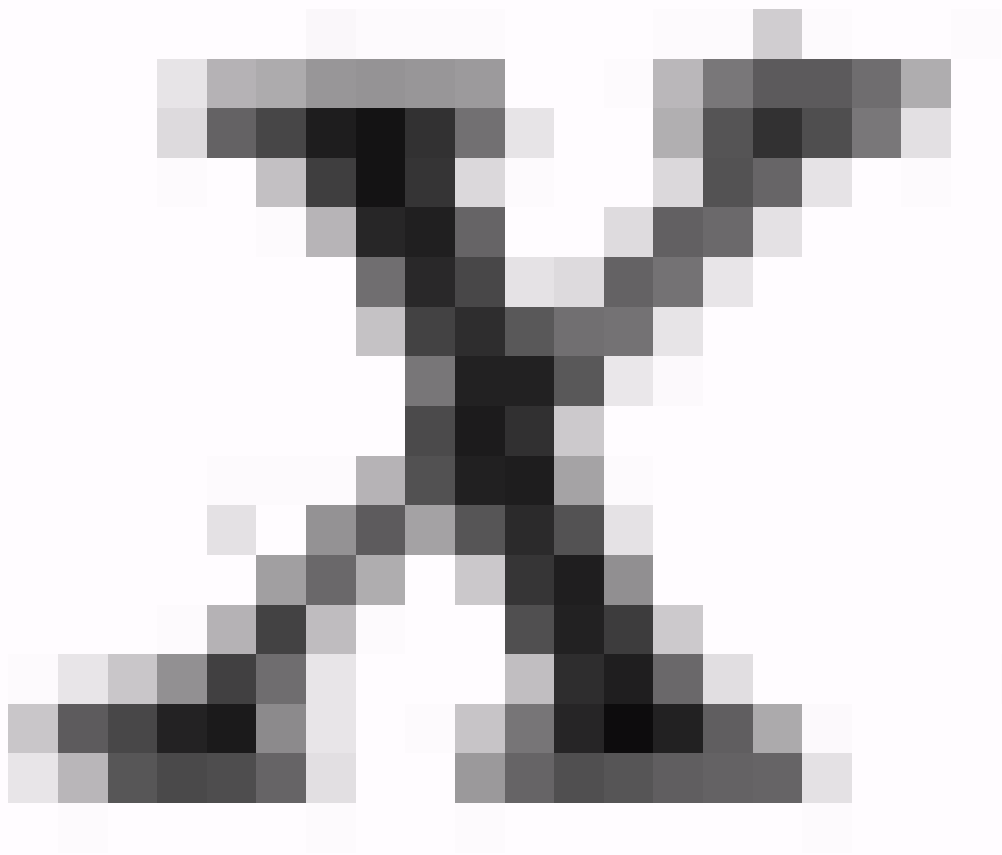


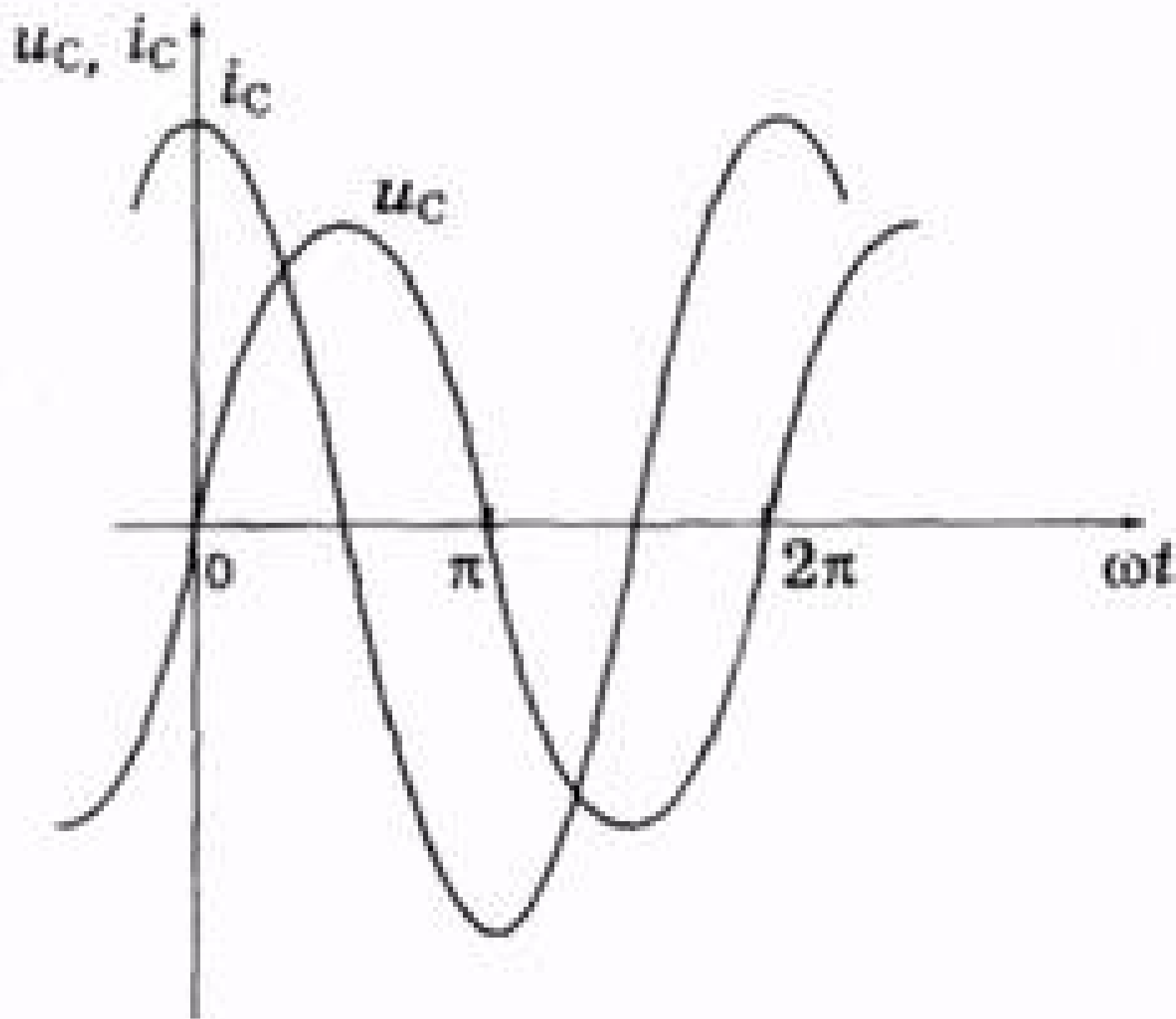
Мал. 2.162



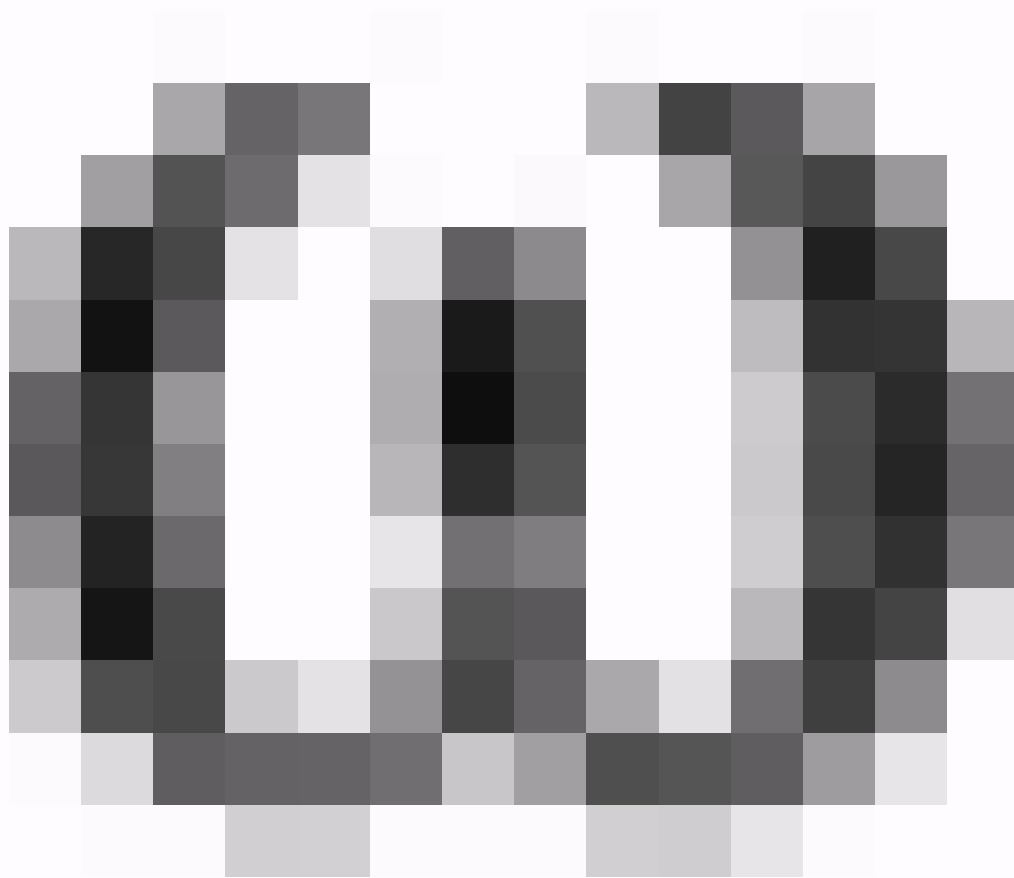


Мал. 2.161



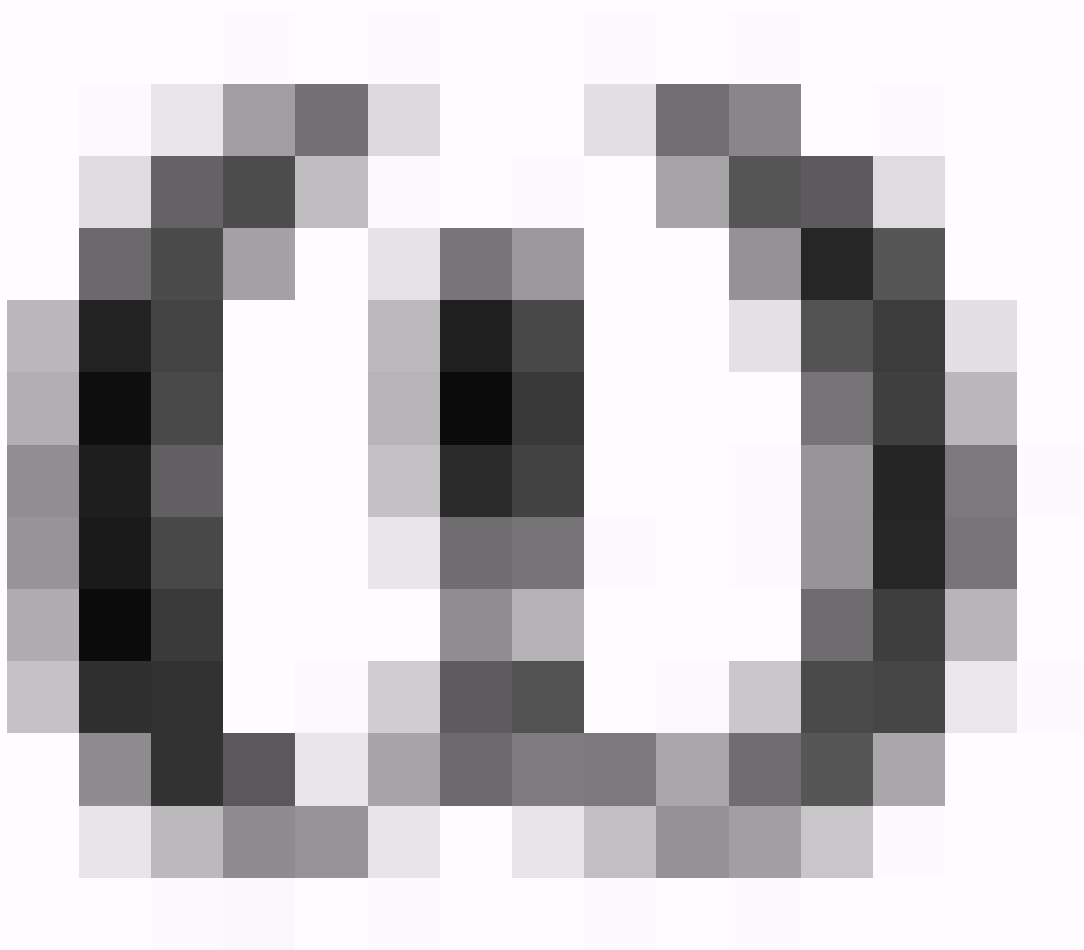


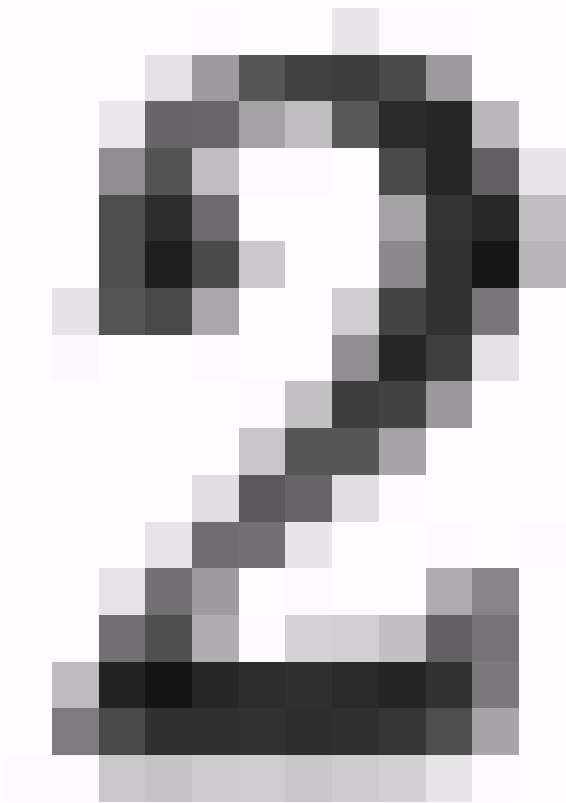
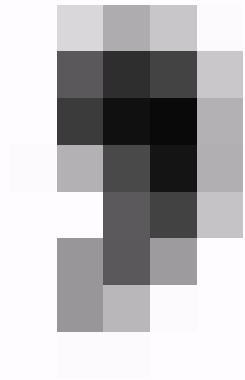
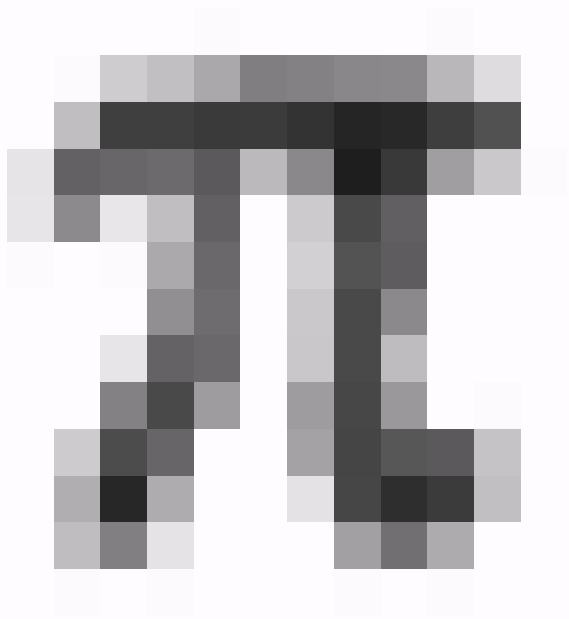
Мал. 2.161

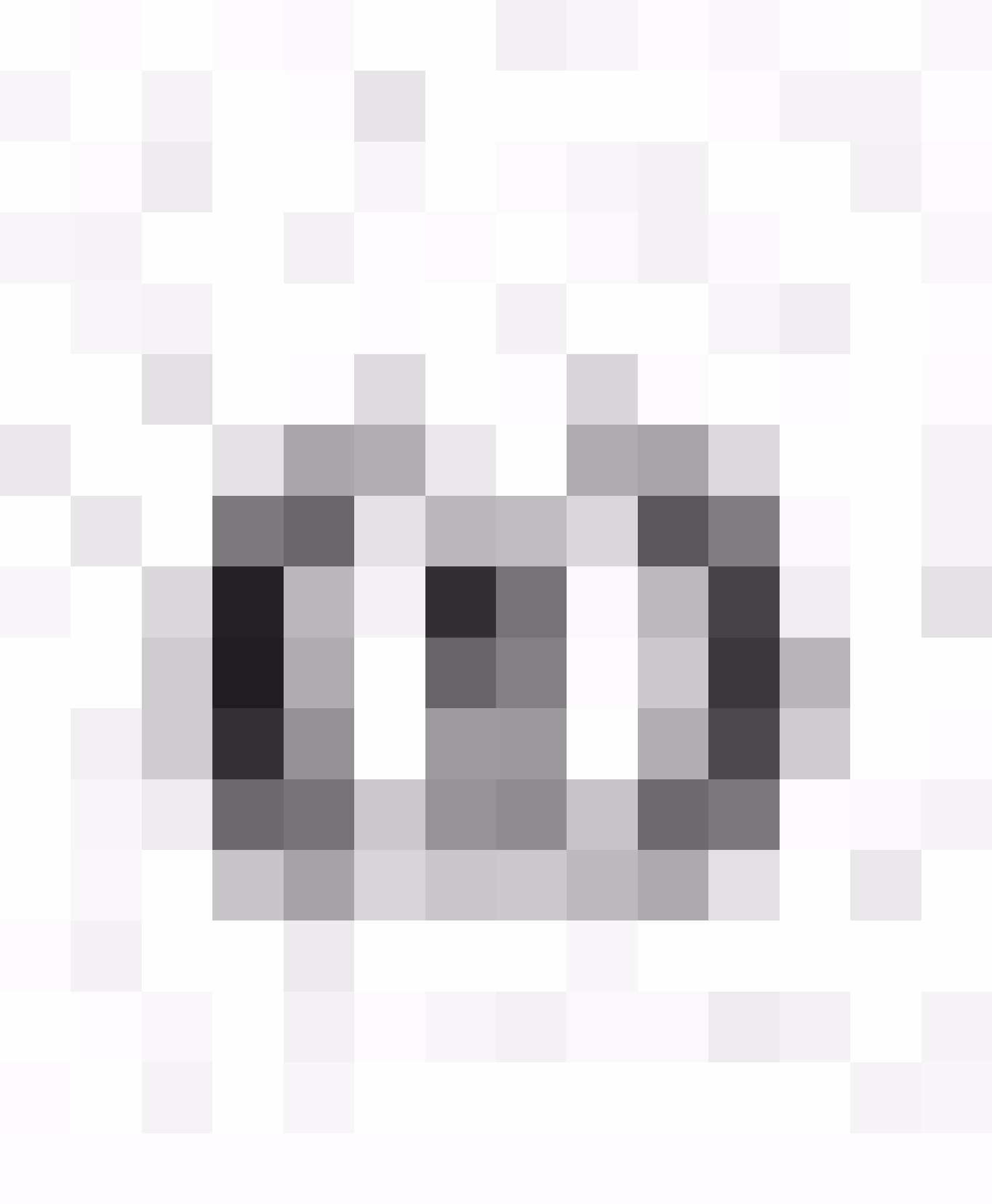


$$I_m = \frac{U_m}{X_L} \quad (50.11)$$









$$X_c = \frac{1}{\omega C} \quad (50.5)$$

$$i = I_m \cos \omega t, \quad u = U_m \cos \omega t$$

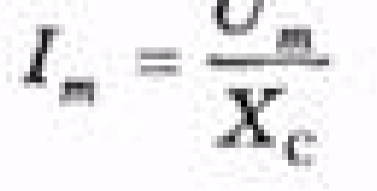
$$R = \frac{U_m}{I_m} \quad (50.12).$$



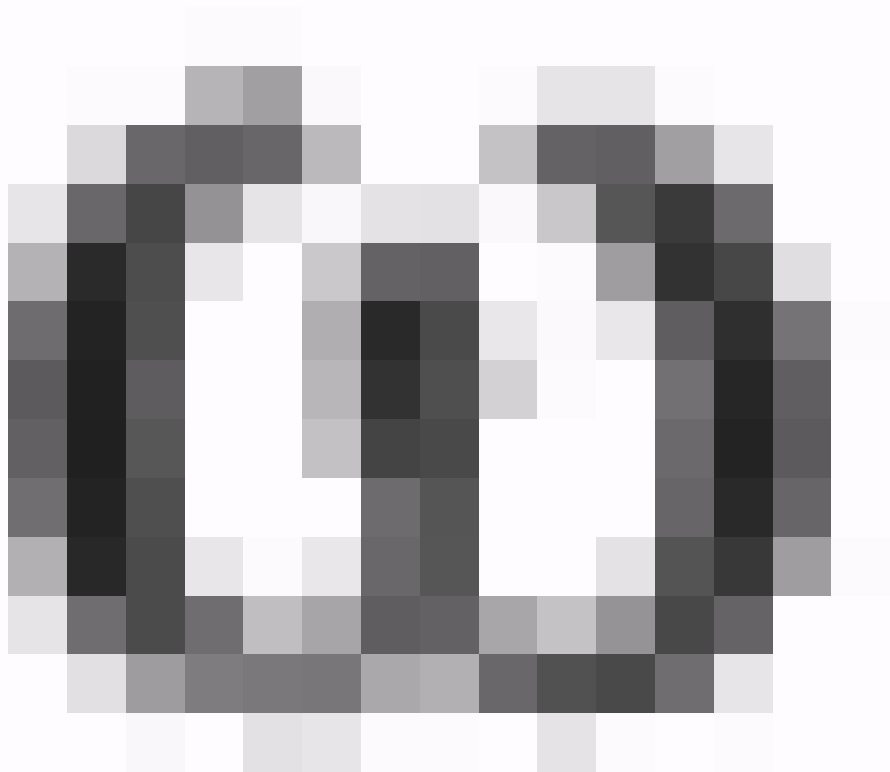
$$I_m = \frac{U_m}{X_c} \quad (50.6)$$

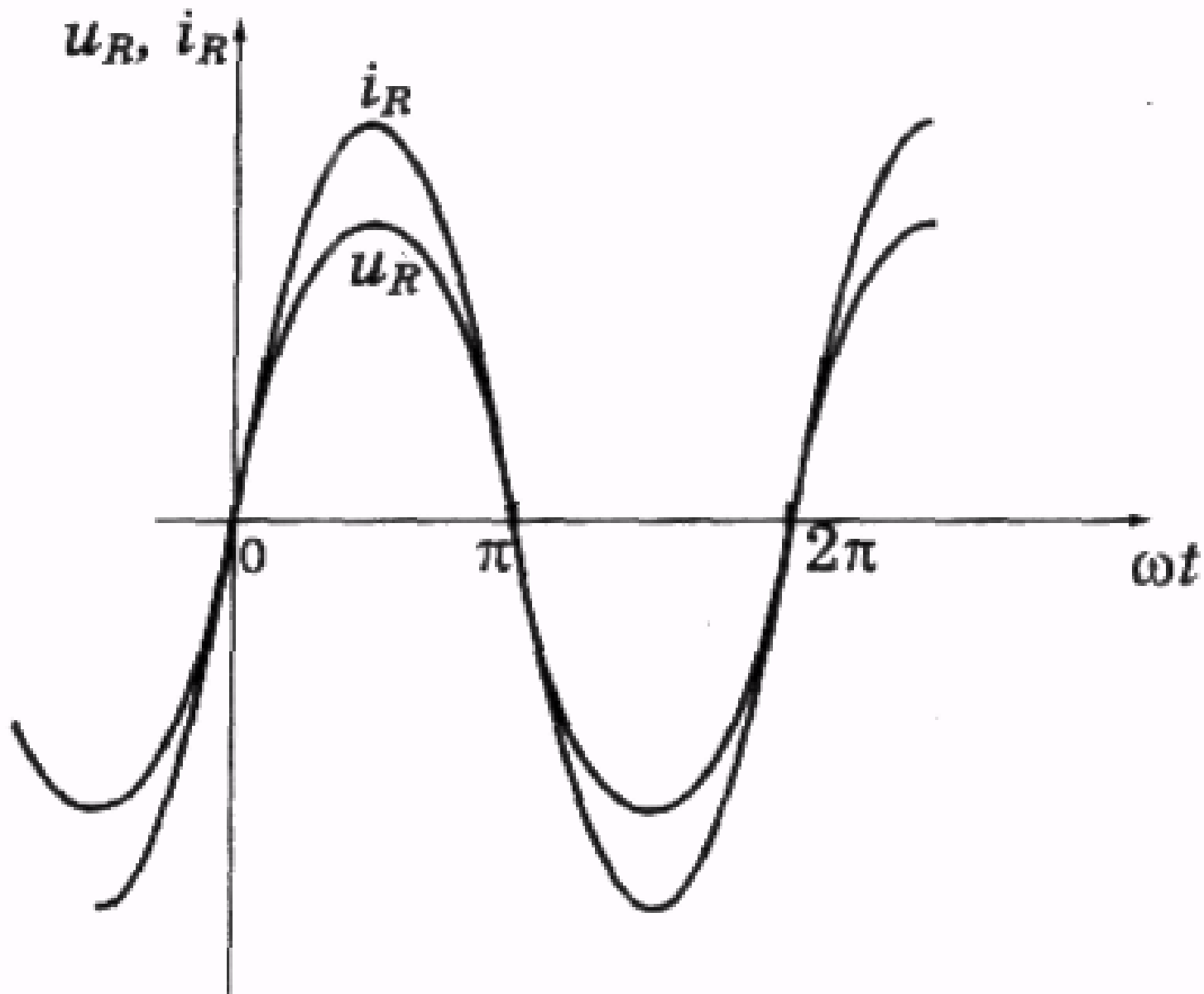
$$P = iW = I_m V_m \cos^2 \omega t \quad (50.13)$$

100



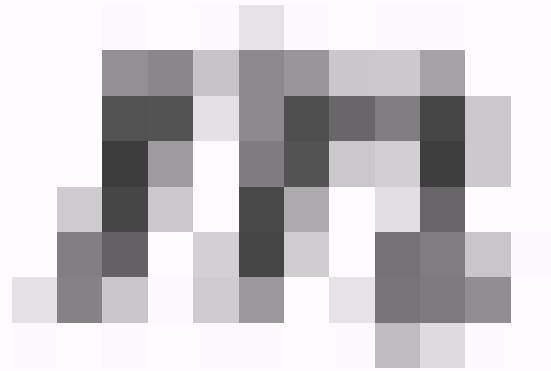
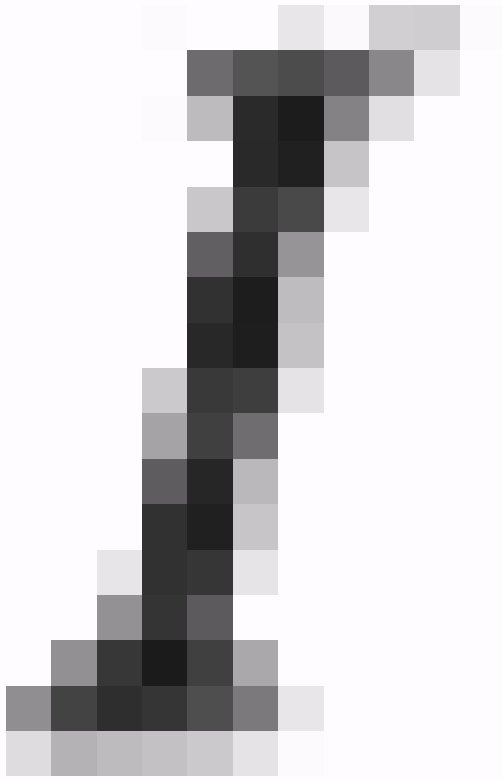
100





Мал. 2.163

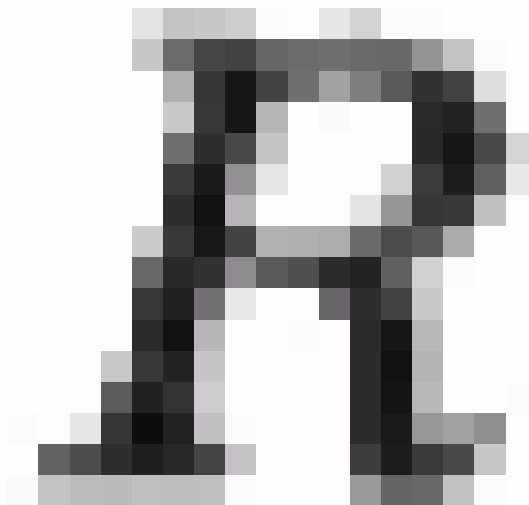
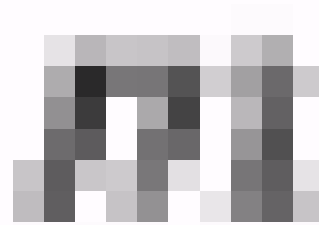
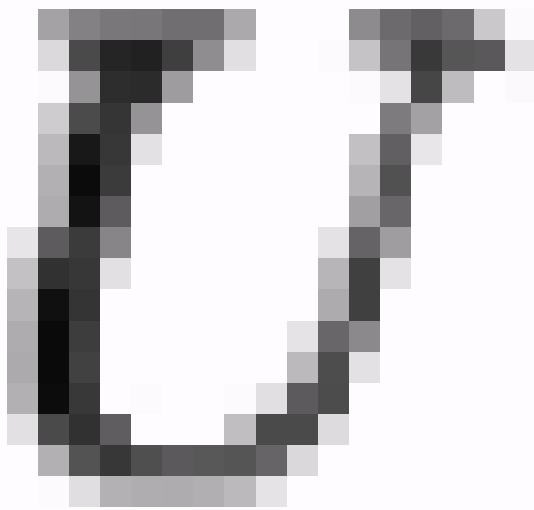




0000

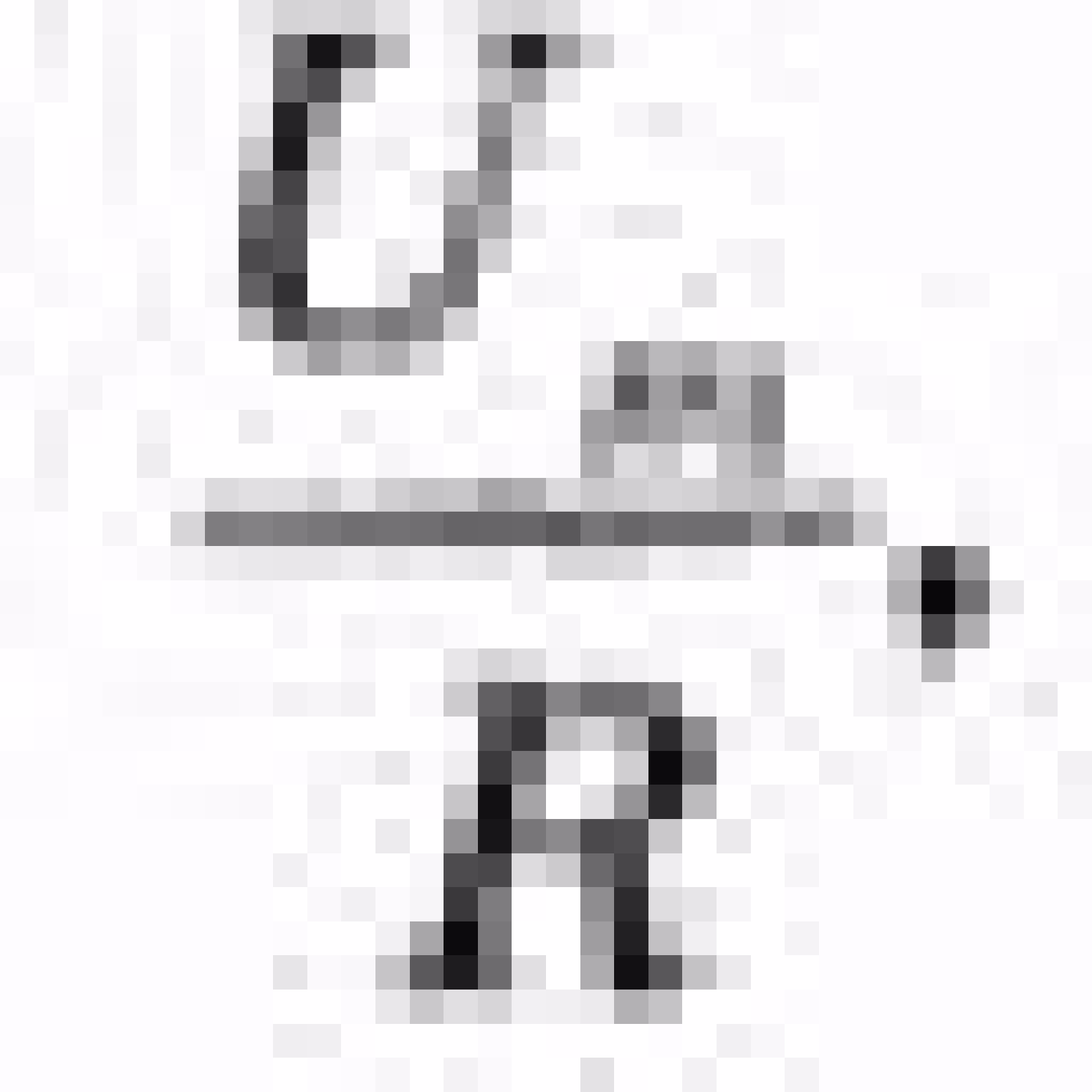
000





$$\bar{P} = \frac{IUV}{2}$$

(50.14).



I

A

<

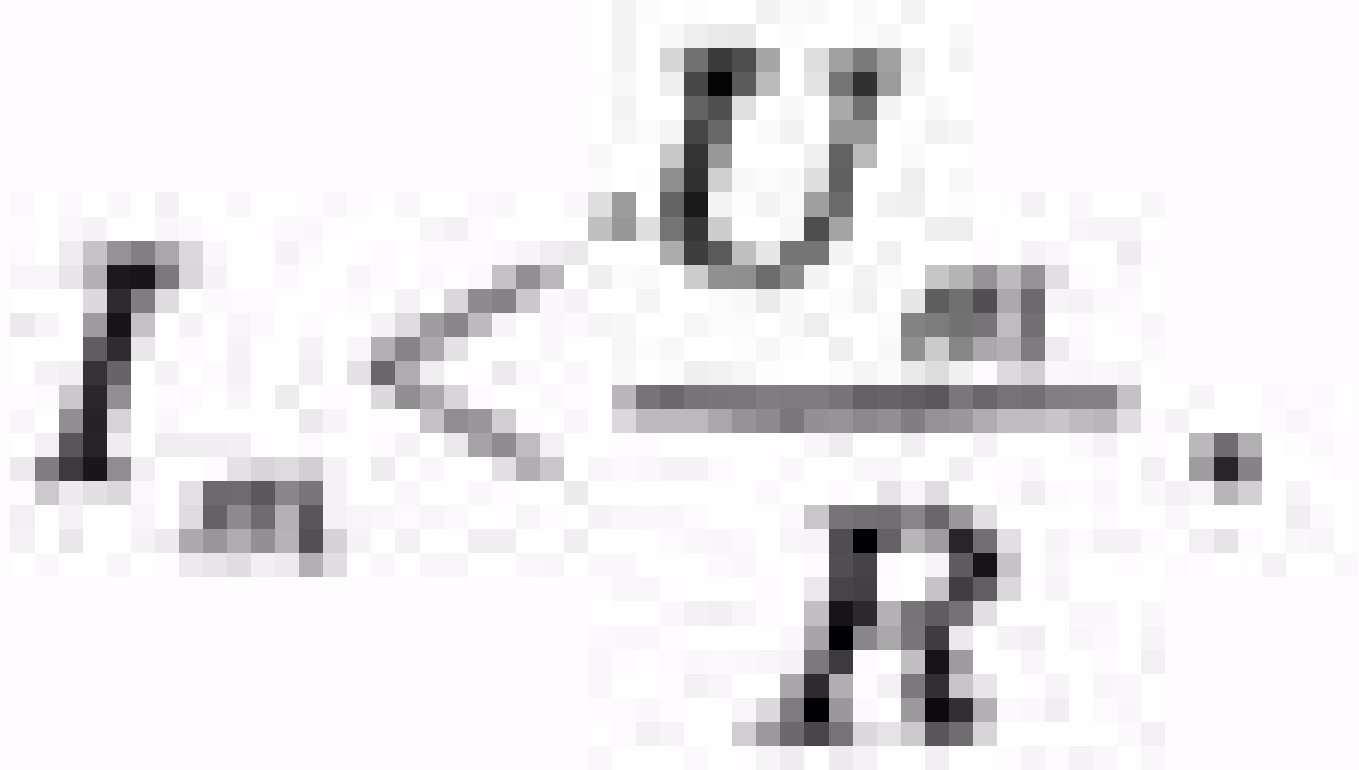
U

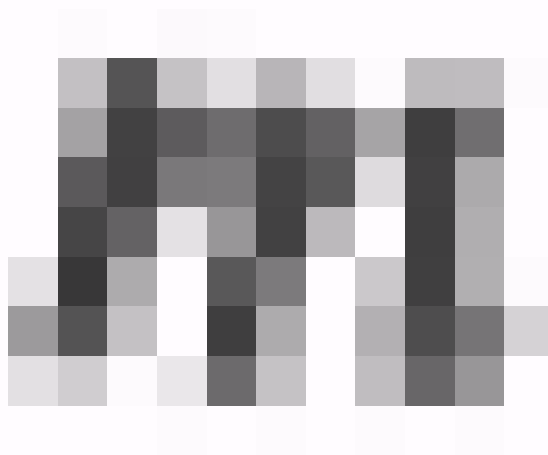
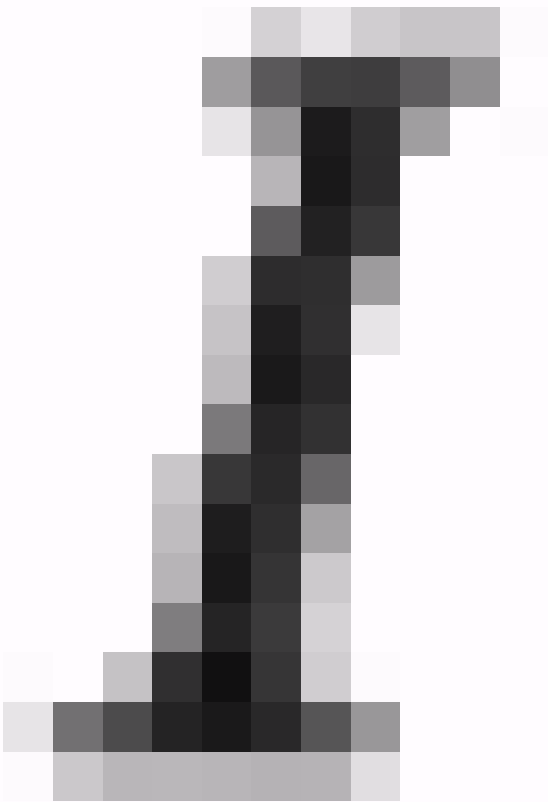
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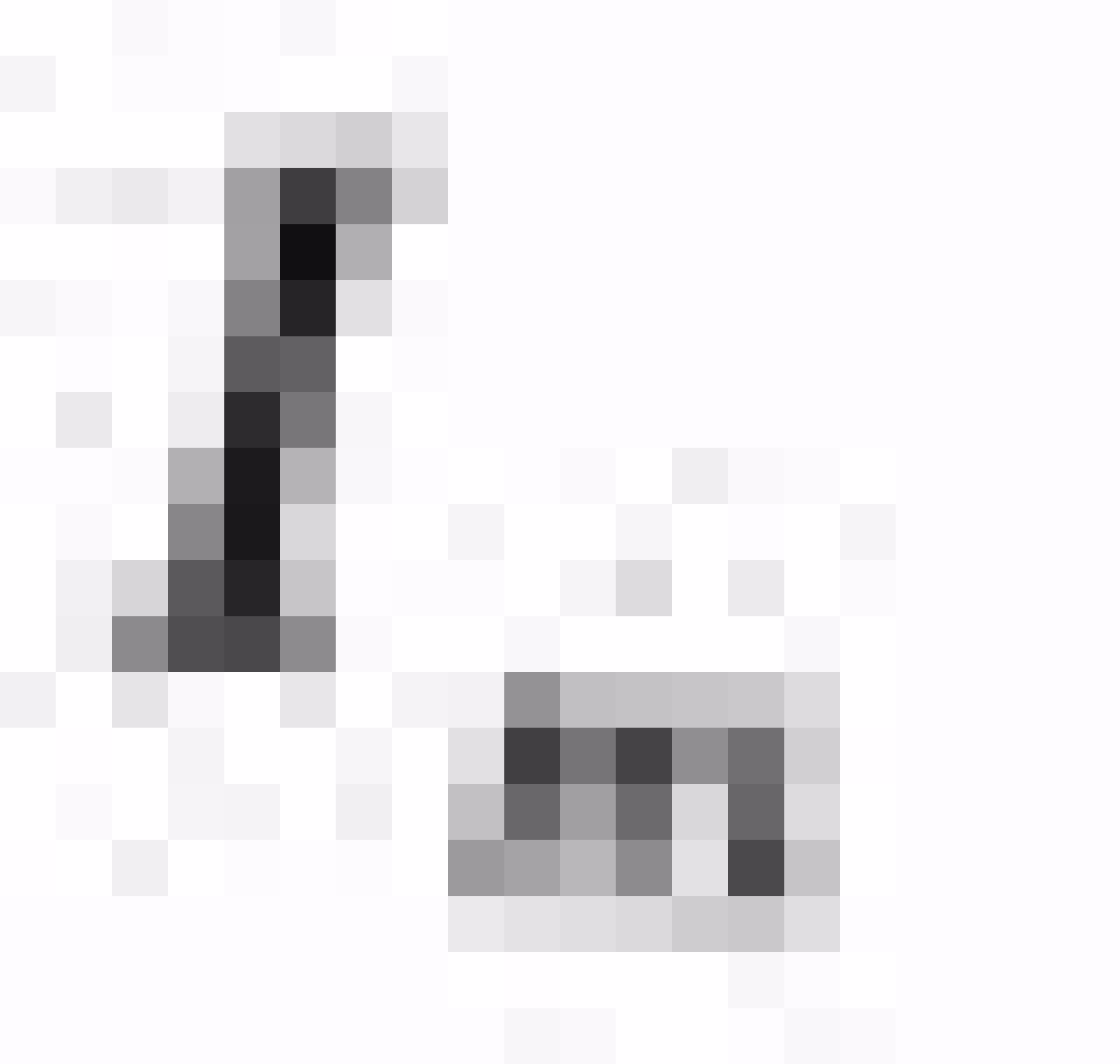
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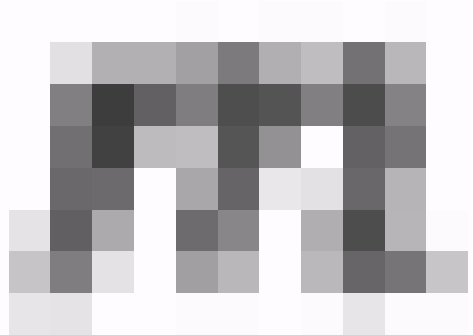
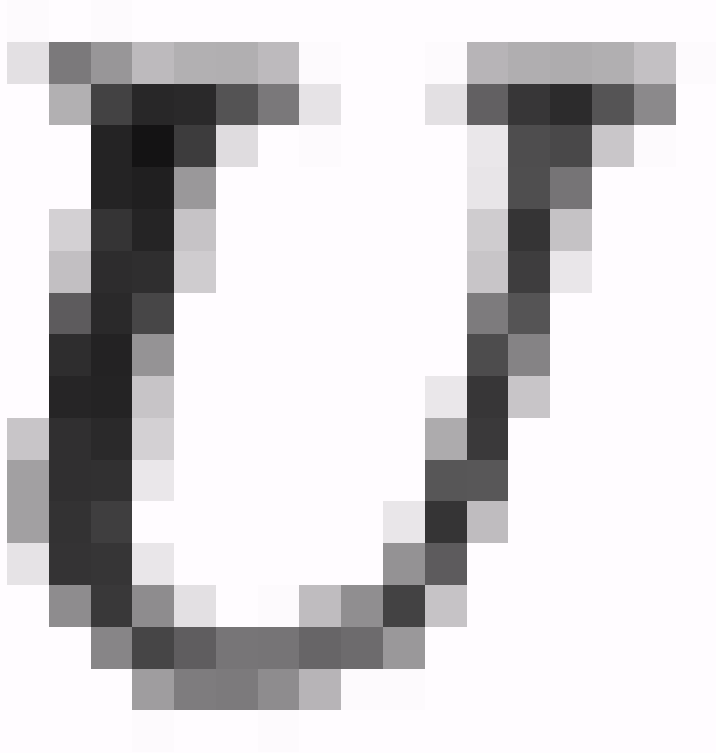
R

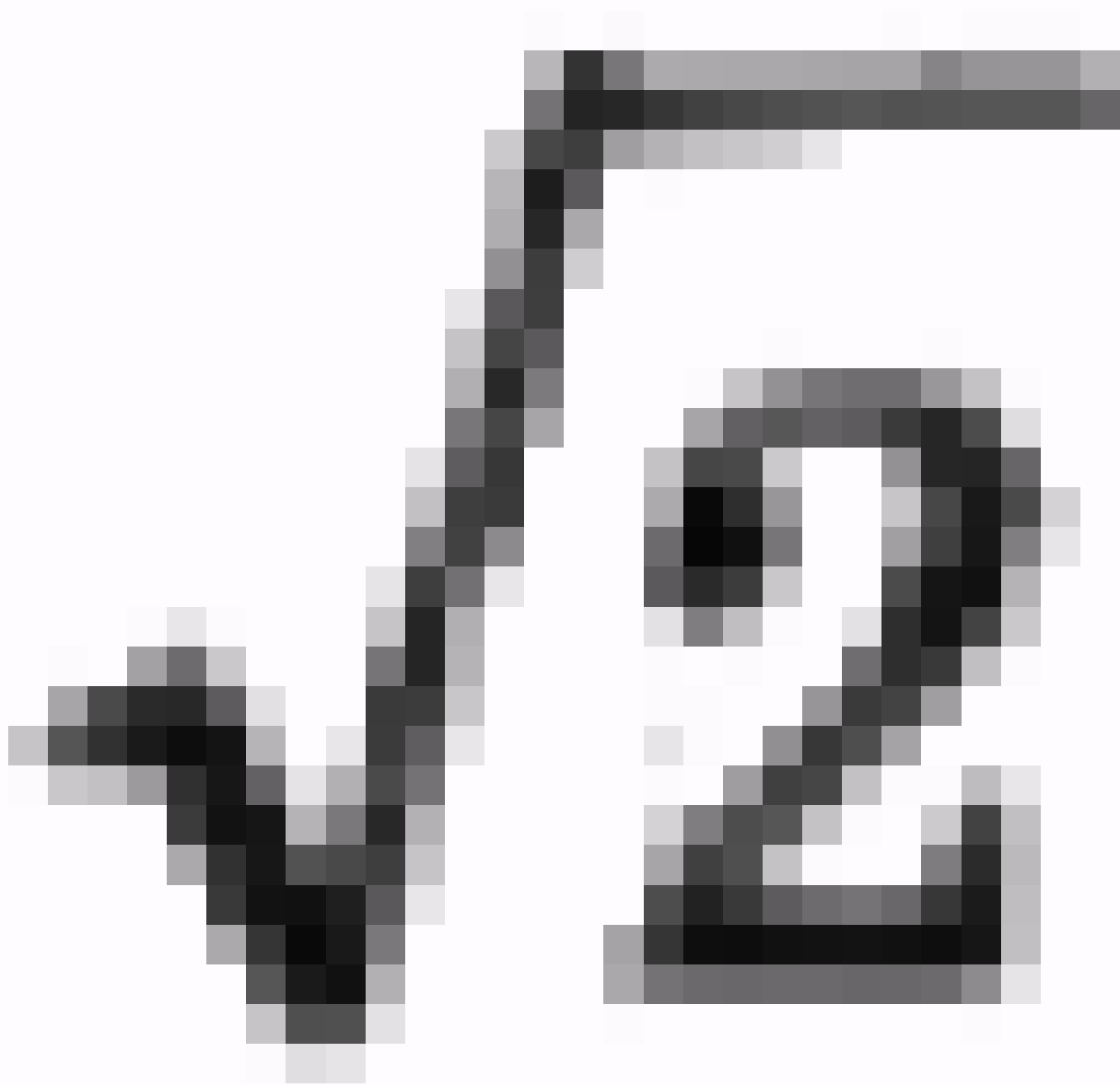
$$I = \frac{I_m}{\sqrt{2}}, \quad U = \frac{U_m}{\sqrt{2}} \quad (50.15 \text{ i } 50.16)$$

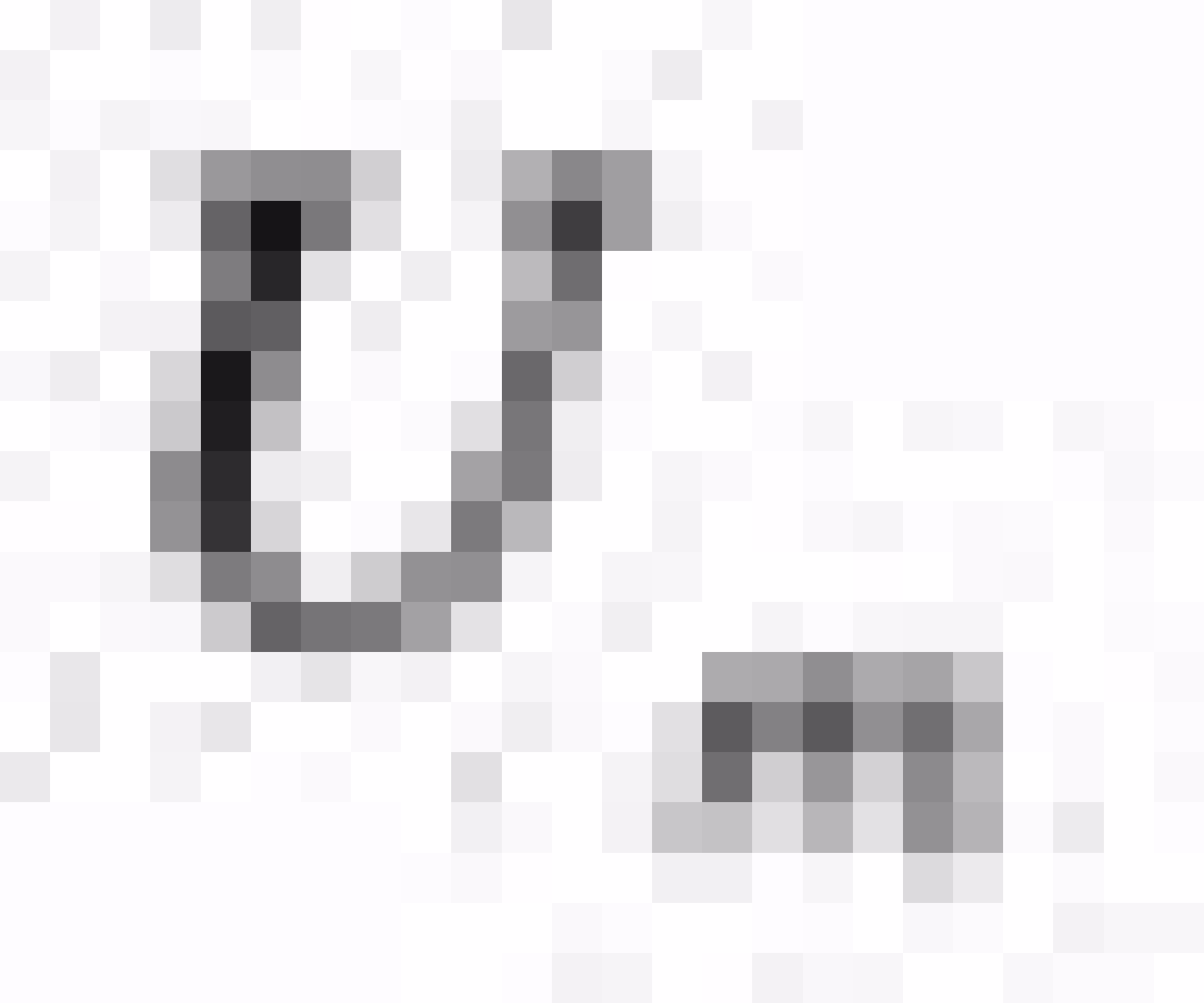


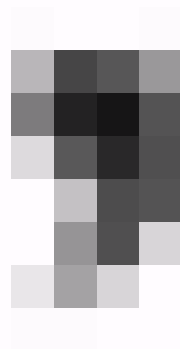
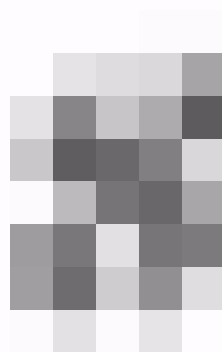
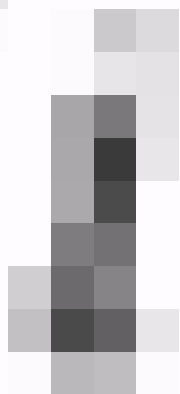
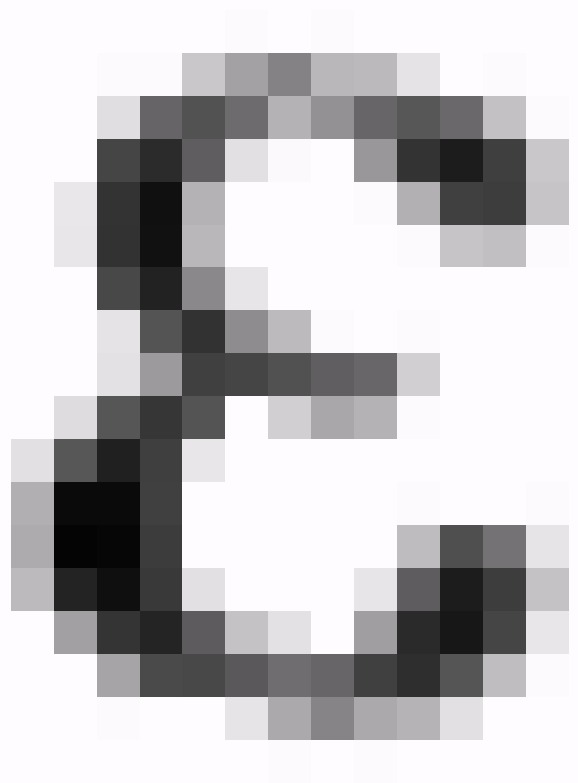




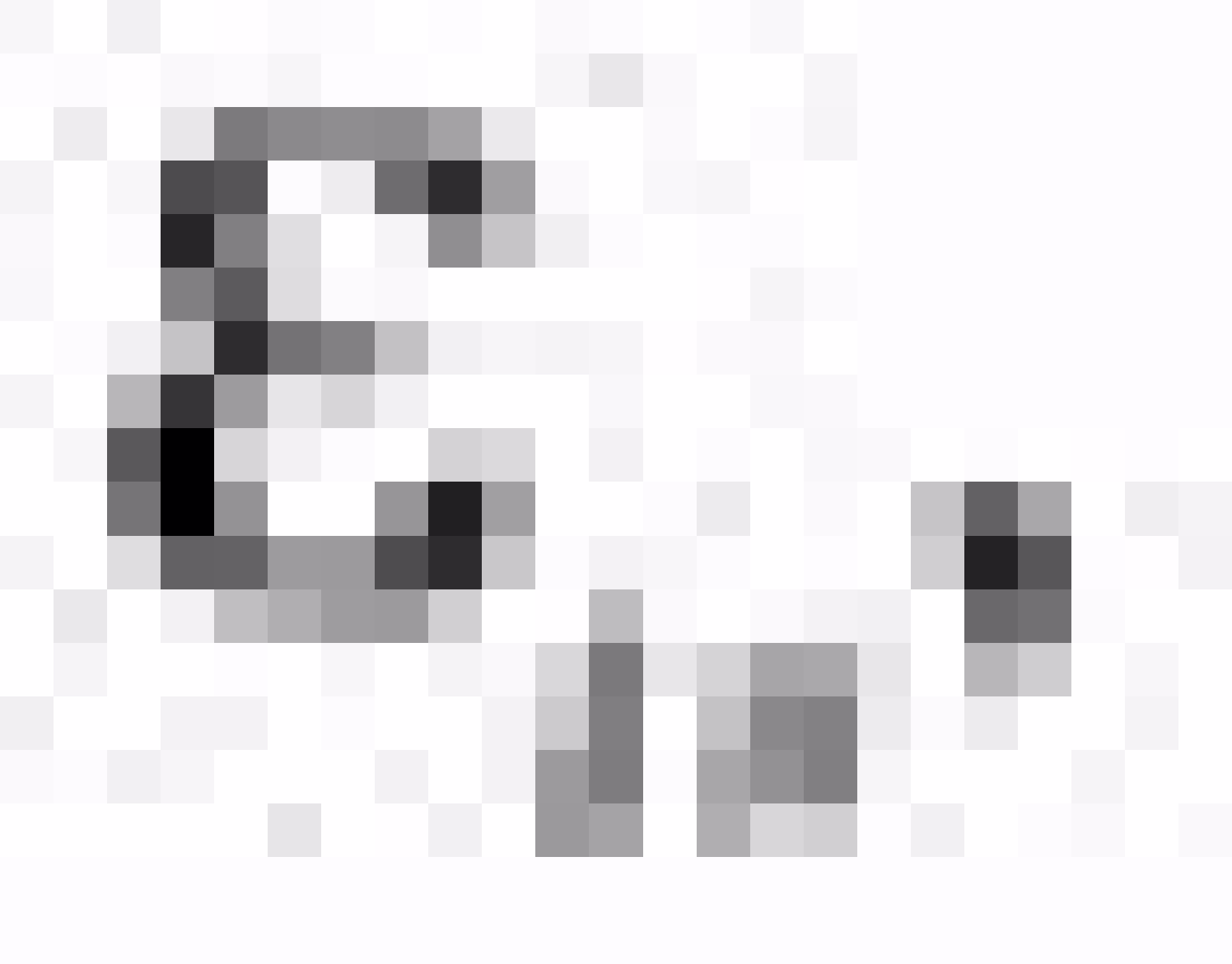








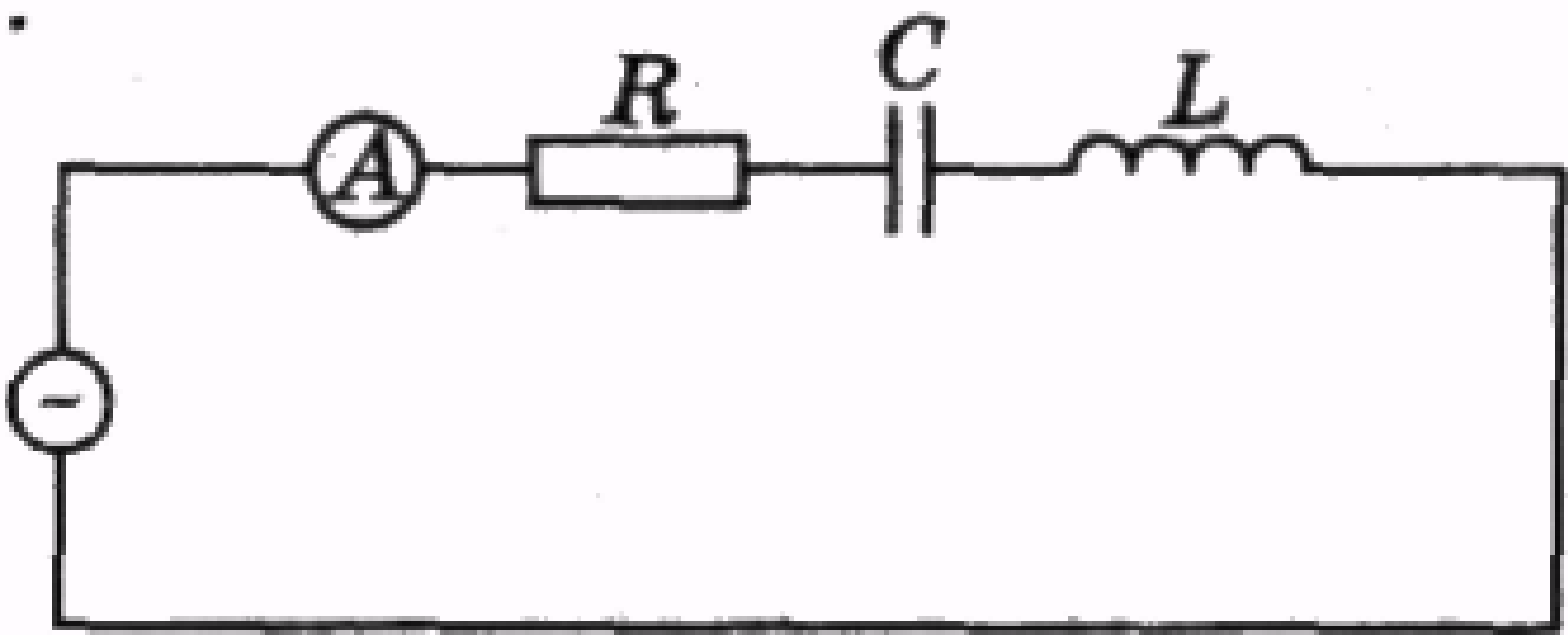
$$U_m = U \sqrt{2}, \quad U_m = 220\text{B} \cdot \sqrt{2} \approx 311\text{B}.$$



W = $\frac{1}{2} \rho v^2$

W = $\frac{1}{2} \rho v^2$

(50) (7)

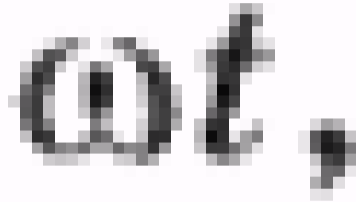
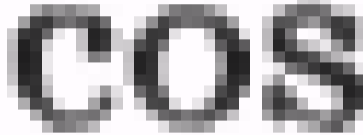
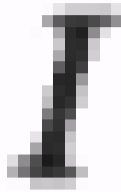


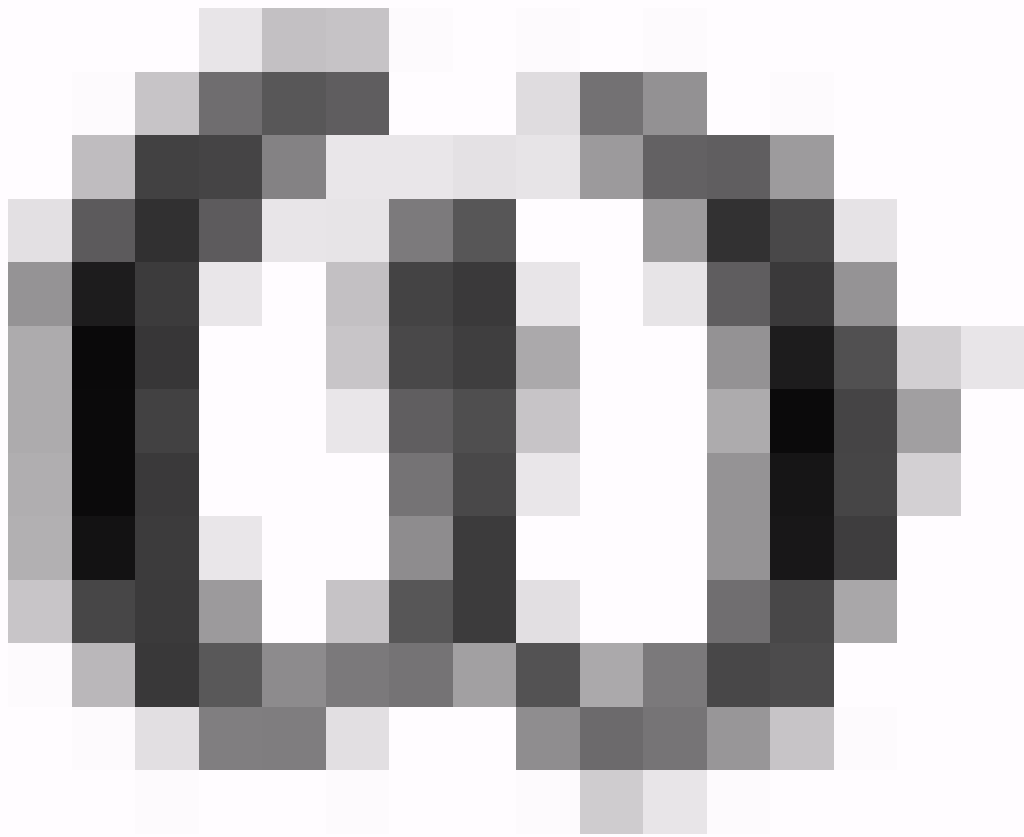
Мал. 2.164

W

W

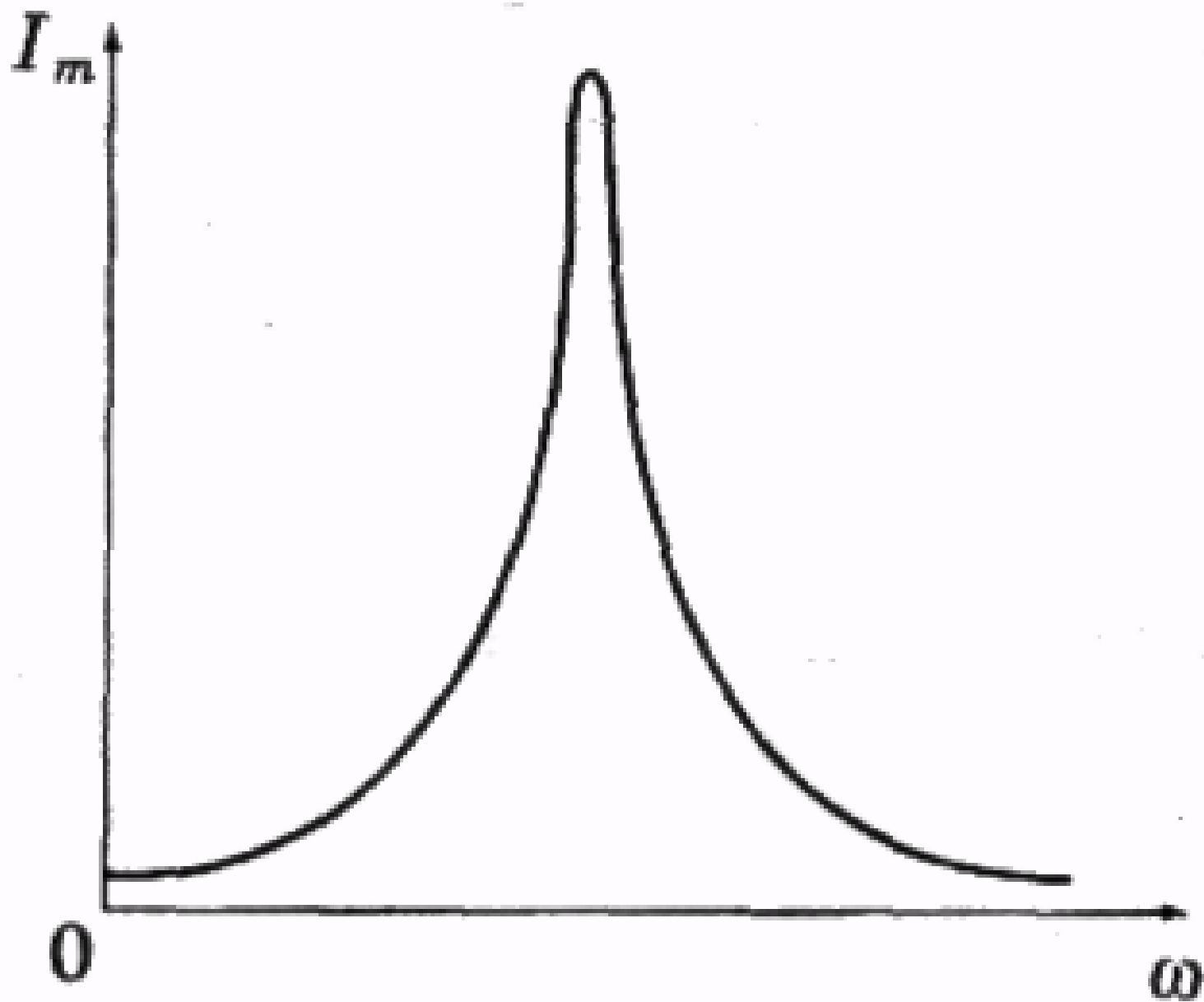
W



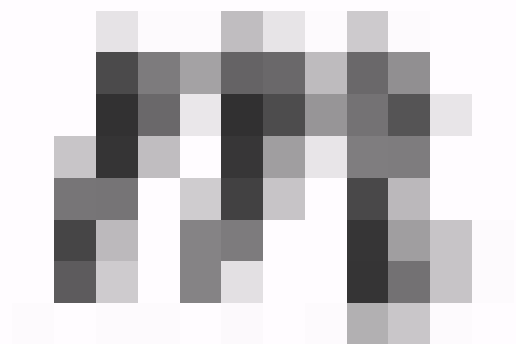
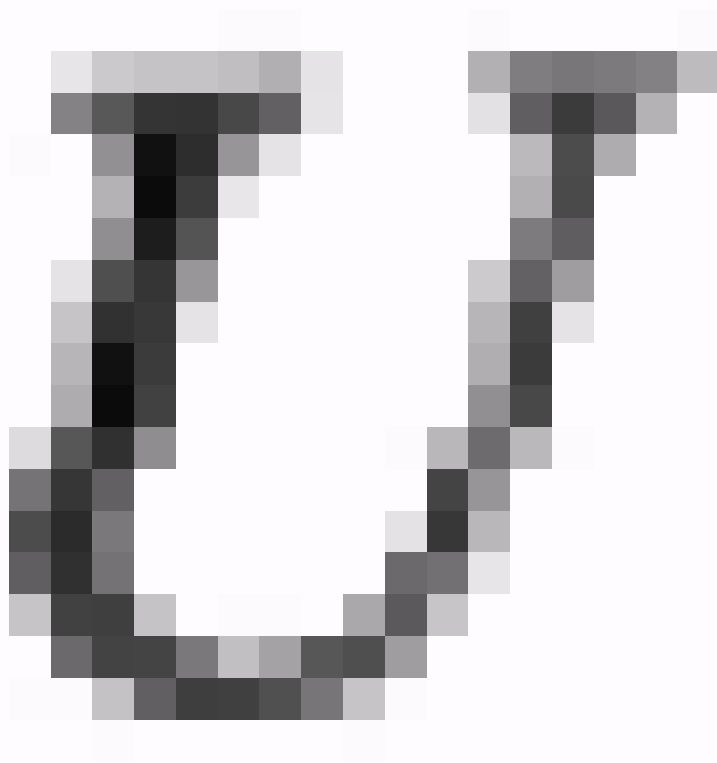


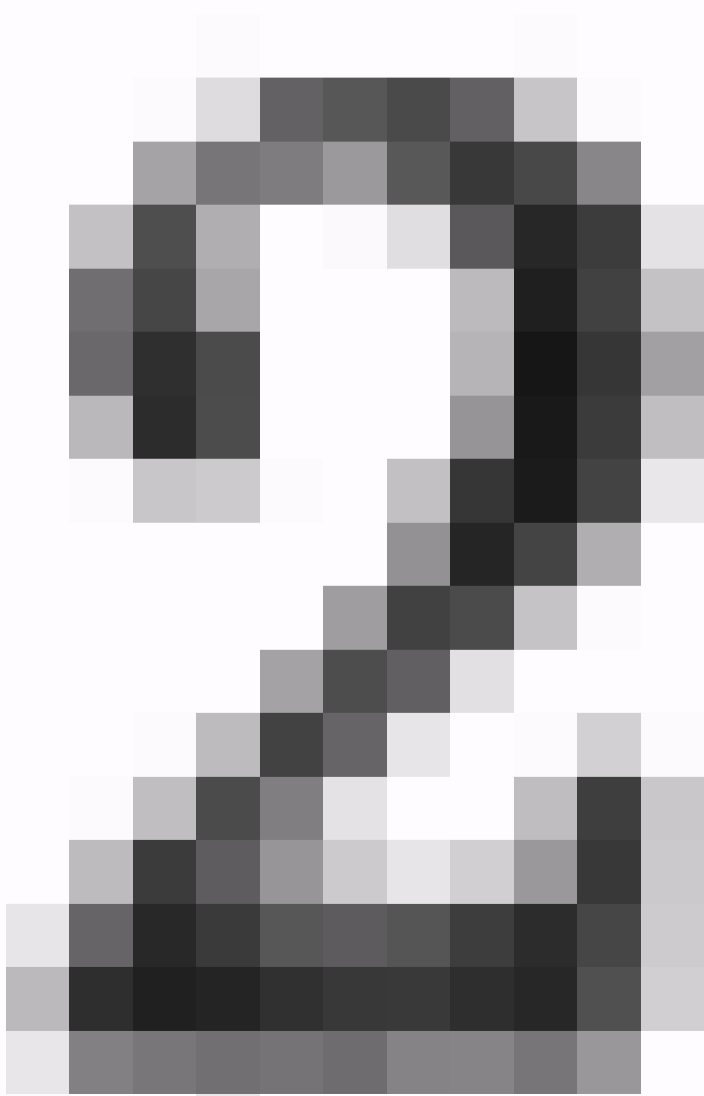
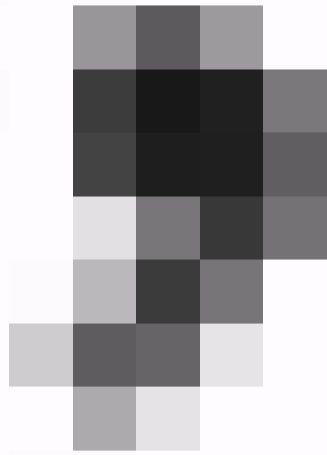
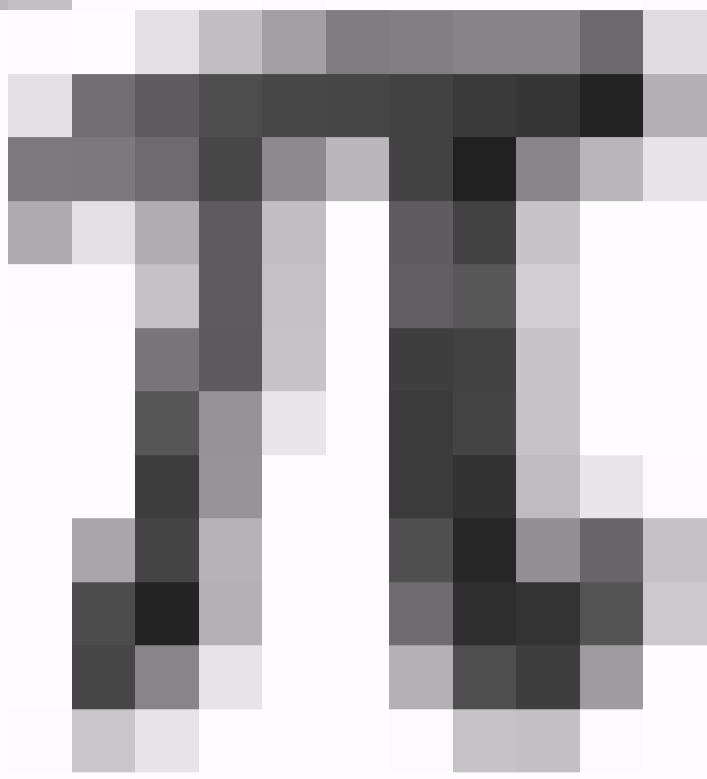
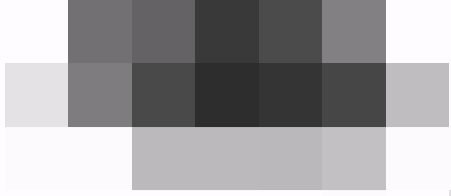


$$u = -I I_m \omega \sin \omega t = I I_m \omega \cos \left(\omega t + \frac{\pi}{2} \right) \quad (50.8)$$



Мал. 2.165





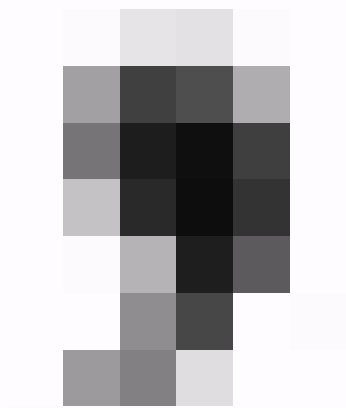
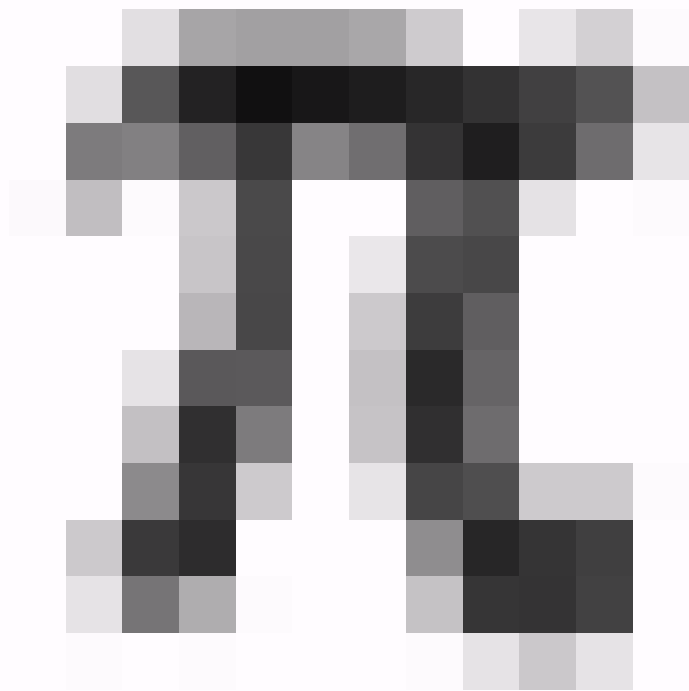


V_m

=

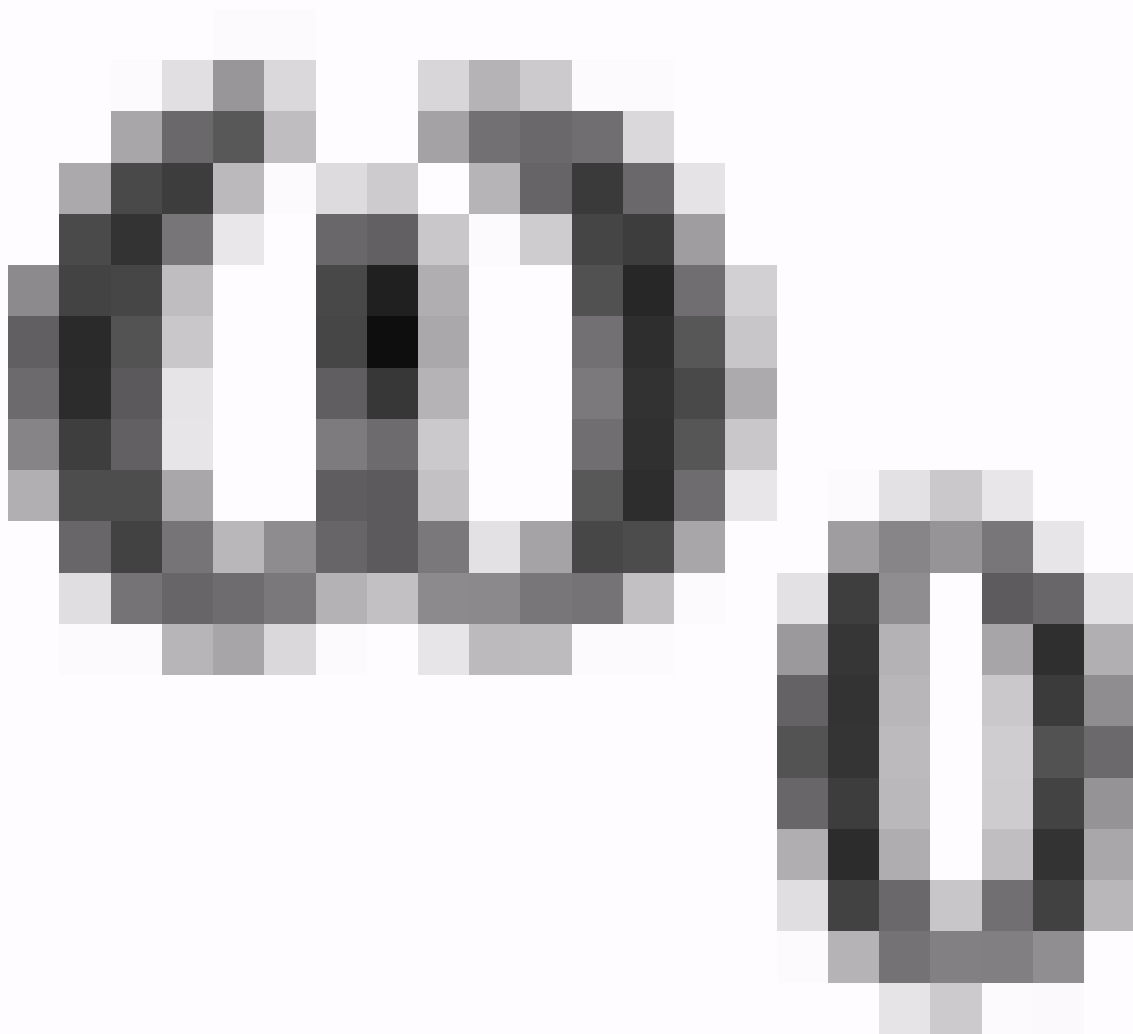
$I_{wo} M$

(50.9)

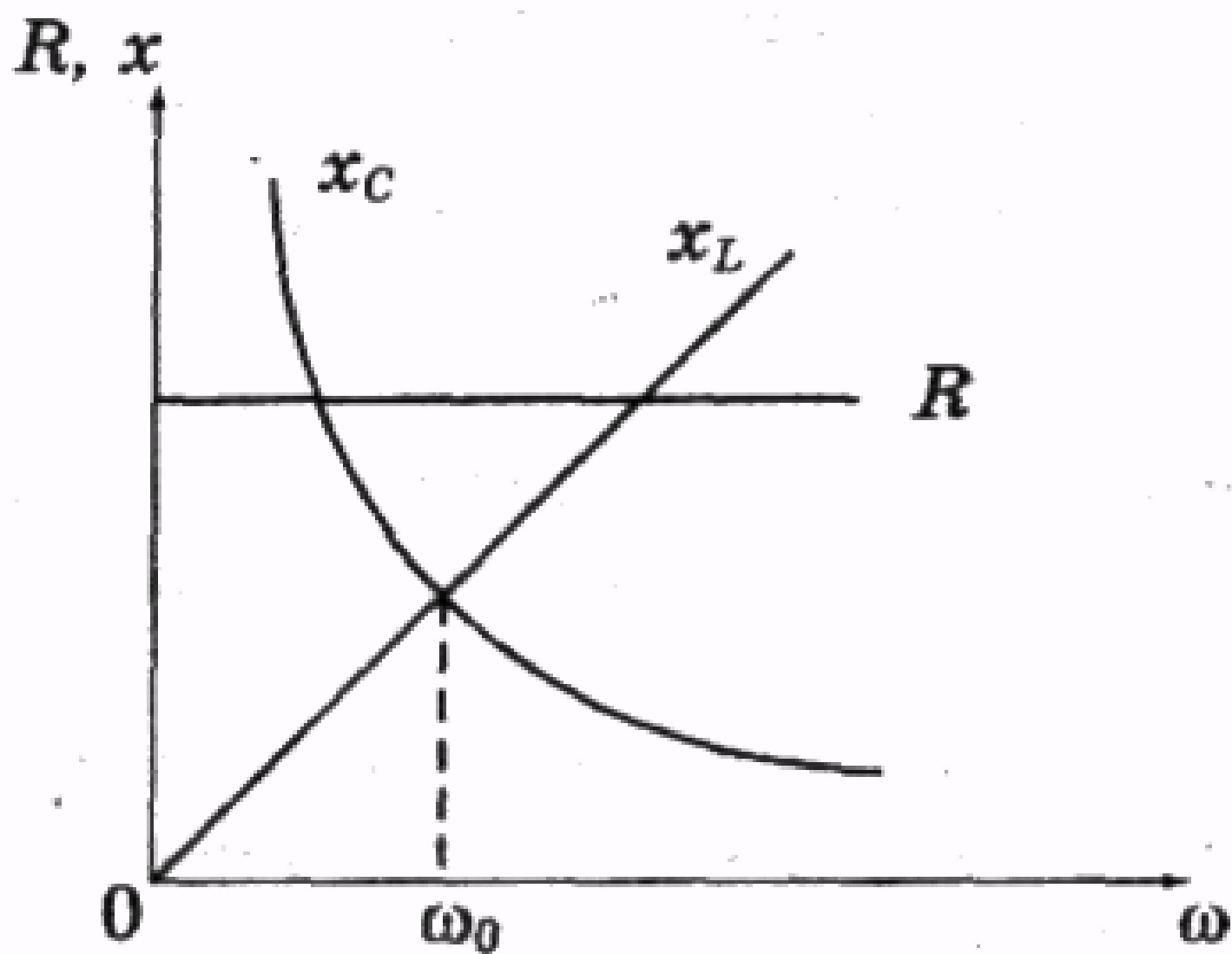


WORLDWIDE
WORLDWIDE

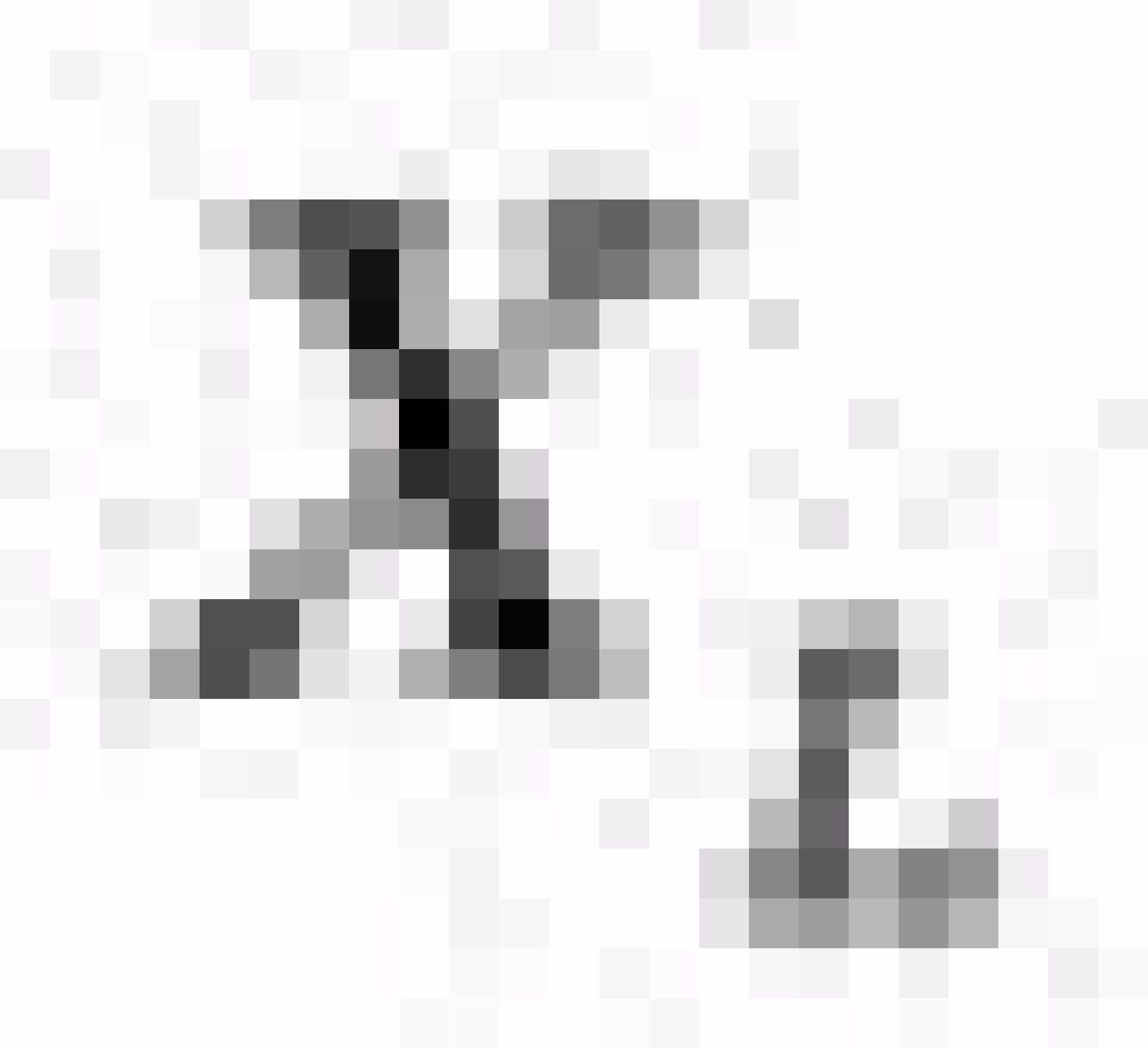
WORLDWIDE

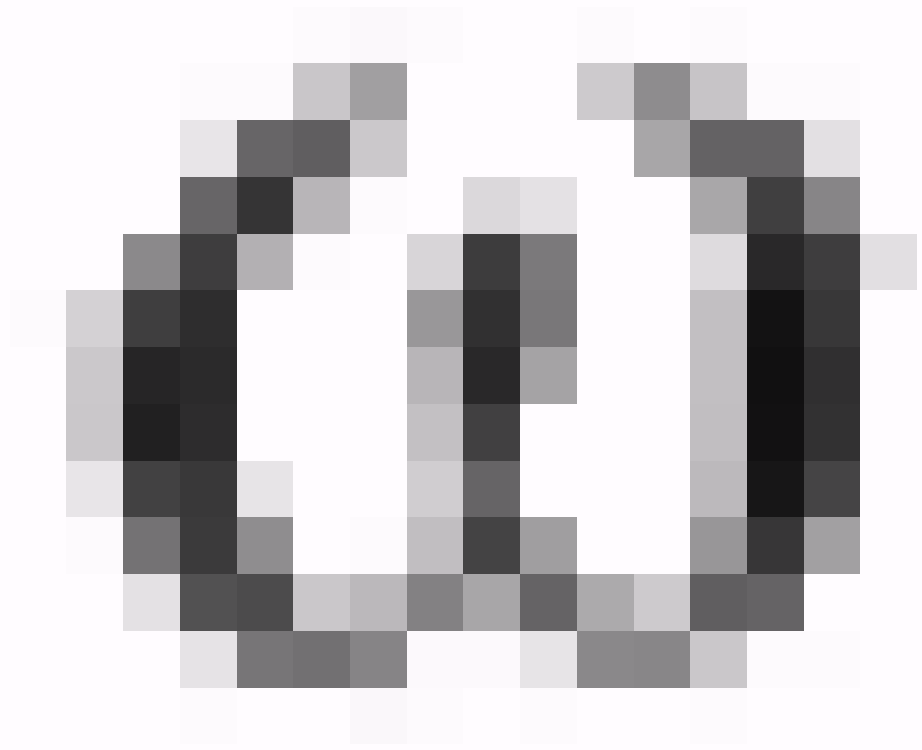


$$\omega_0 \mathcal{L} = \frac{1}{\omega_0 C} \quad (50.18)$$



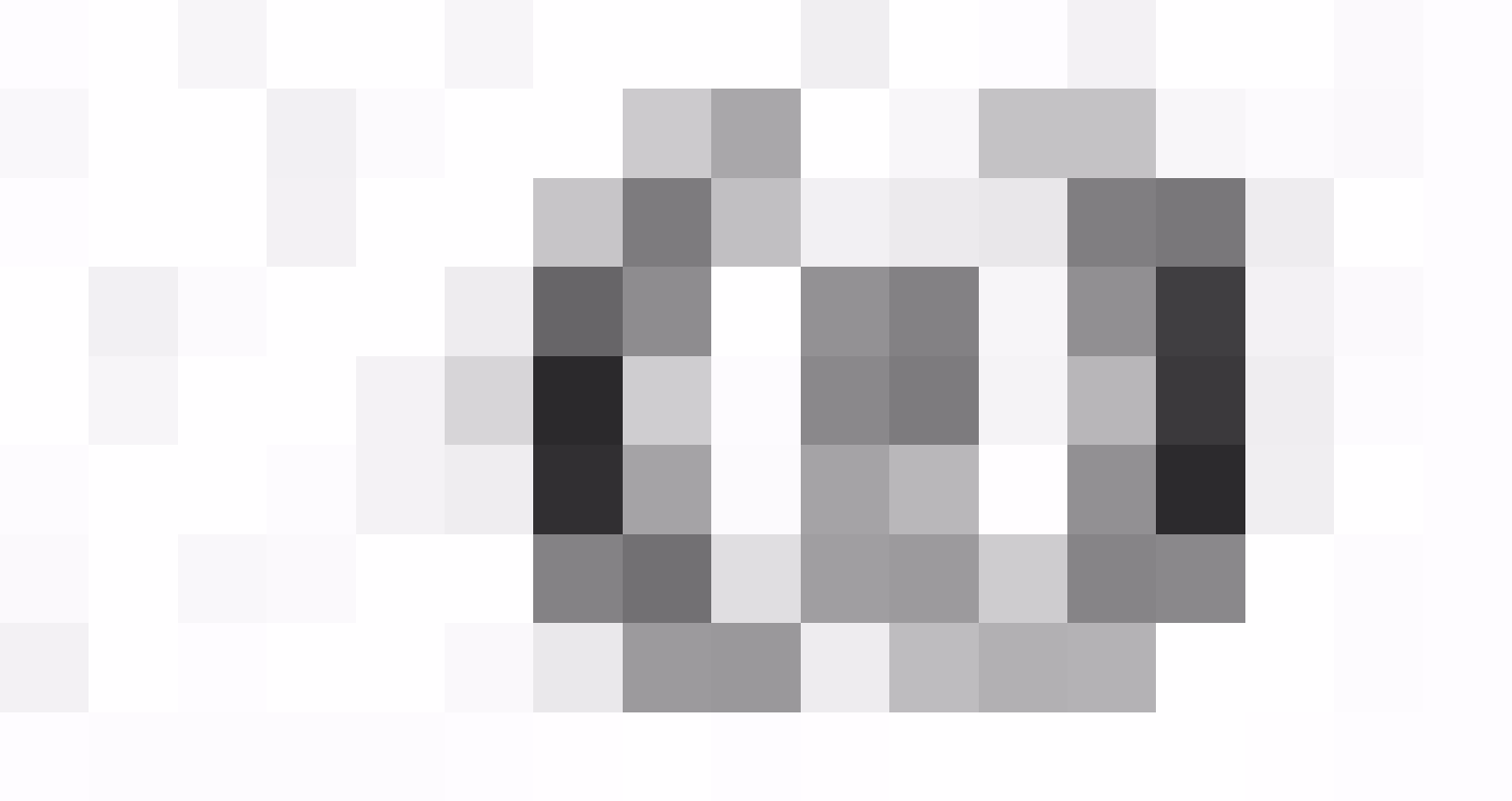
Мал. 2.166



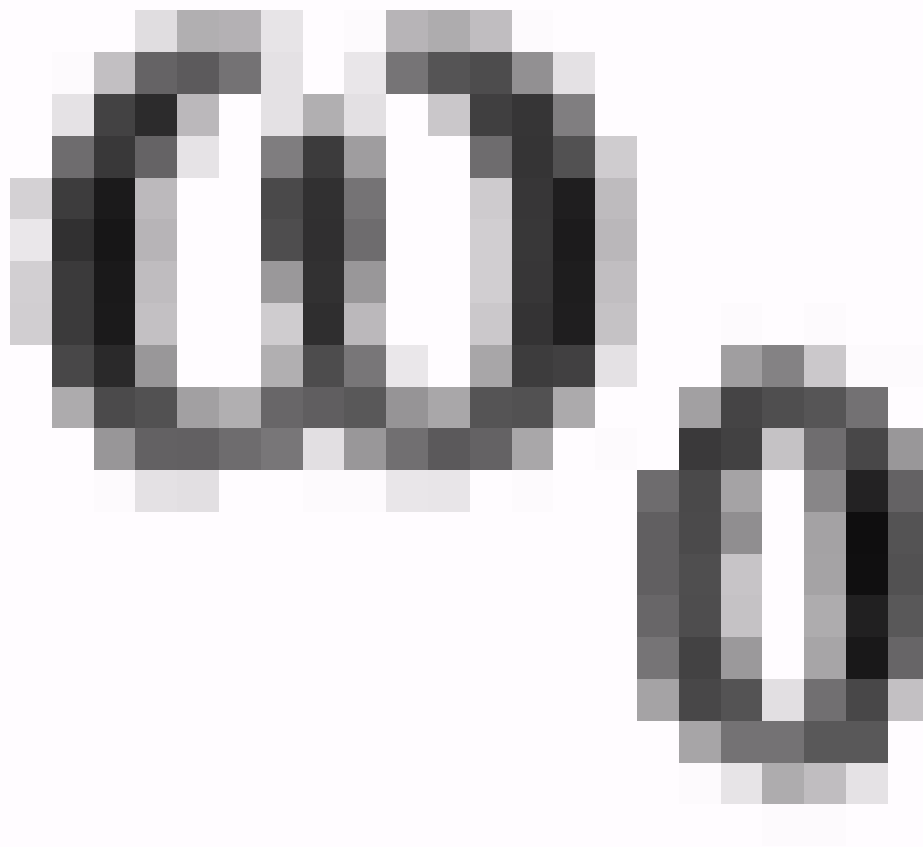


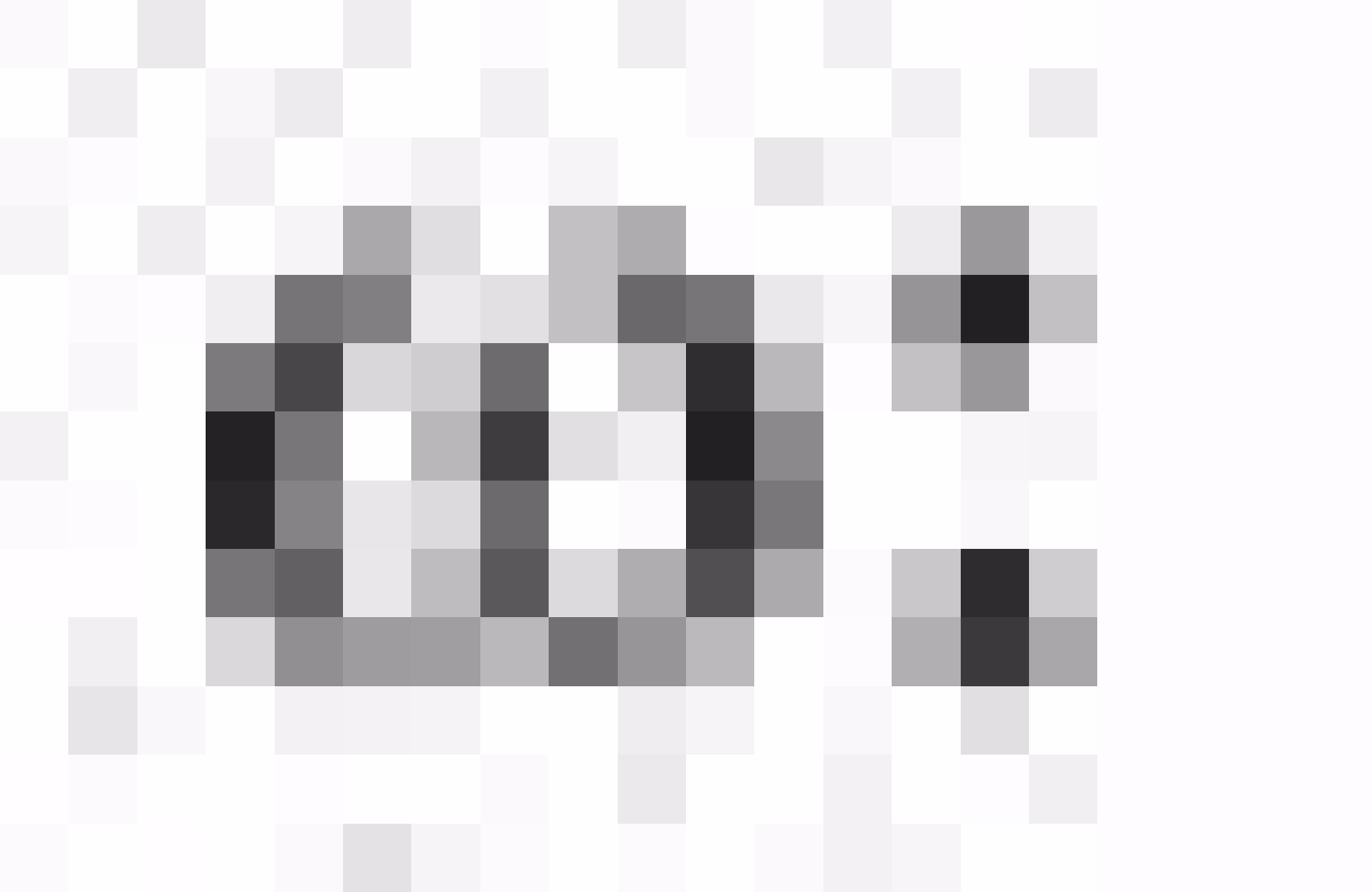
$$\omega_0 = \sqrt{\frac{1}{LC}}$$

(50.19)







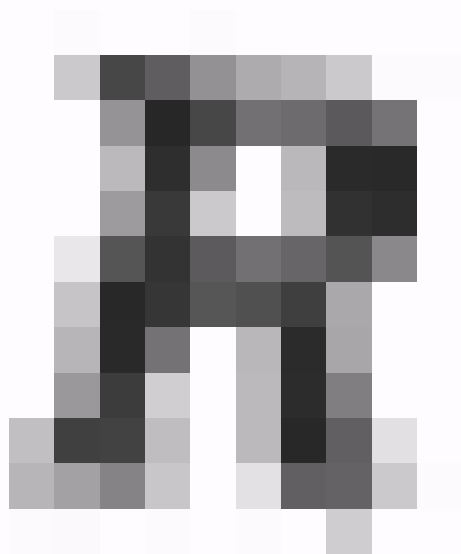
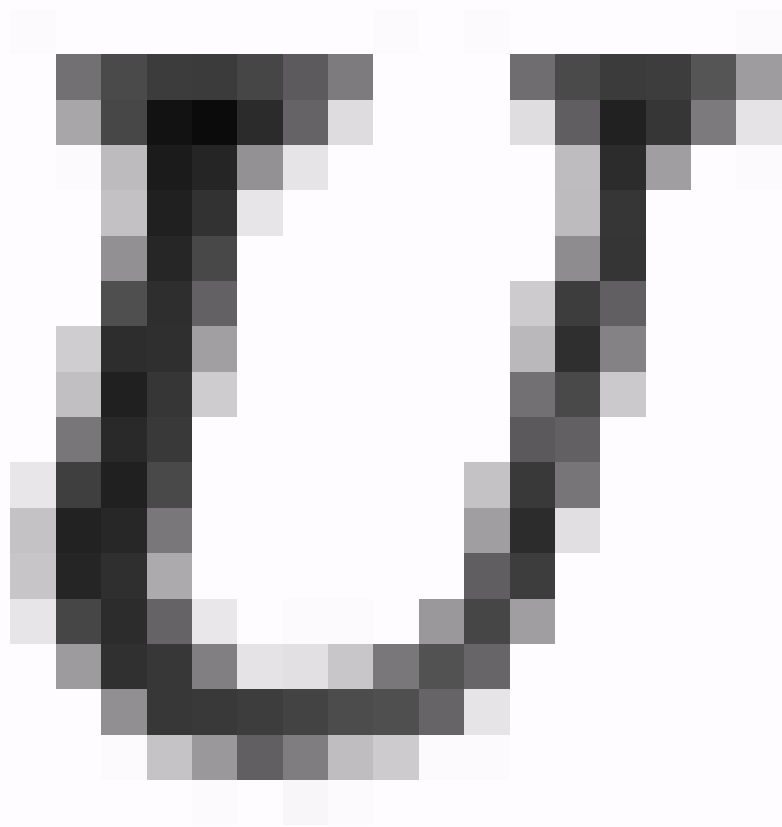


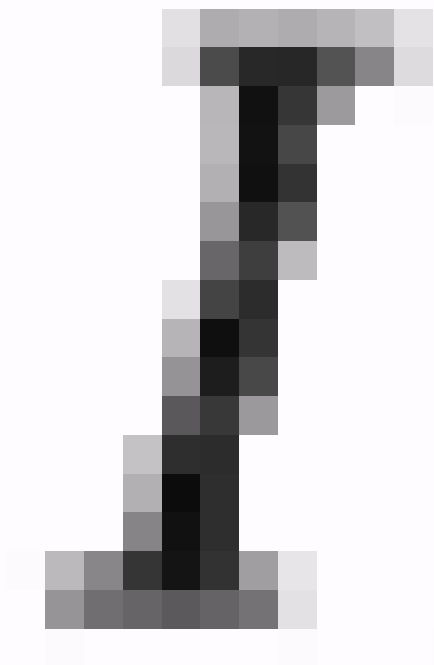
1990

U C

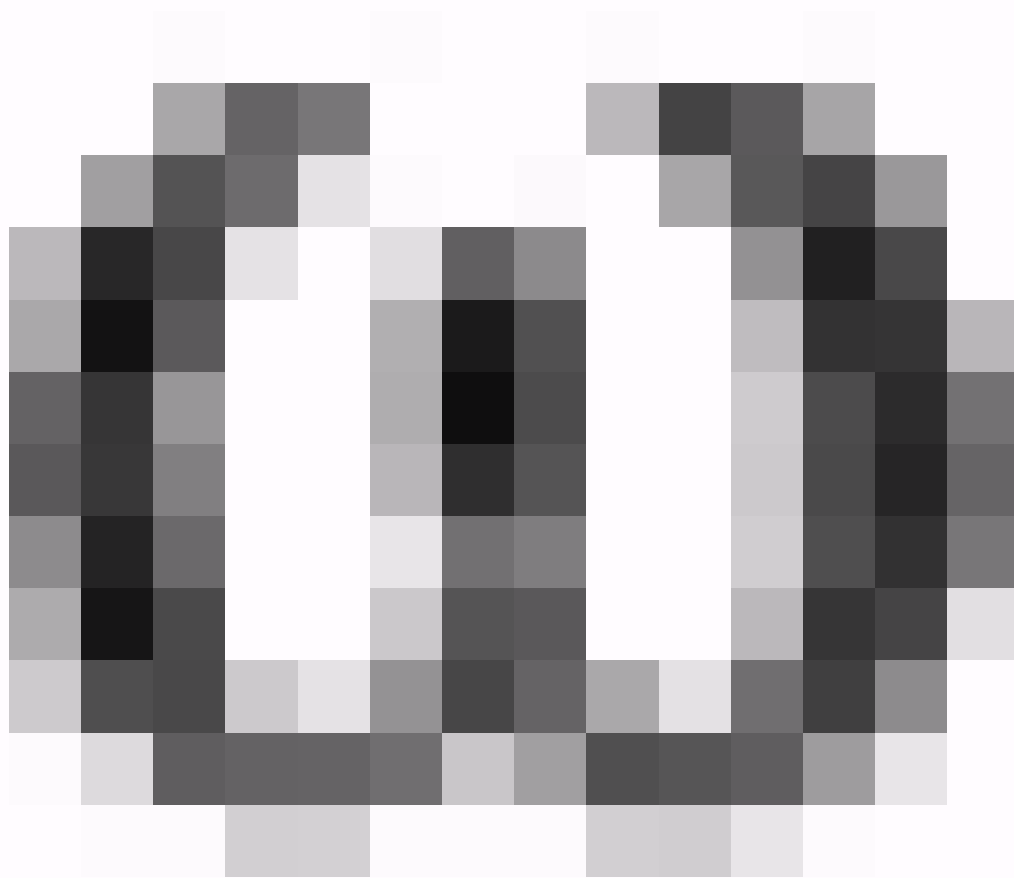
=

U L

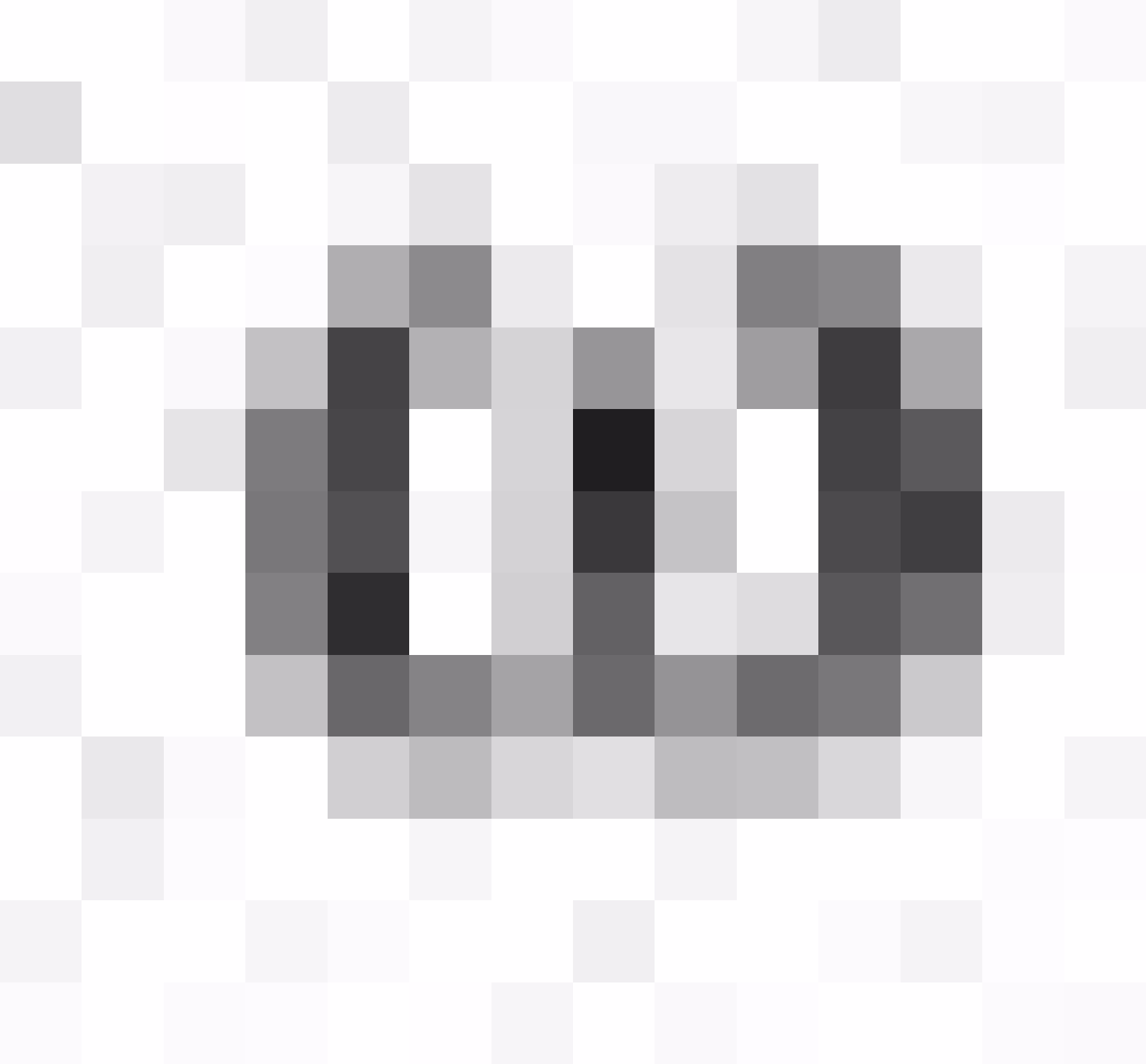








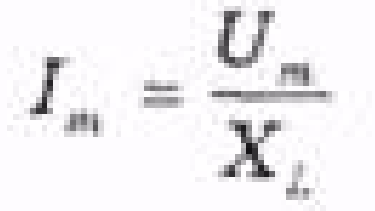
$$\int_{\mathcal{R}} \mathbf{1}_{\mathcal{R}} = \frac{U}{R} = \frac{U}{R} \quad (50.20).$$



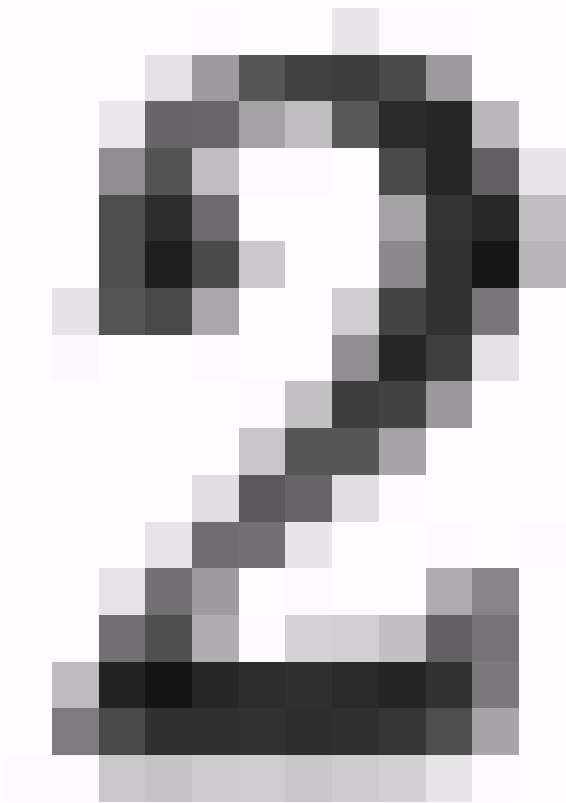
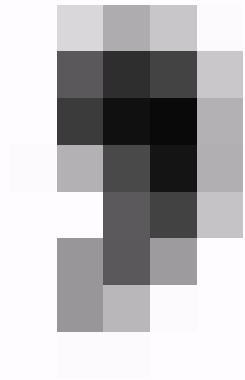
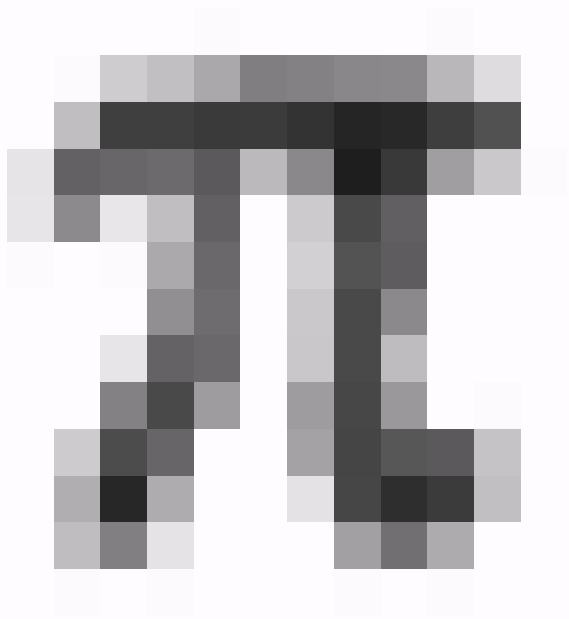
$$I_m = \frac{U_m}{X_L} \quad (50.11)$$

100

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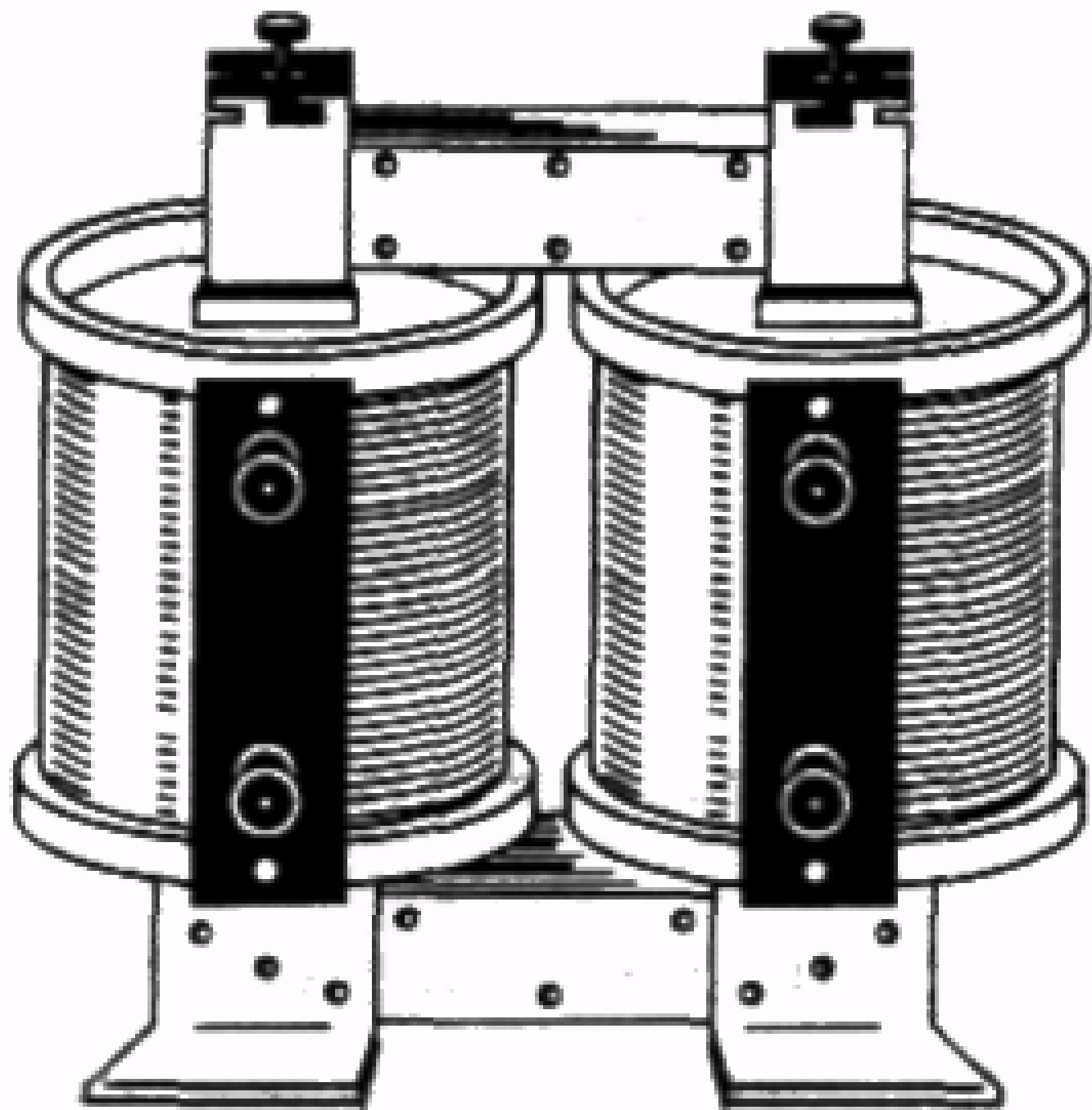
IRP

(51.1)



$$i = I_m \cos \omega t, \quad u = U_m \cos \omega t$$

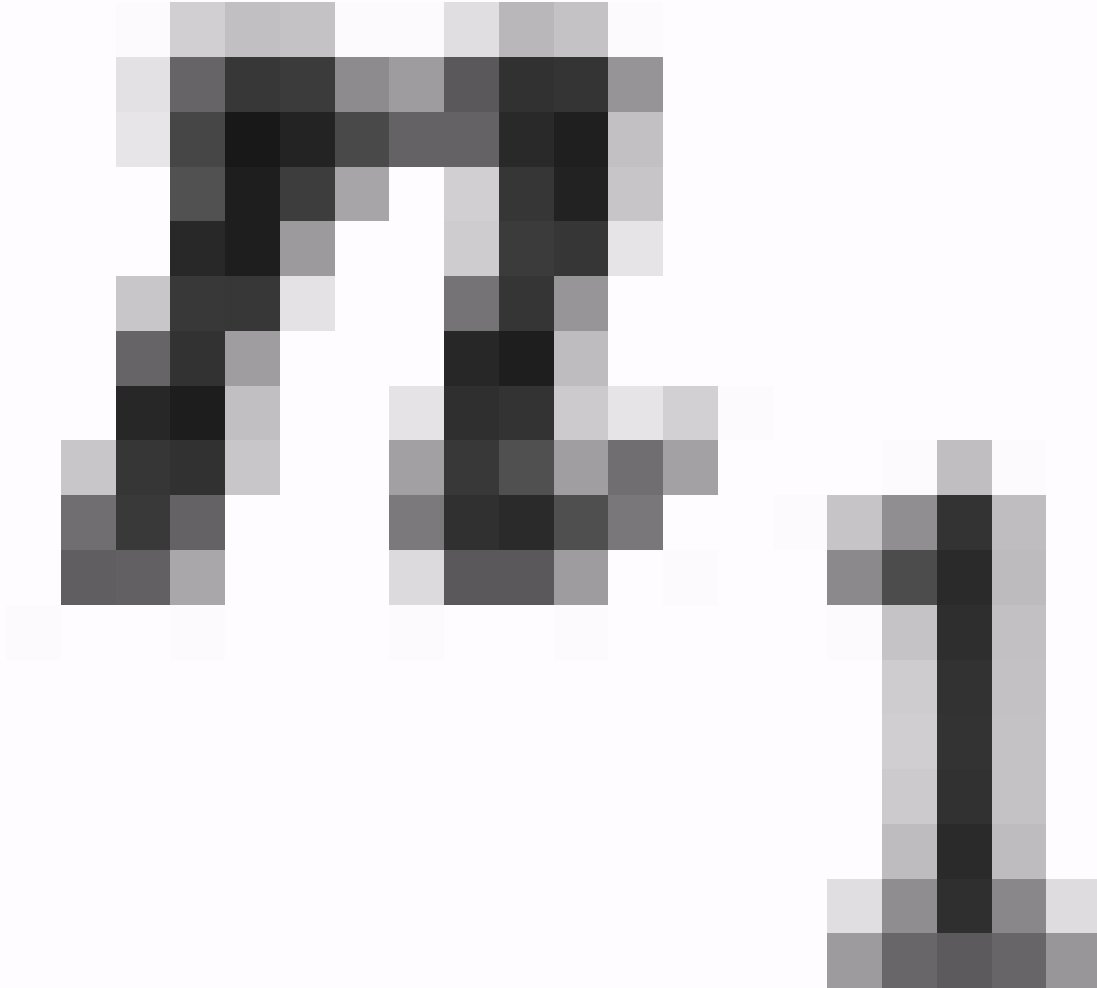
$$R = \frac{U_m}{I_m} \quad (50.12).$$

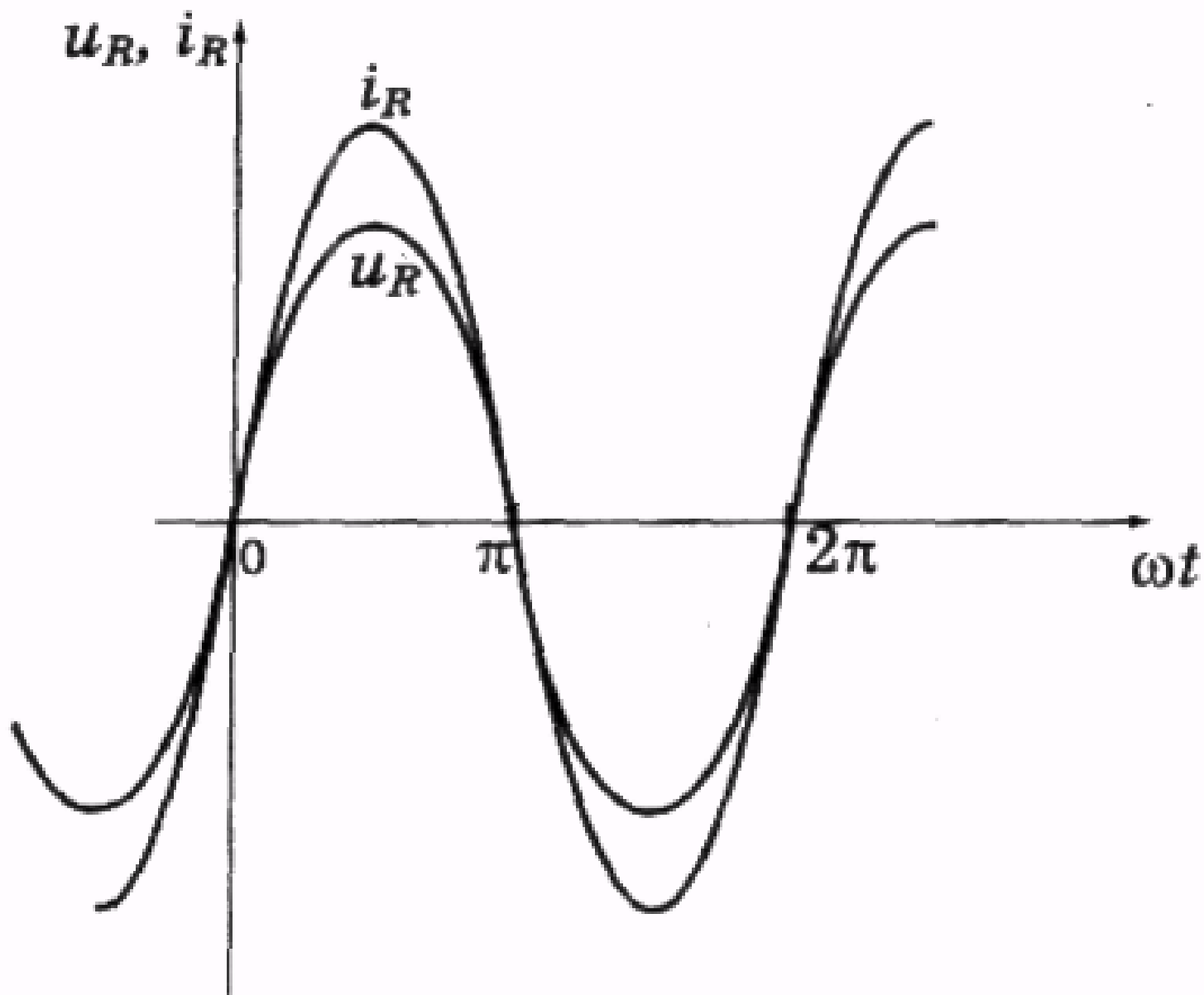


Мал. 2.167

$$i = I_m \cos \omega t, \quad u = U_m \cos \omega t$$

$$R = \frac{U_m}{I_m} \quad (50.12)$$



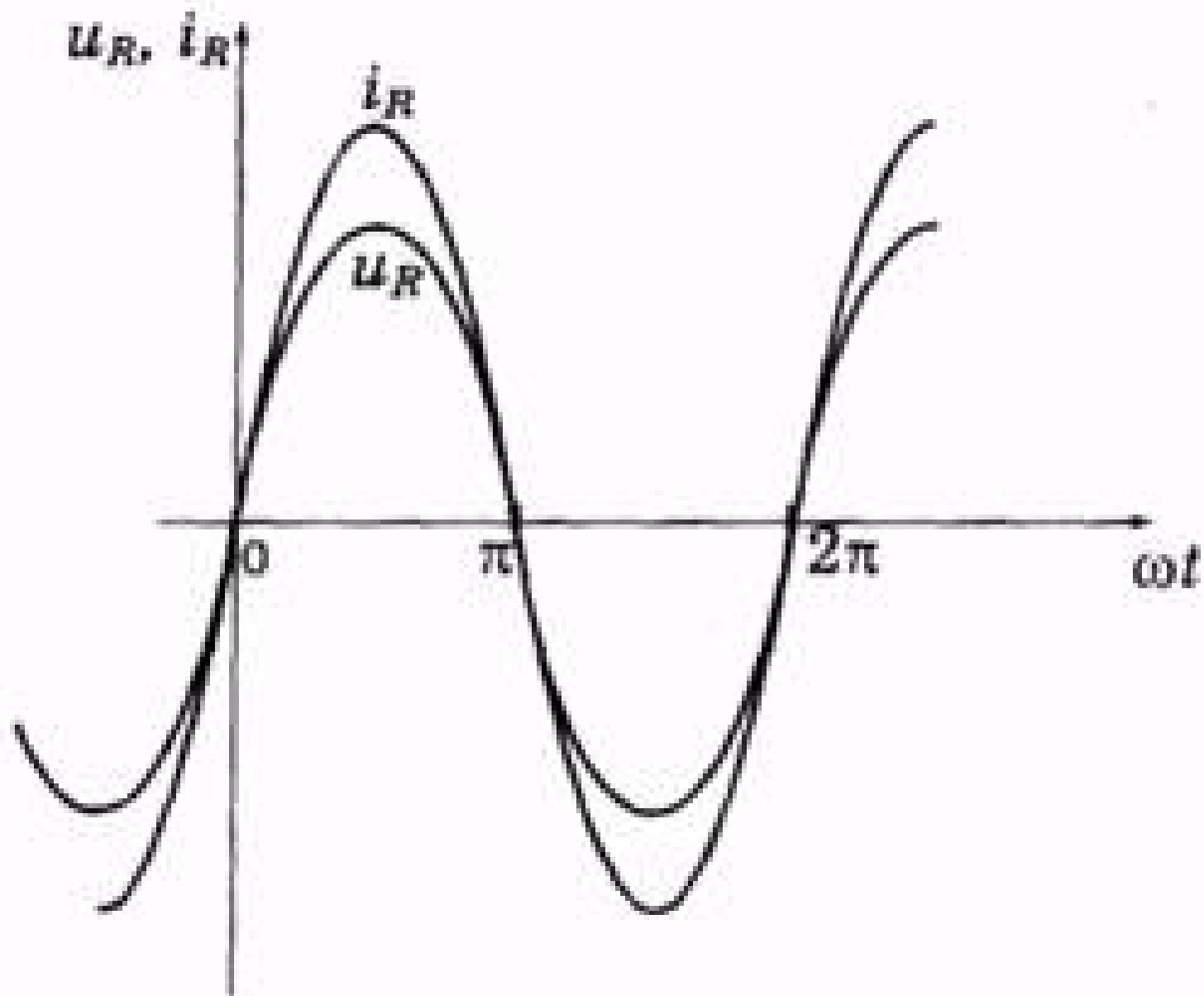


Мал. 2.163

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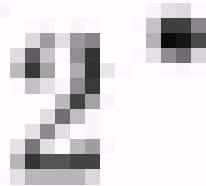
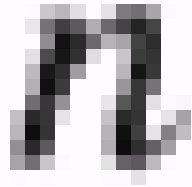
erri



Мал. 2.163

COOPER

WORLD





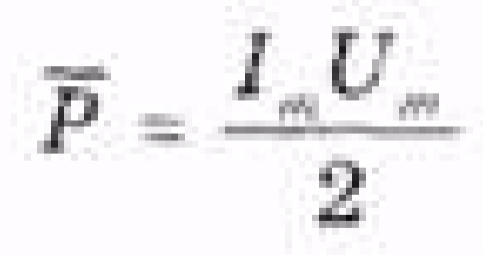
$$\bar{P} = \frac{IUV}{2}$$

(50.14).

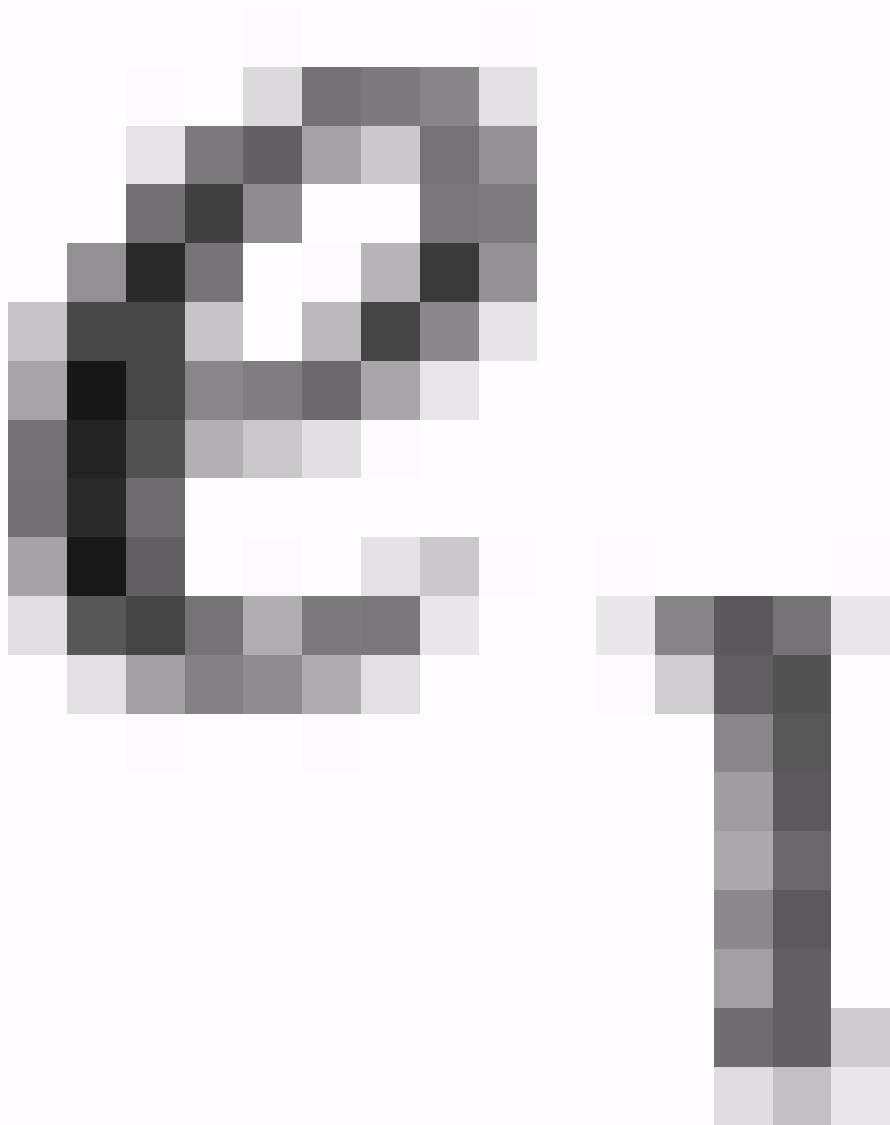
$$\frac{e_1}{\hbar} = \frac{\mu_1}{\hbar}$$

$$e_2 = \mu_2$$

(51.2).



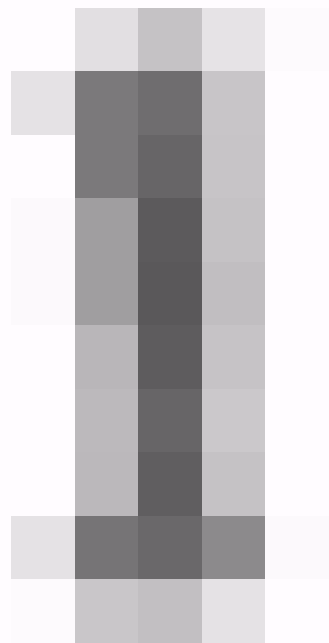
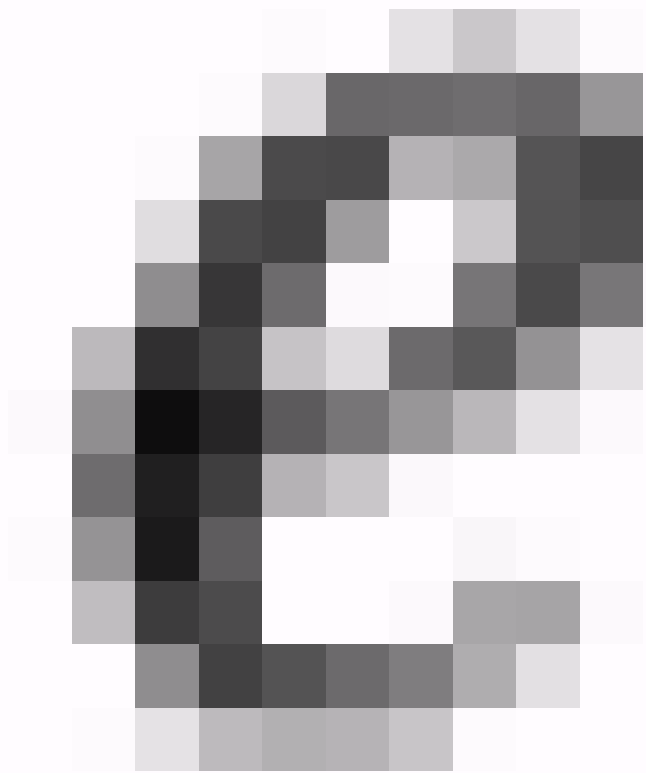
$$I = \frac{I_m}{\sqrt{2}}, \quad U = \frac{U_m}{\sqrt{2}} \quad (50.15 \text{ i } 50.16)$$

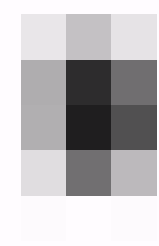
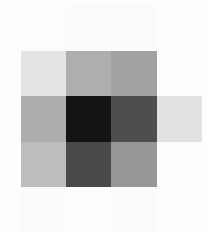
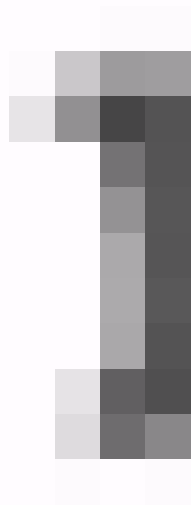
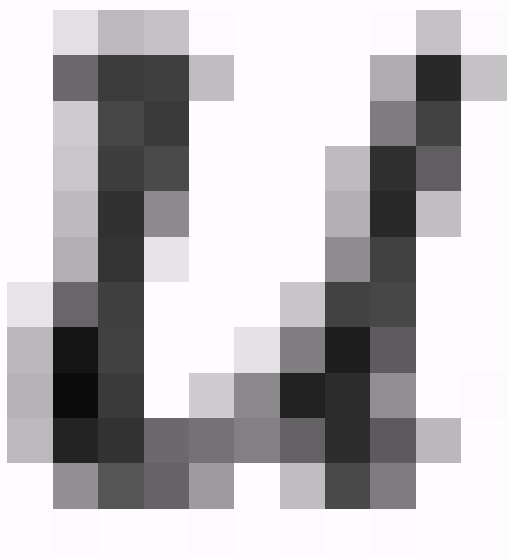


$$I = \frac{1}{\sqrt{2}}$$

$$U = \frac{1}{\sqrt{2}}$$

(50, 15, 150, 16)

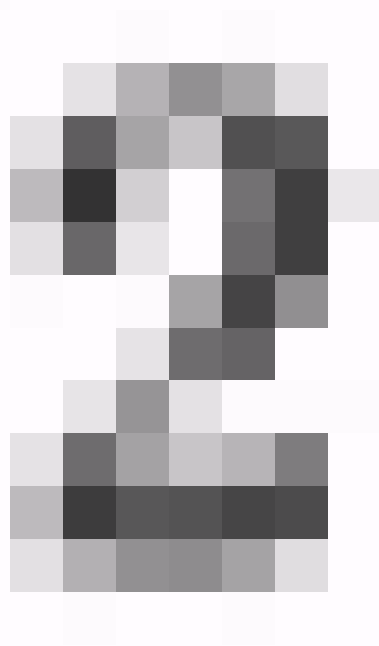
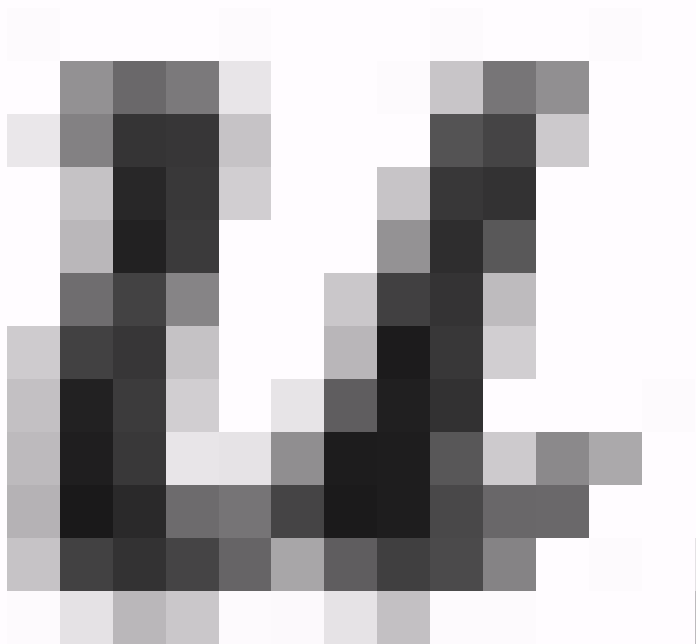




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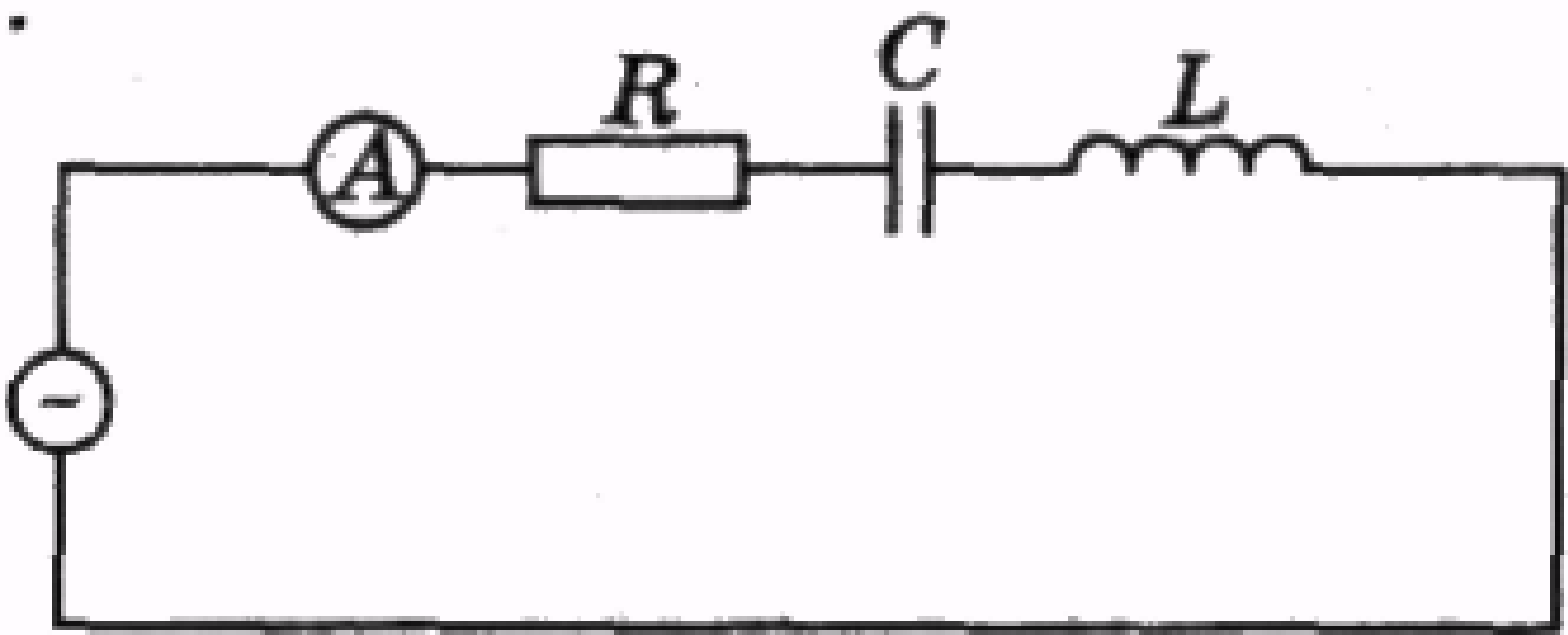
WIP

(BIL3)

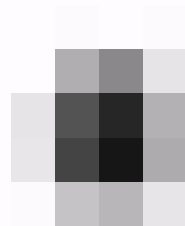
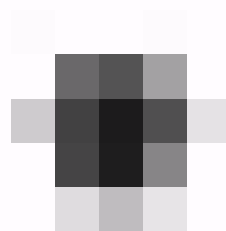
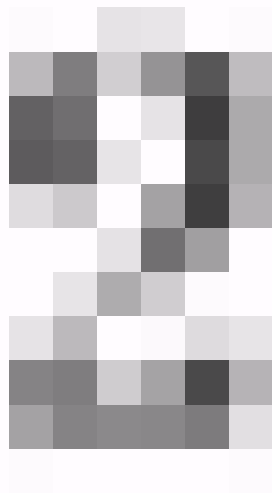
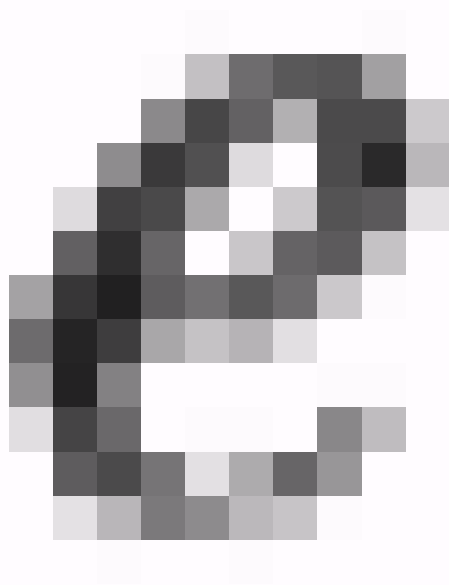


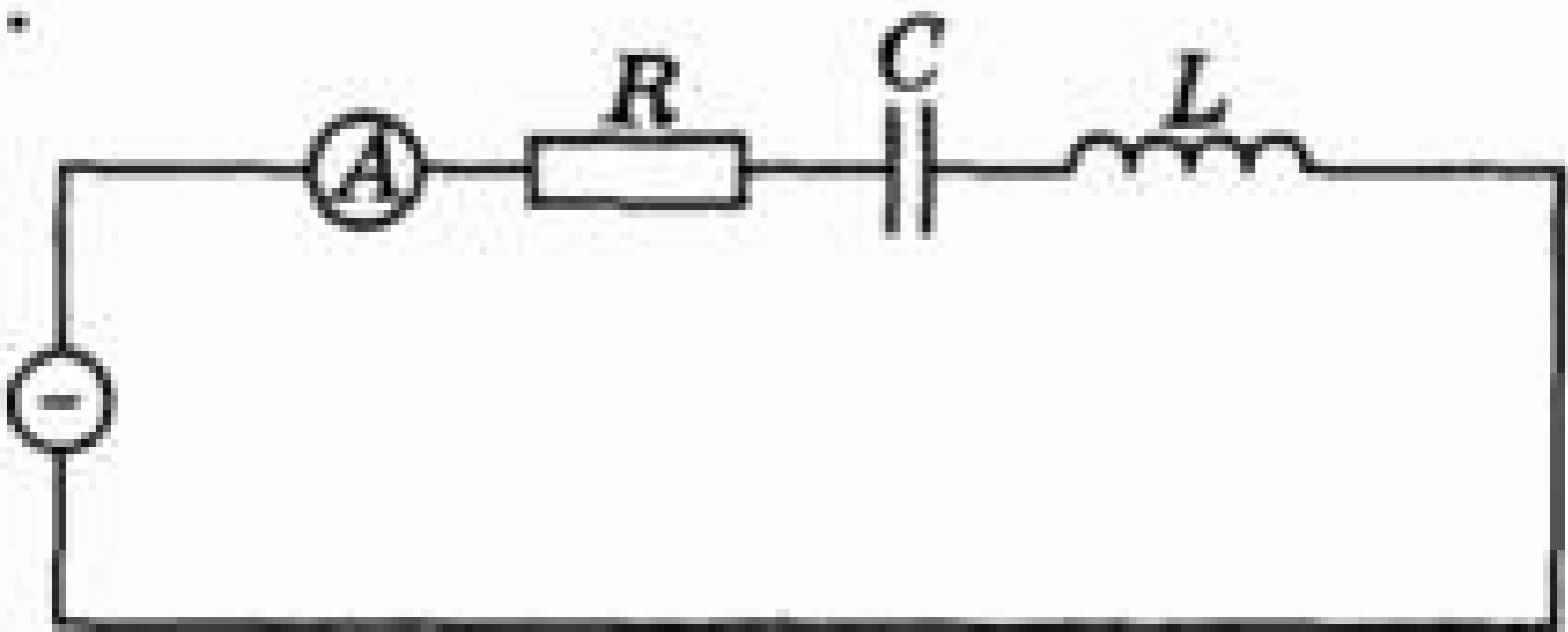
WORLD OF
GAMES



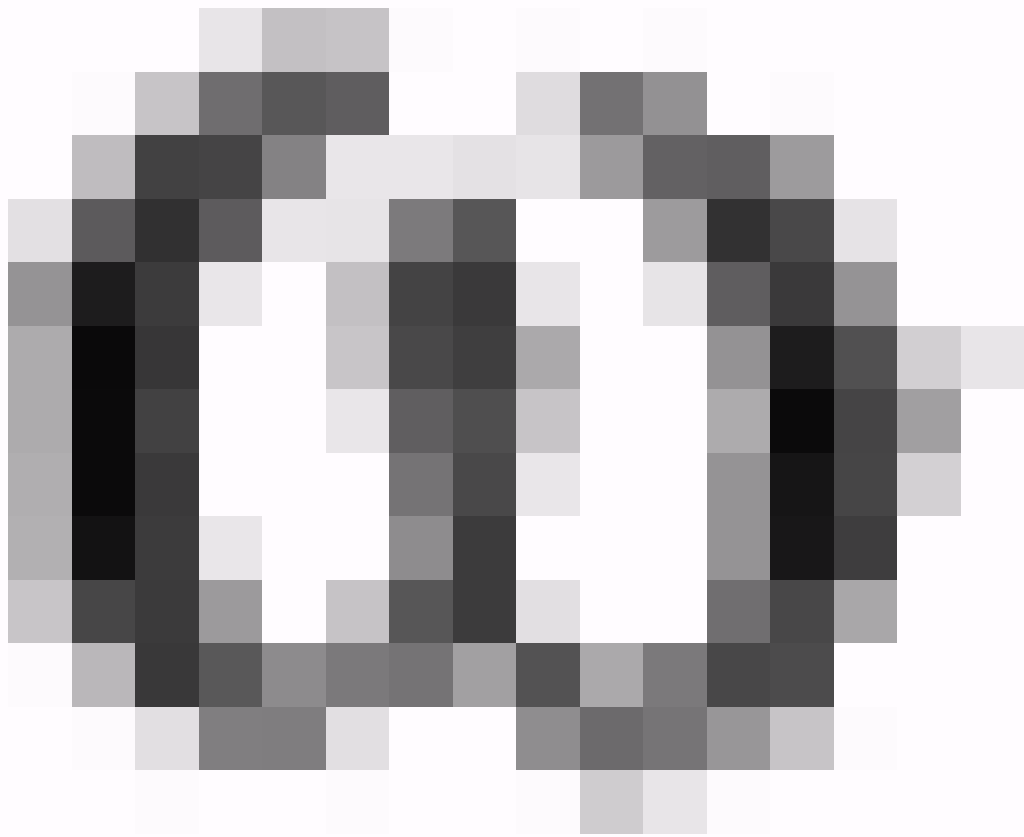


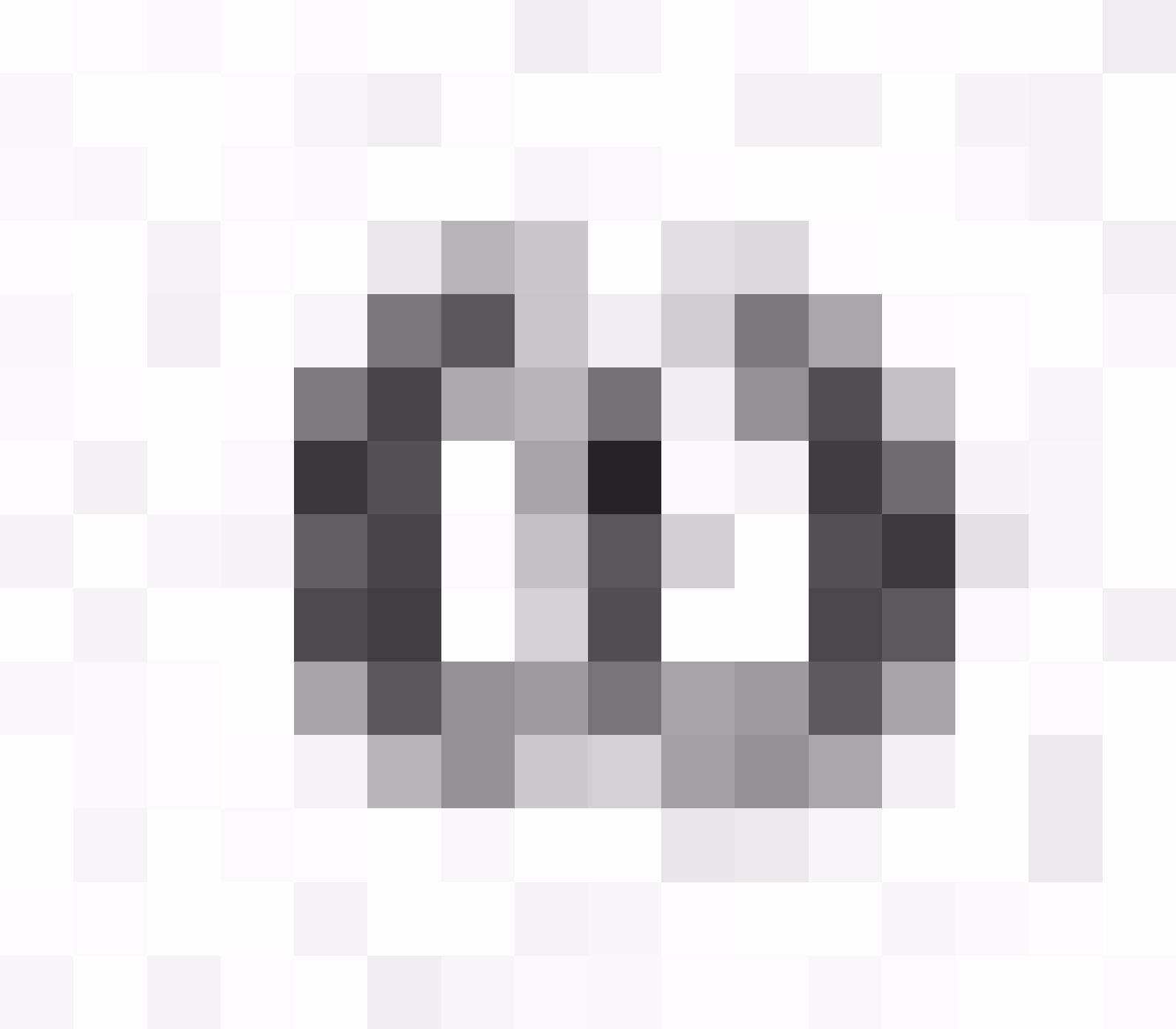
Мал. 2.164

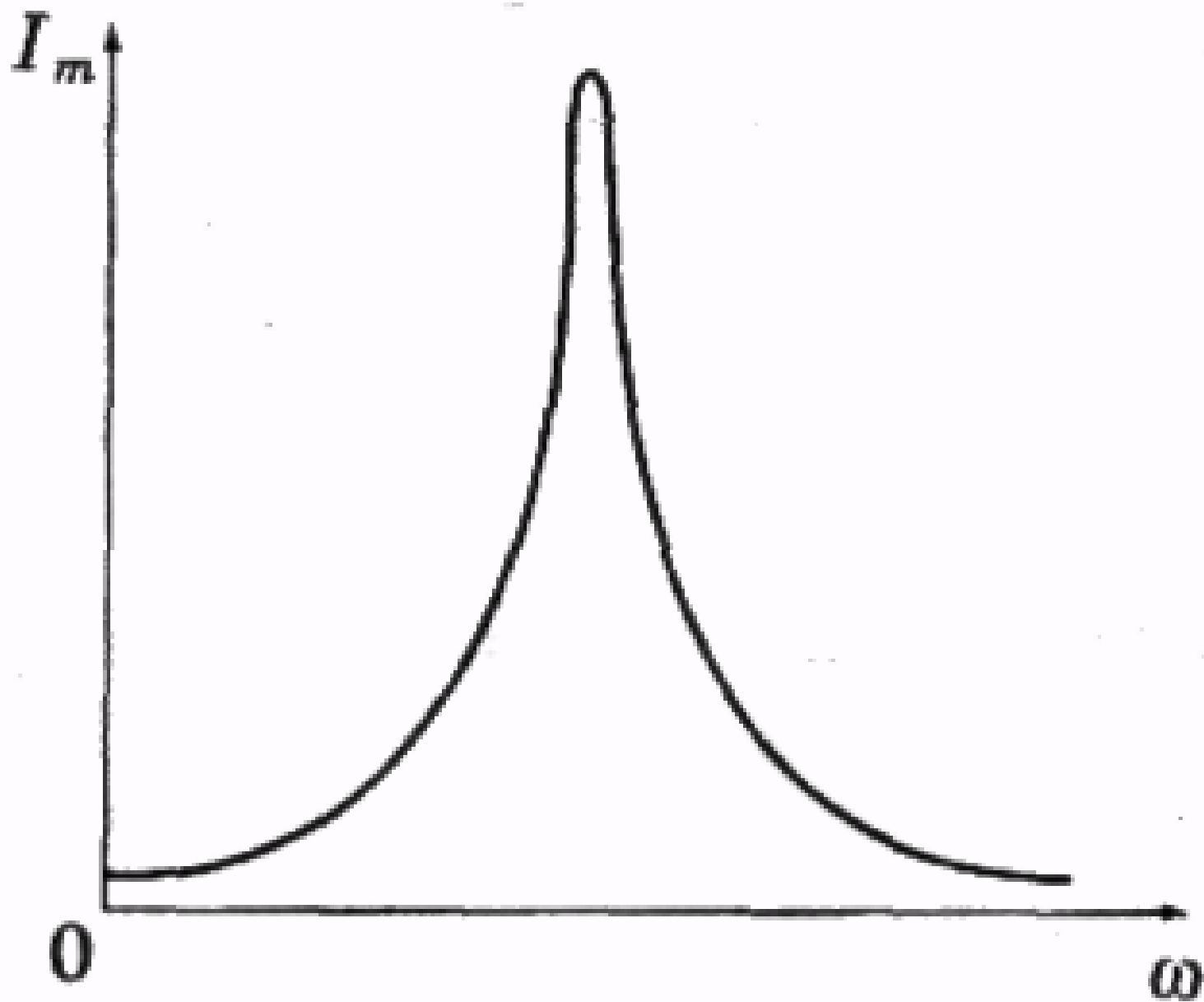




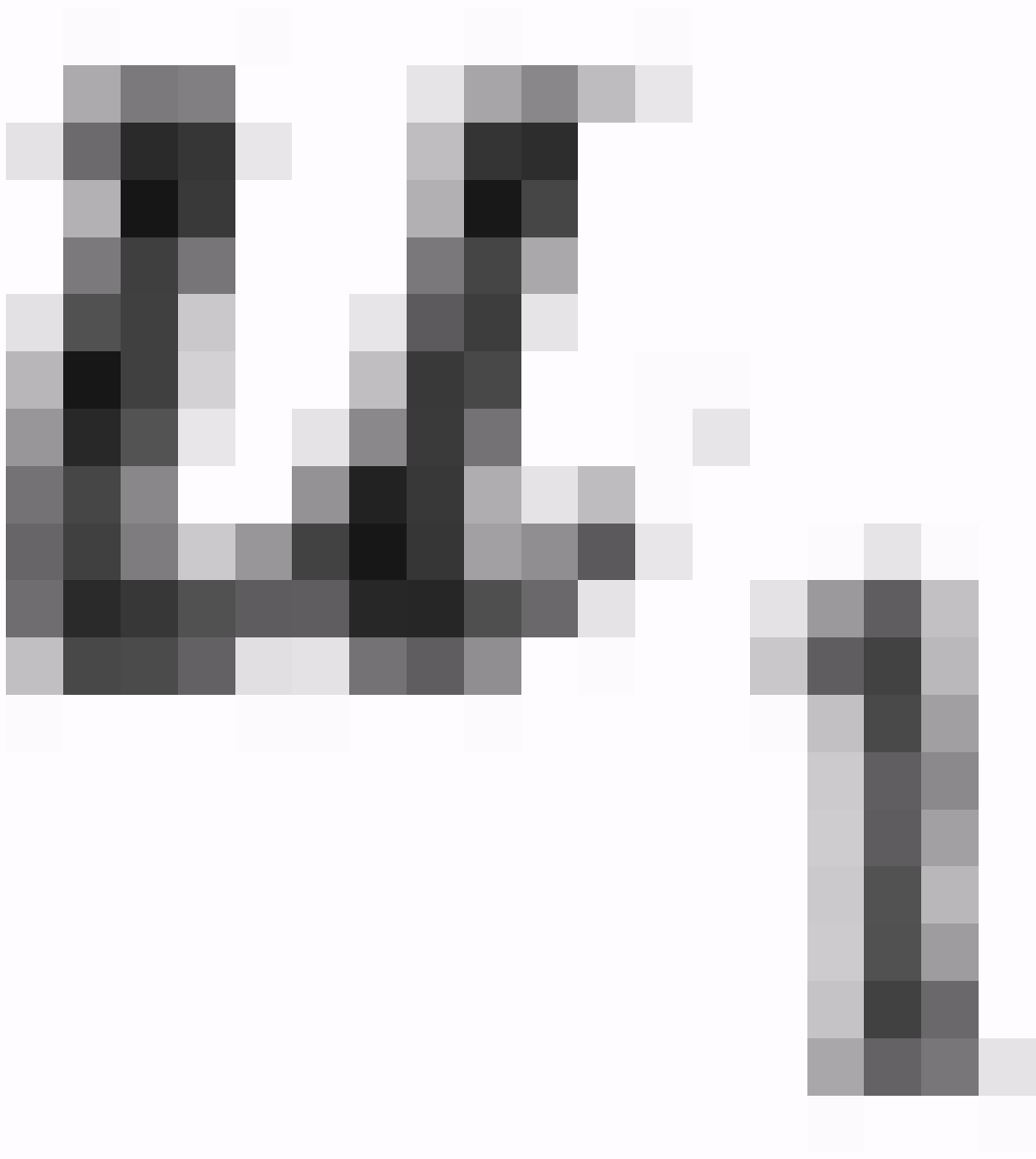
Mat. 2.164

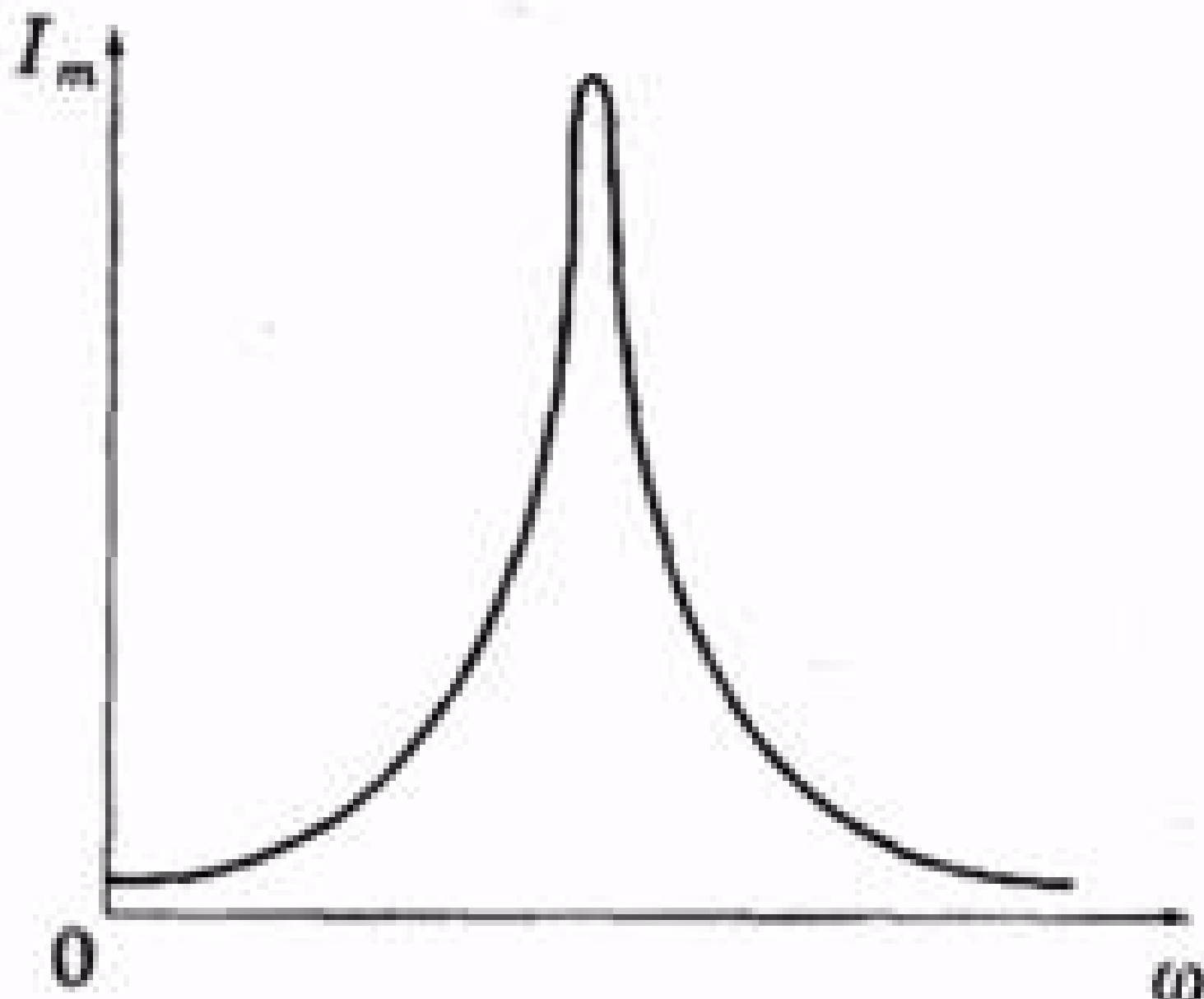




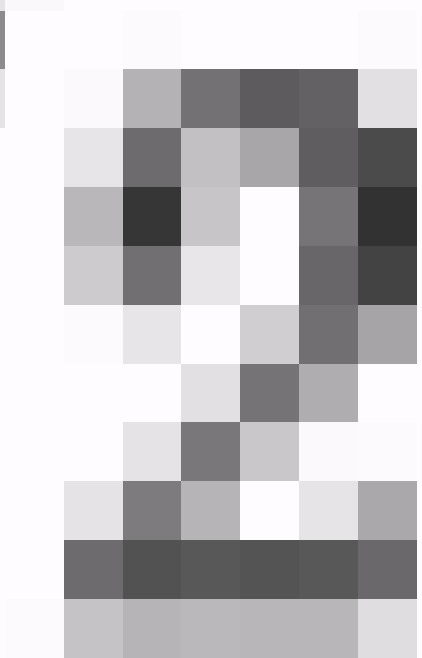
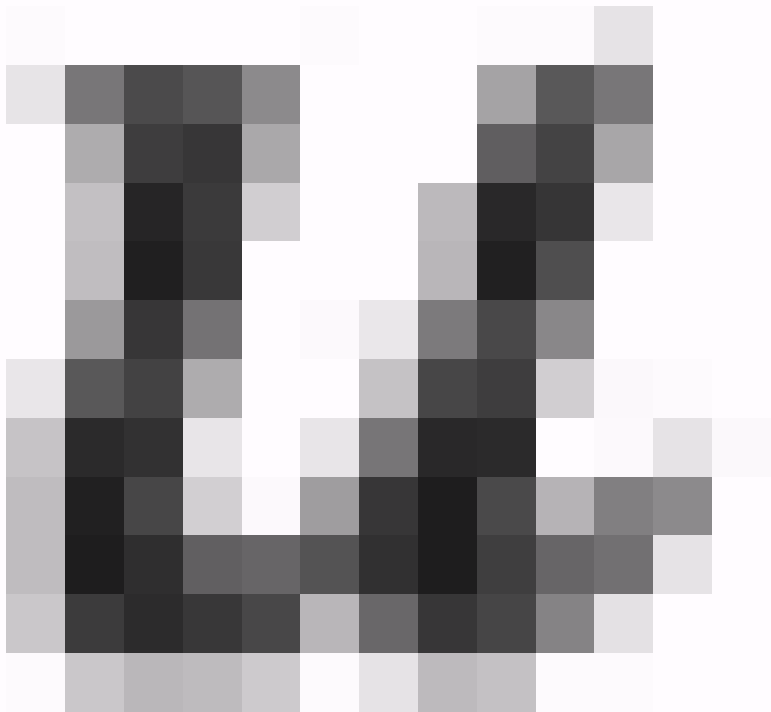


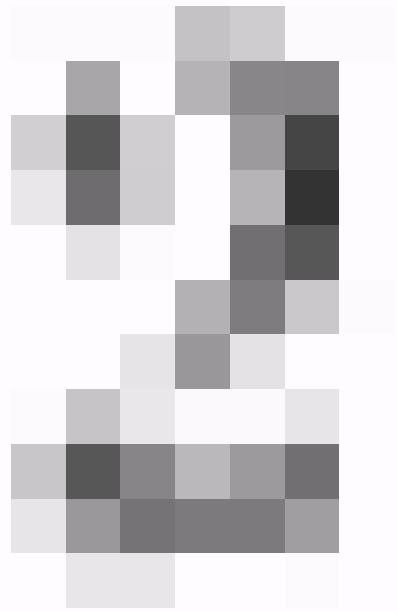
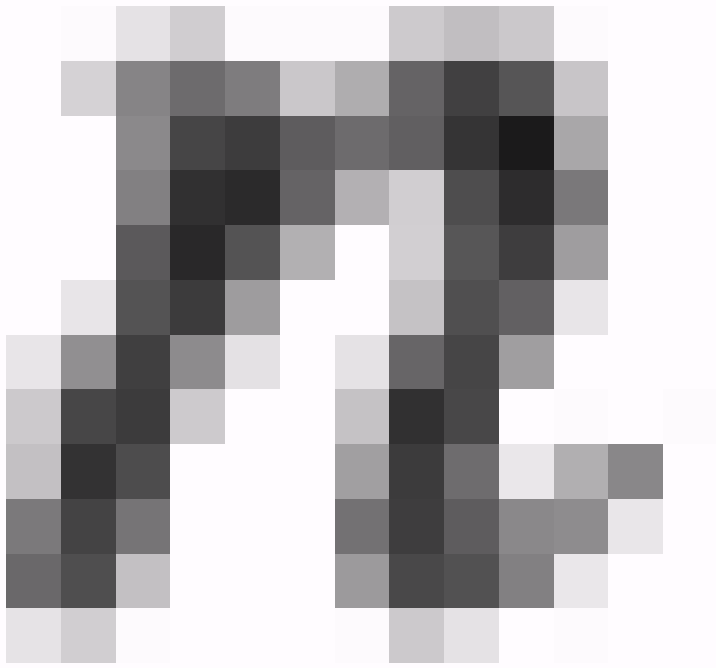
Мал. 2.165

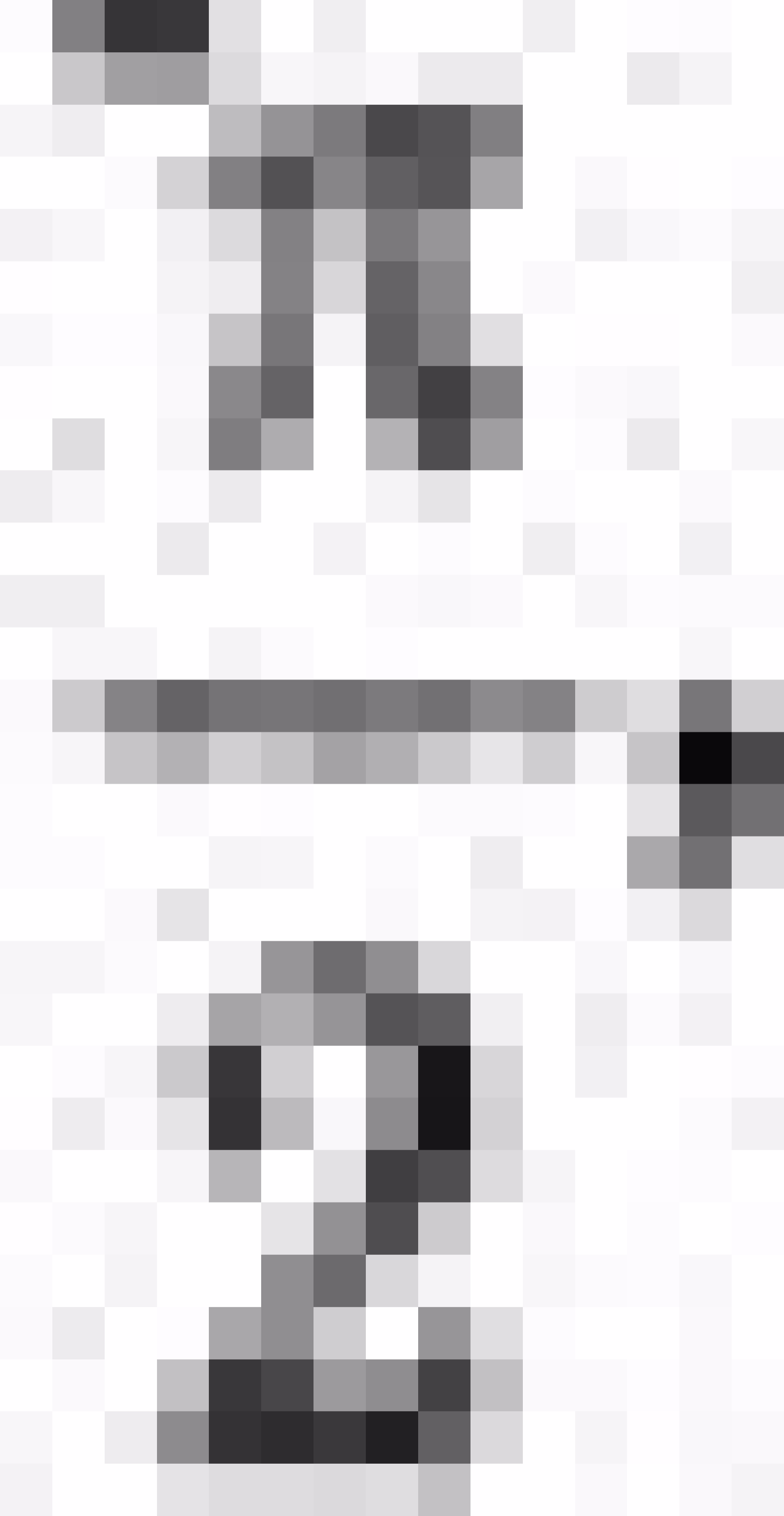


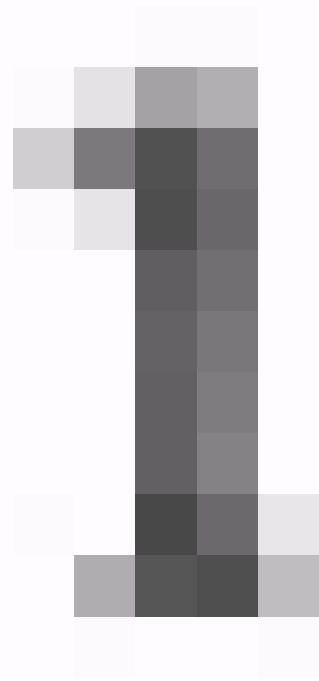
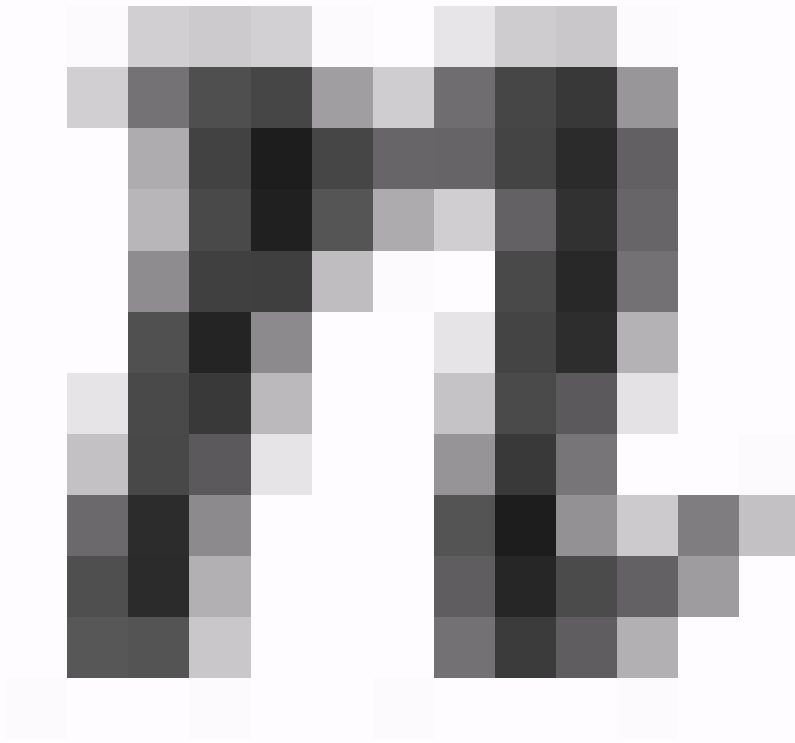


Мал. 2.165



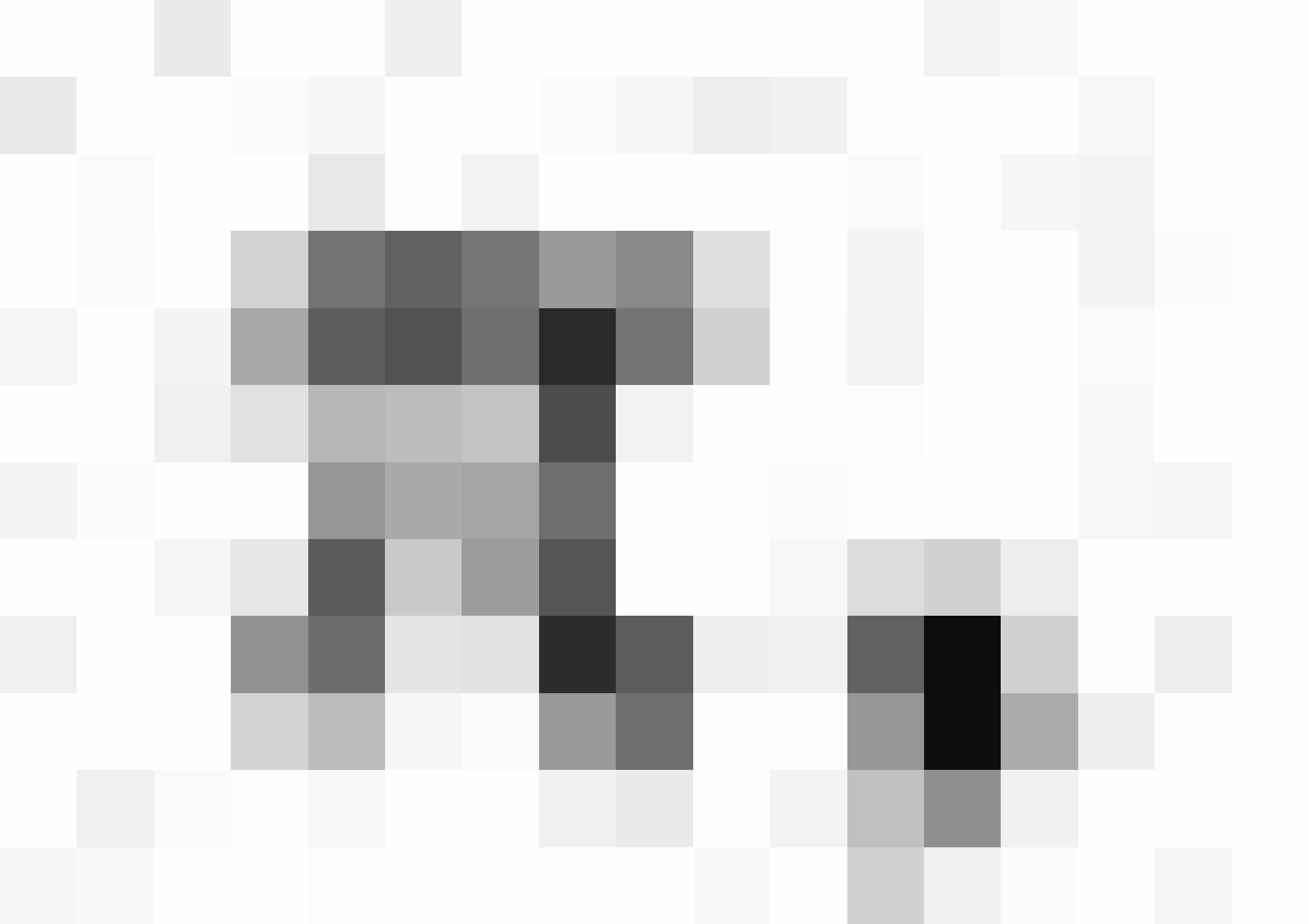


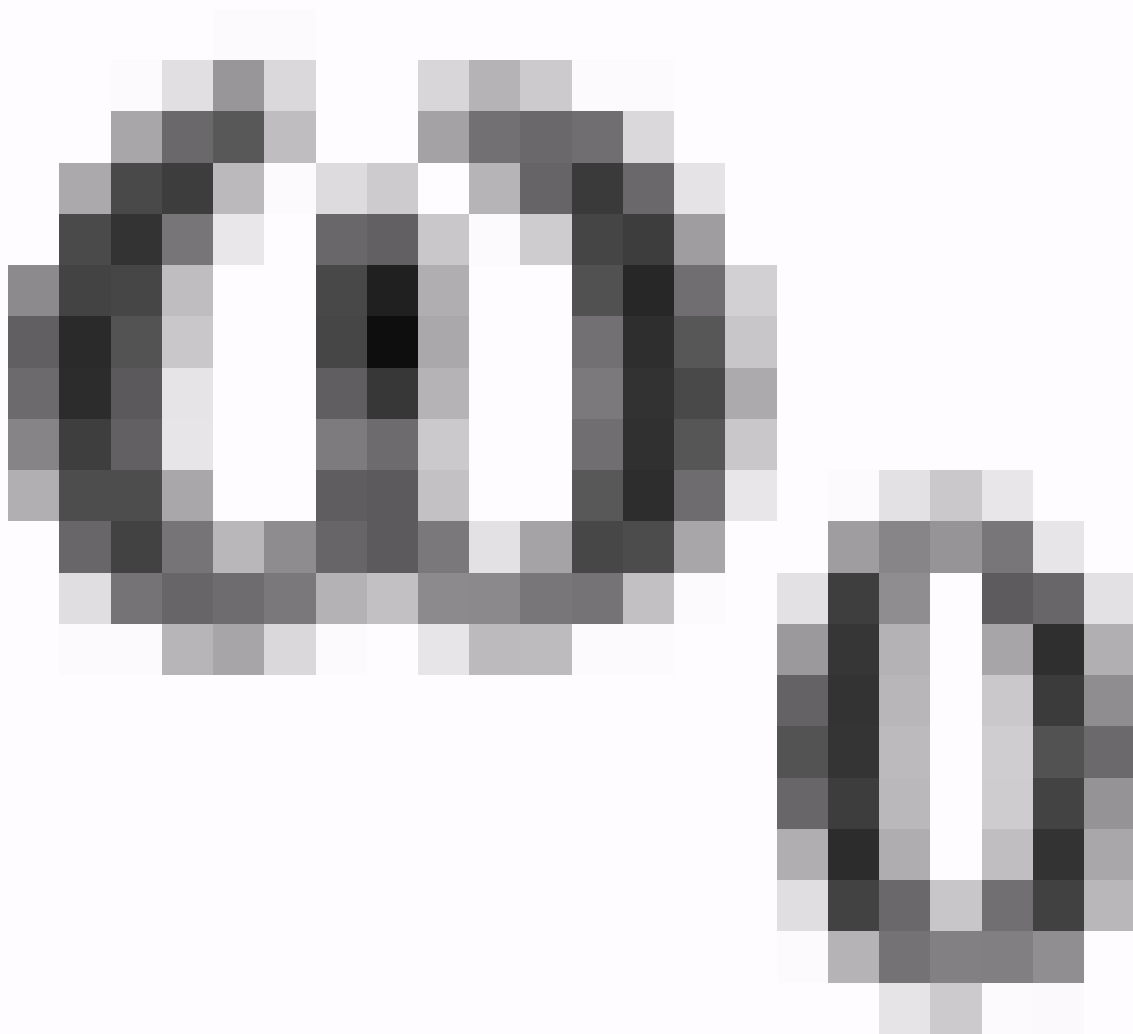


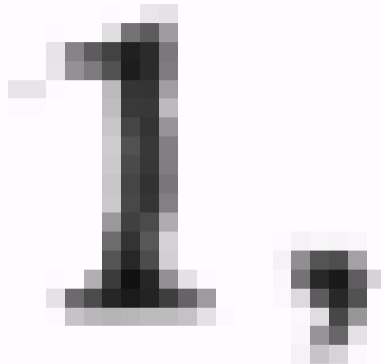
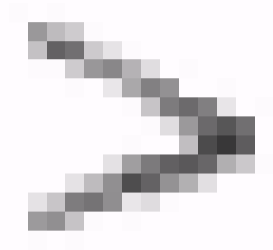
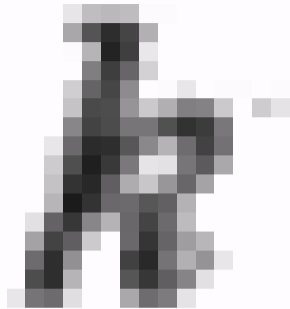


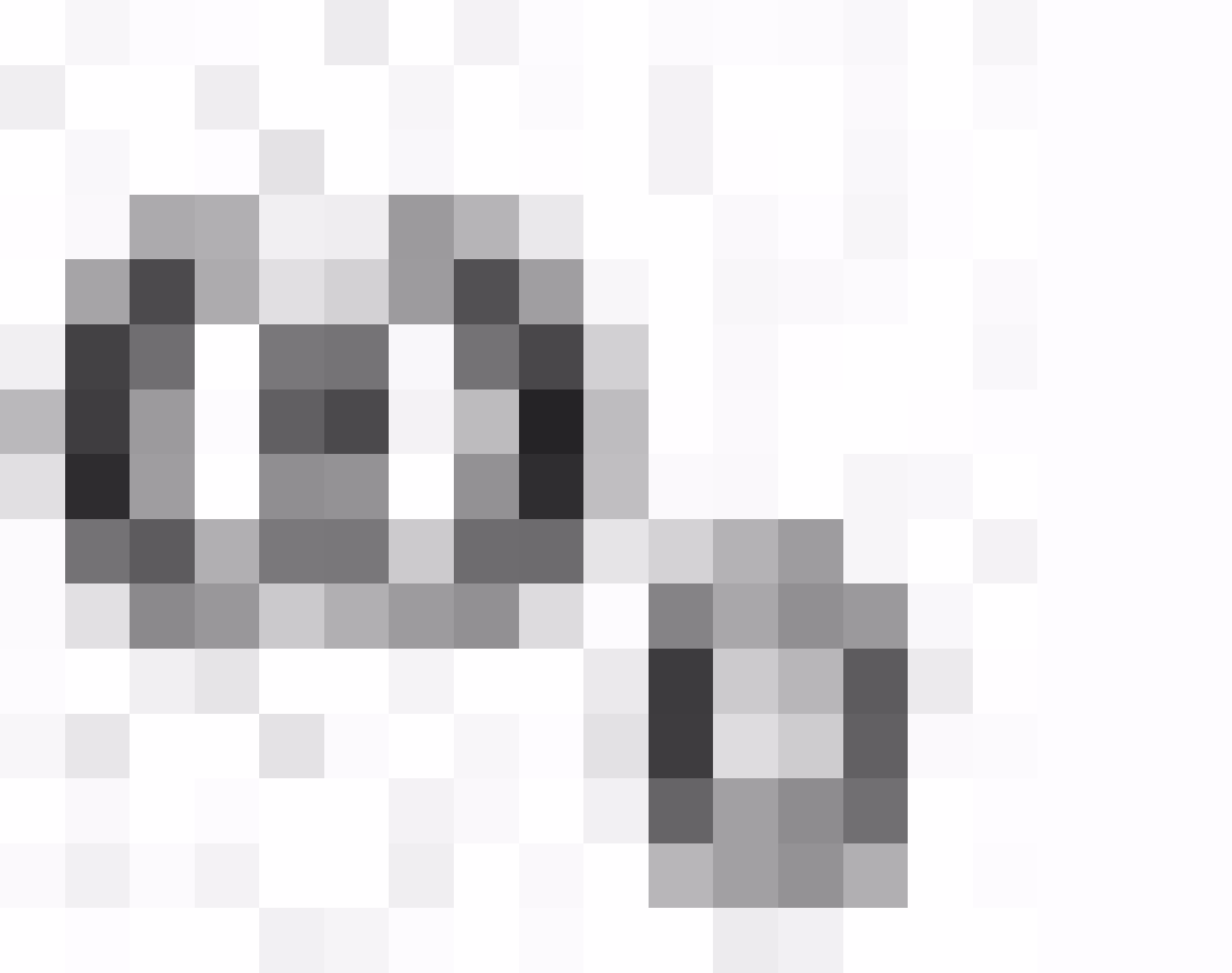
$$A = \frac{A_1}{A_2}$$

(51.6).

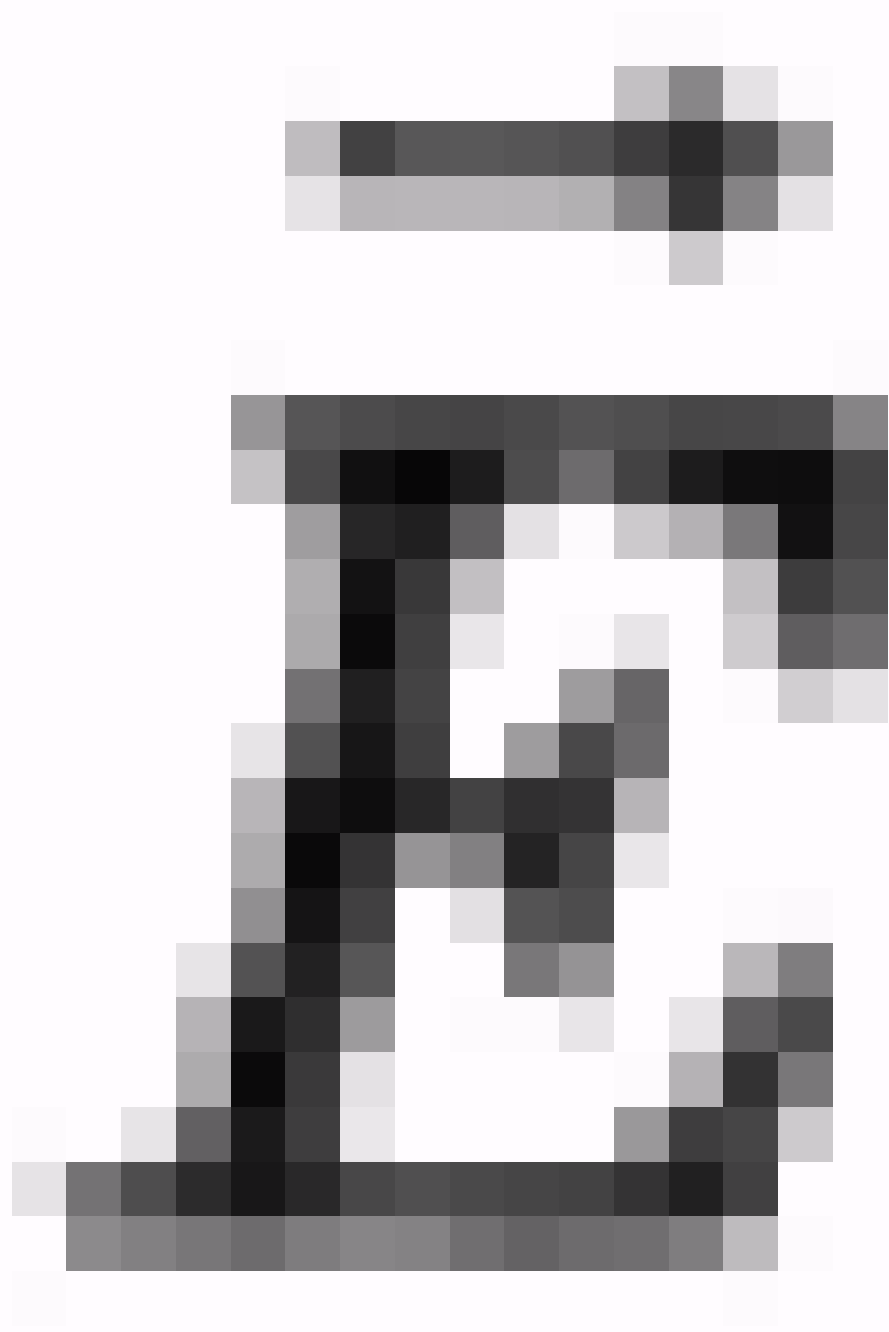




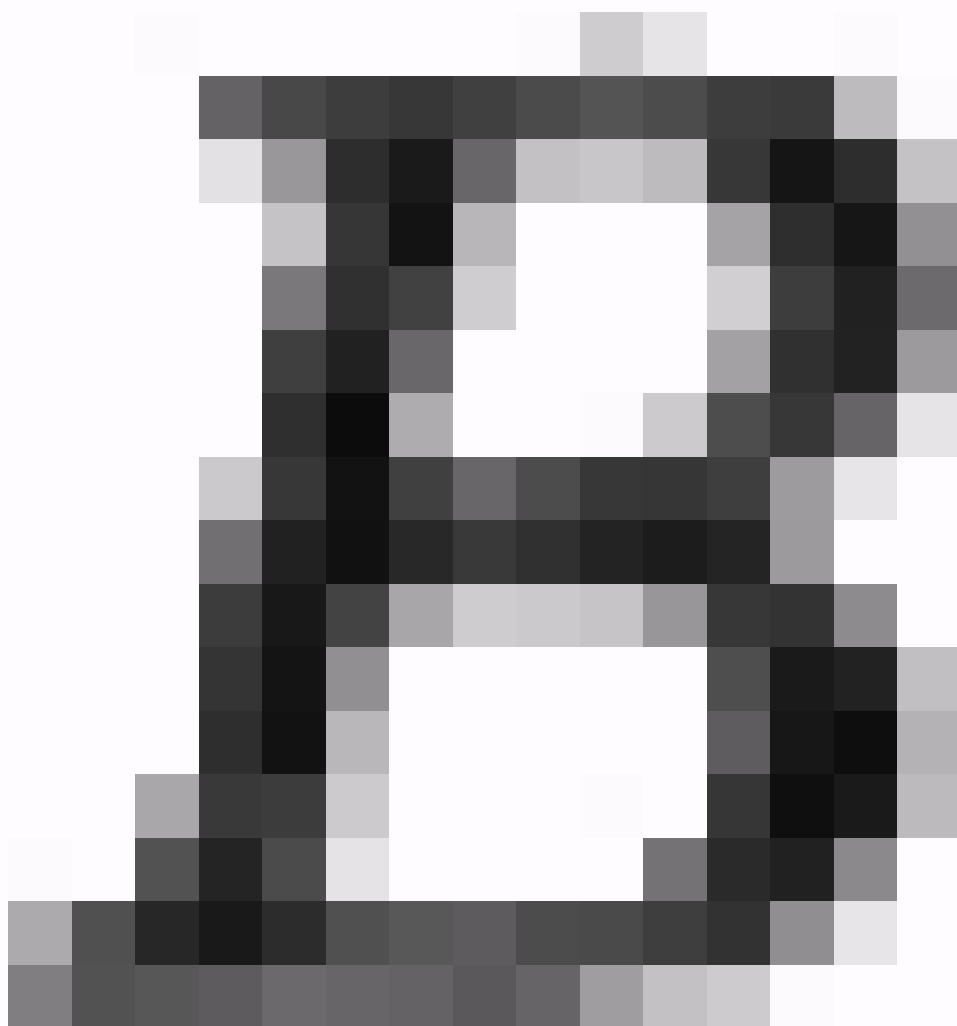
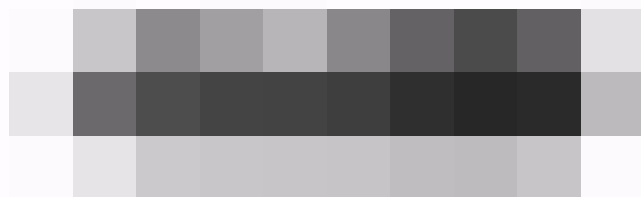


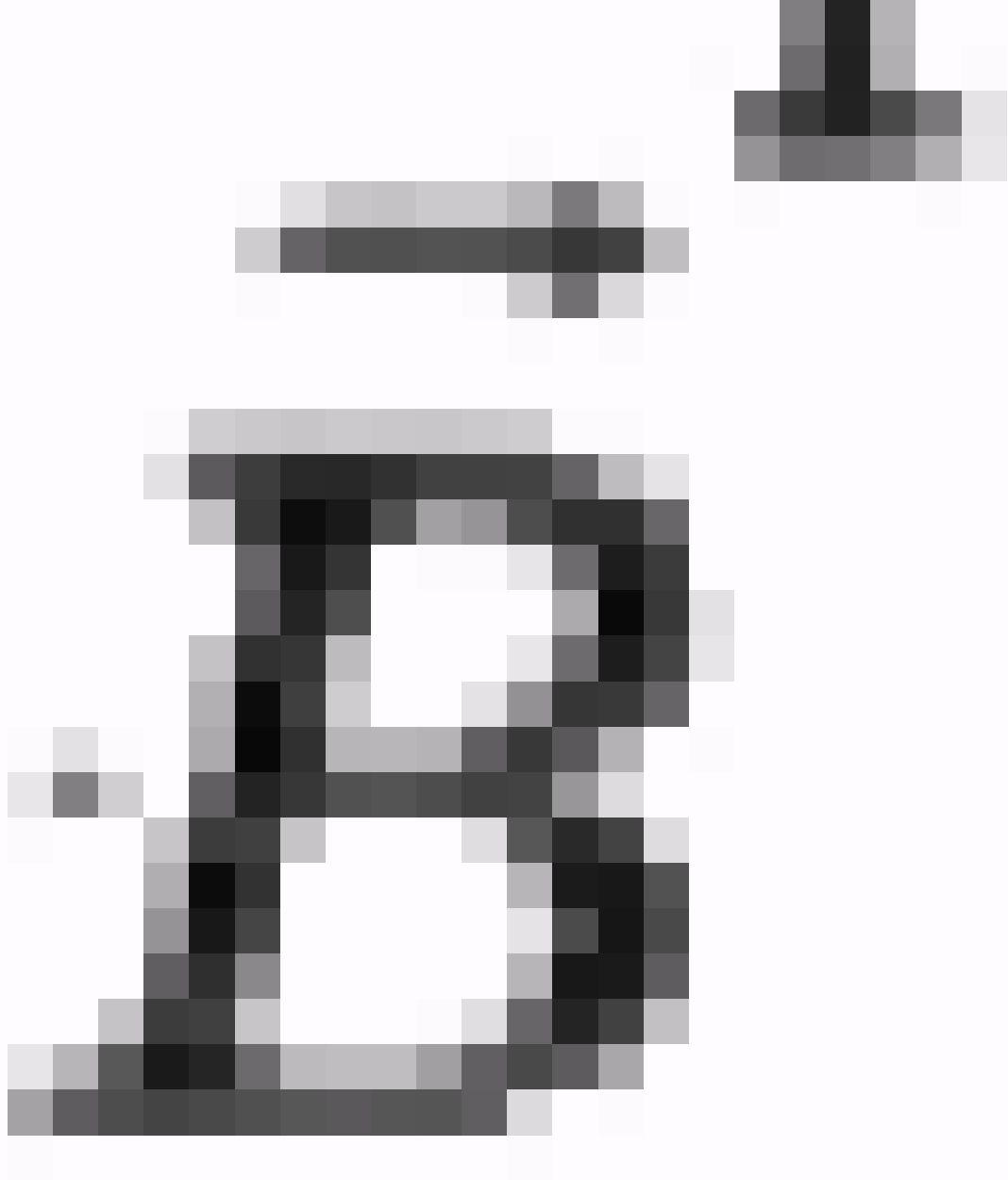


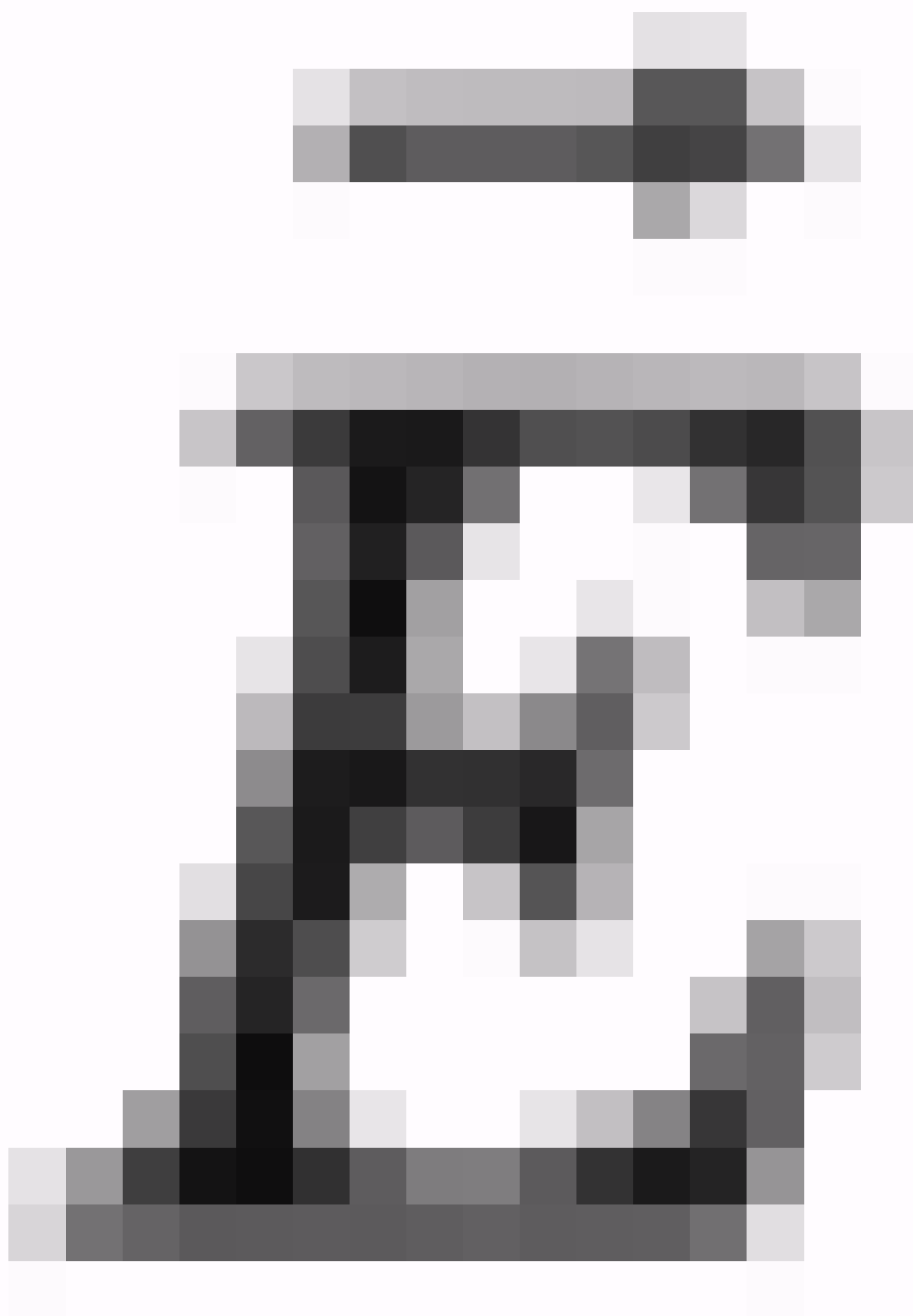
$$\omega_0 \mathcal{L} = \frac{1}{\omega_0 C} \quad (50.18)$$

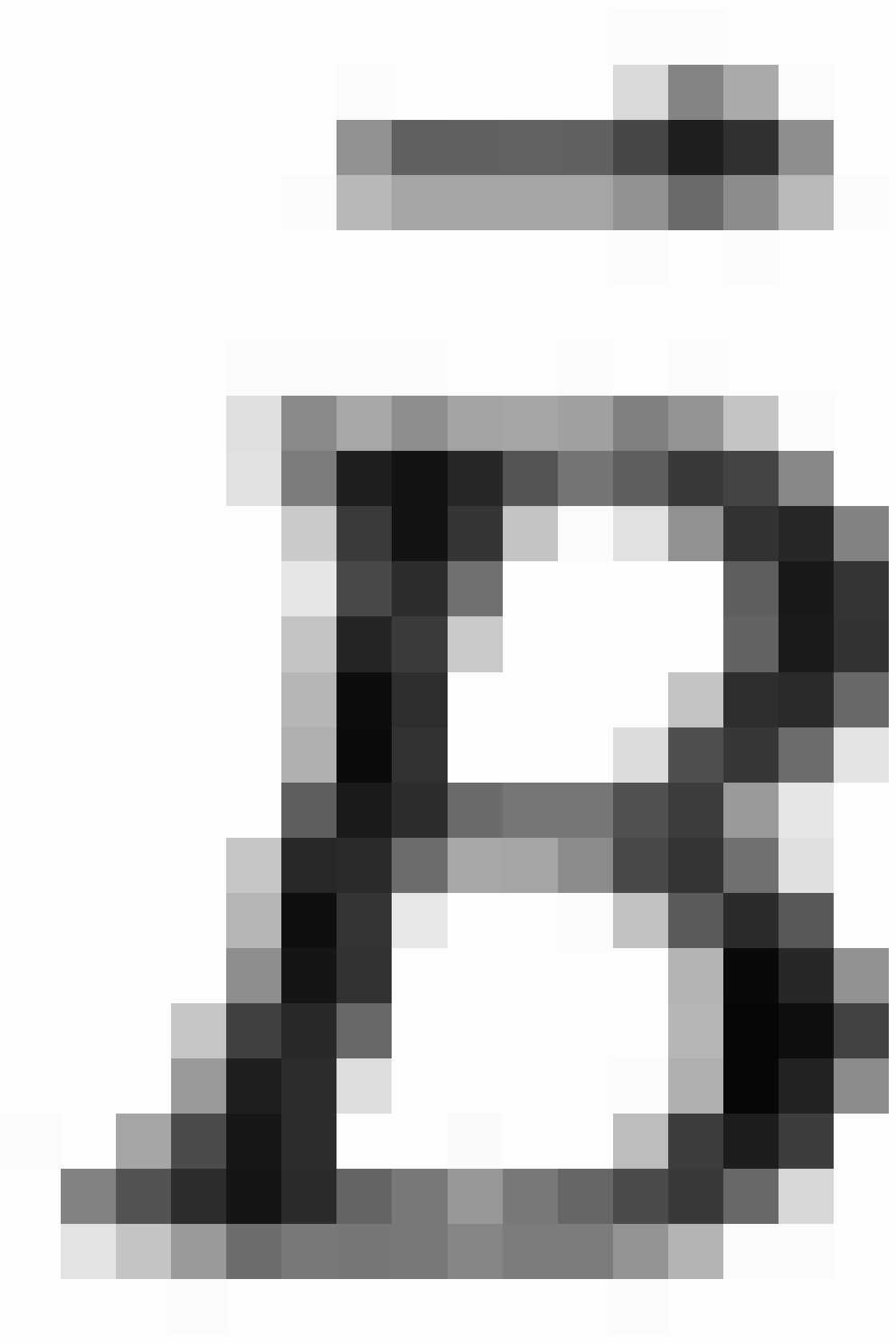


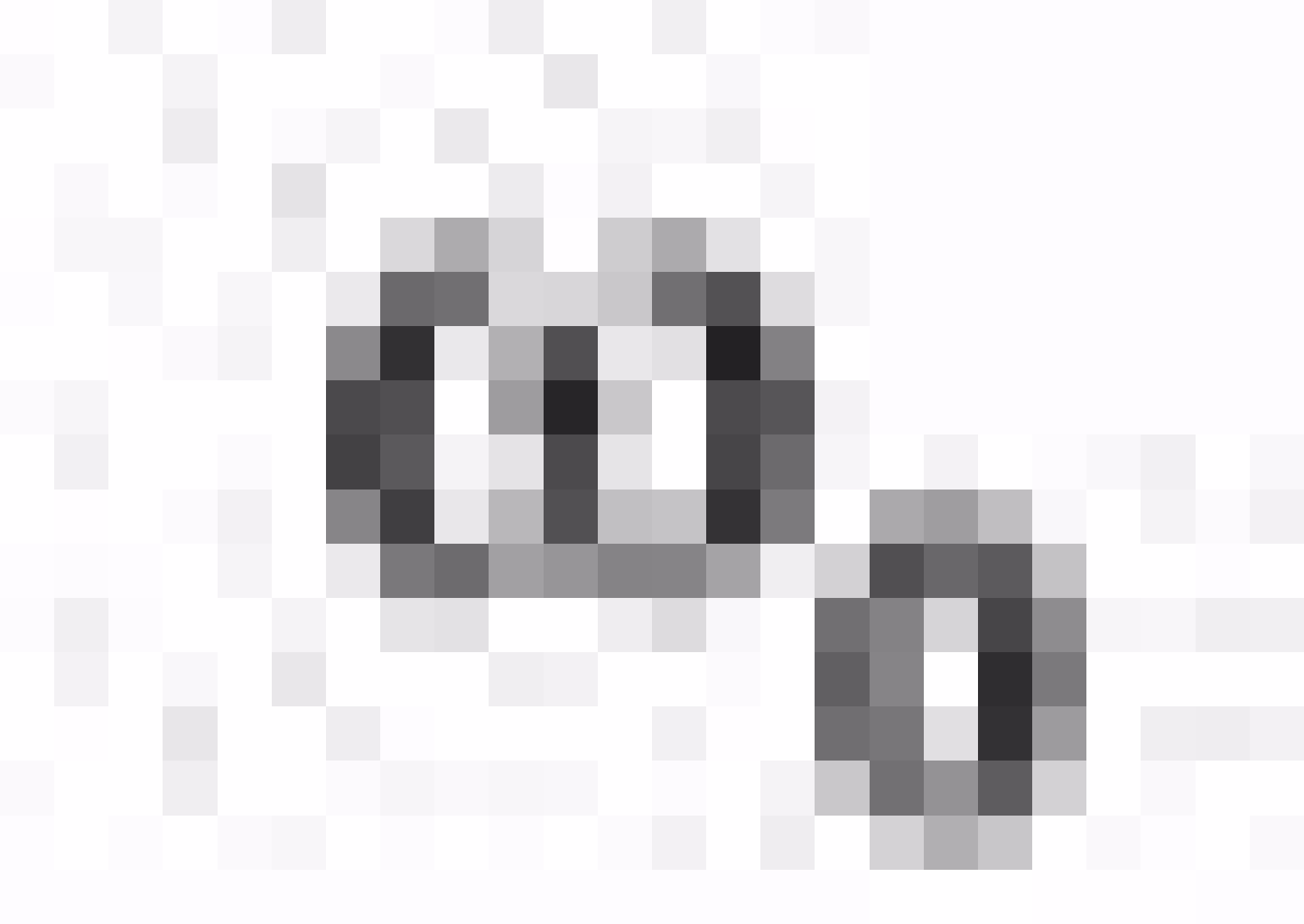




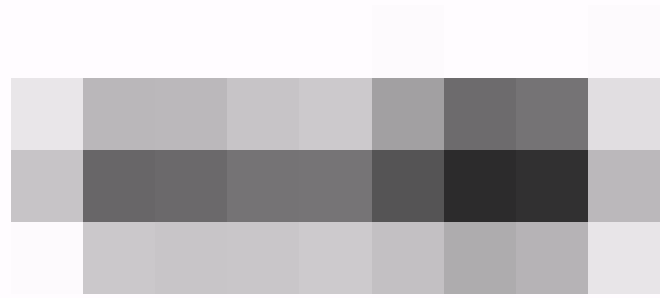
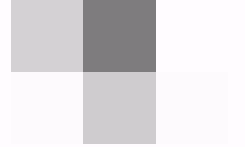


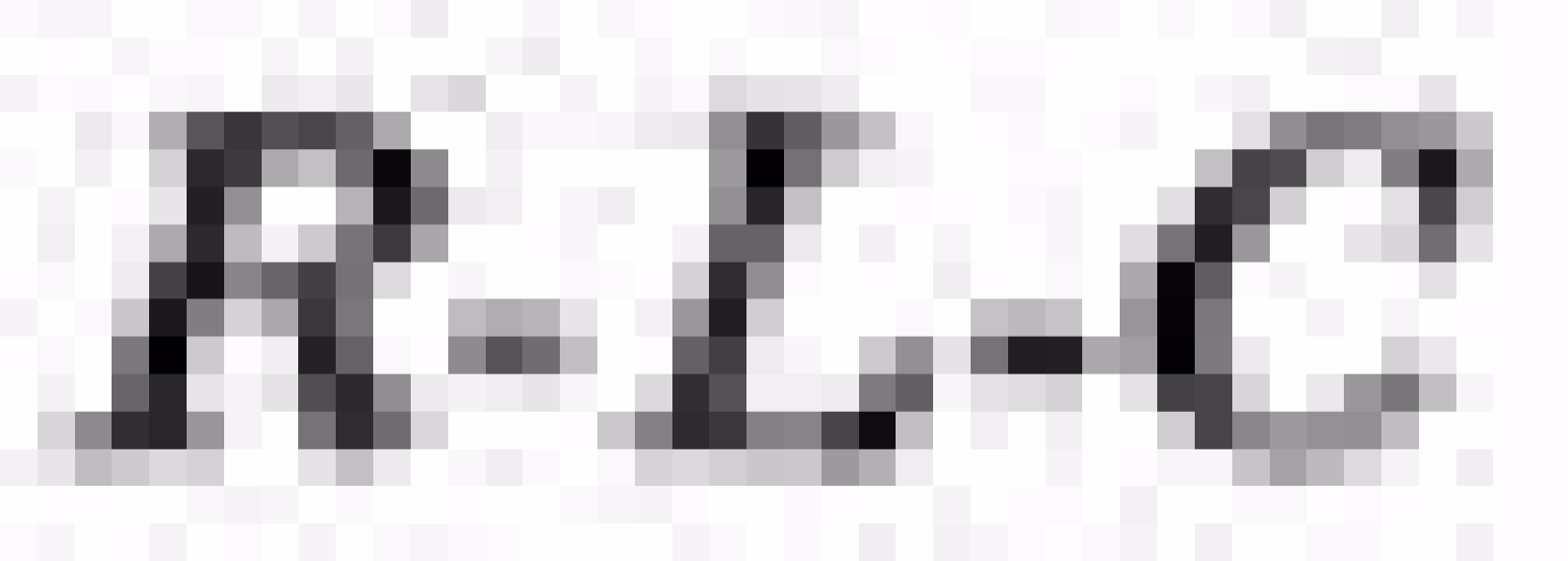






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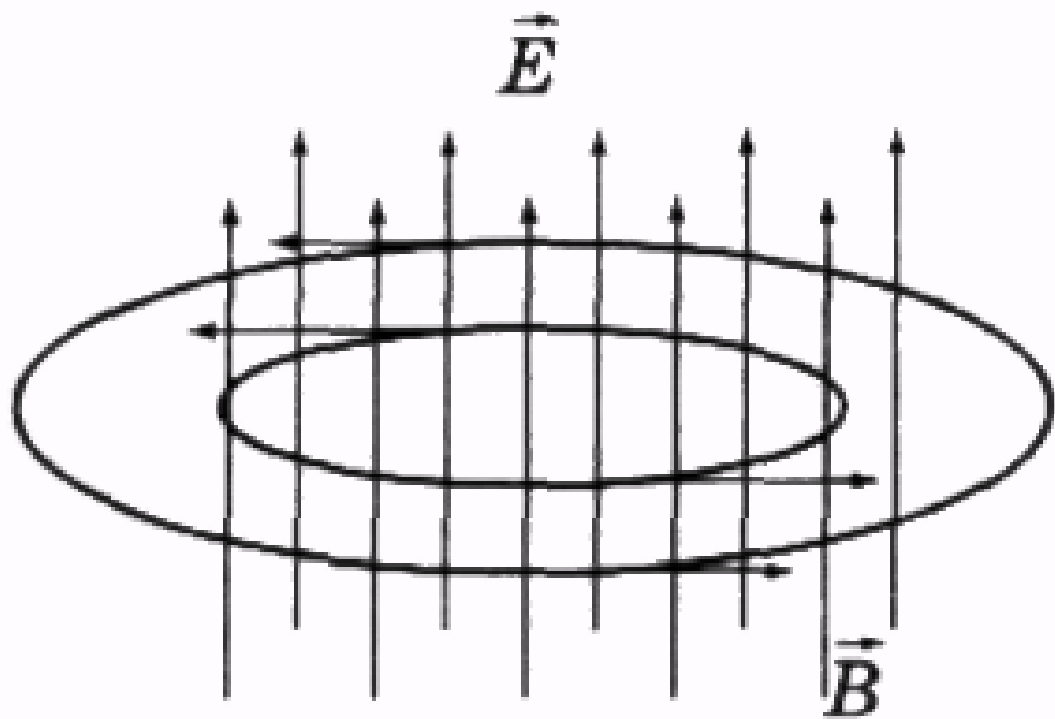




U C

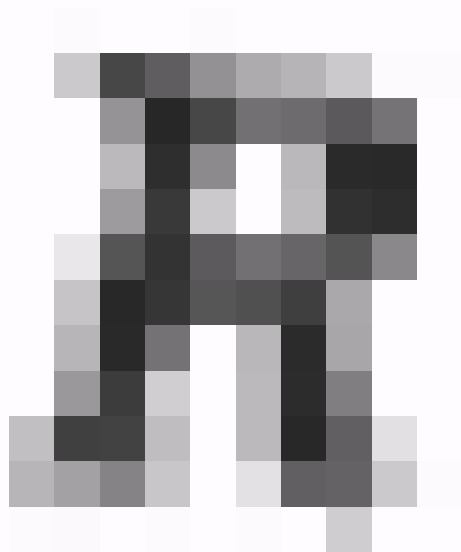
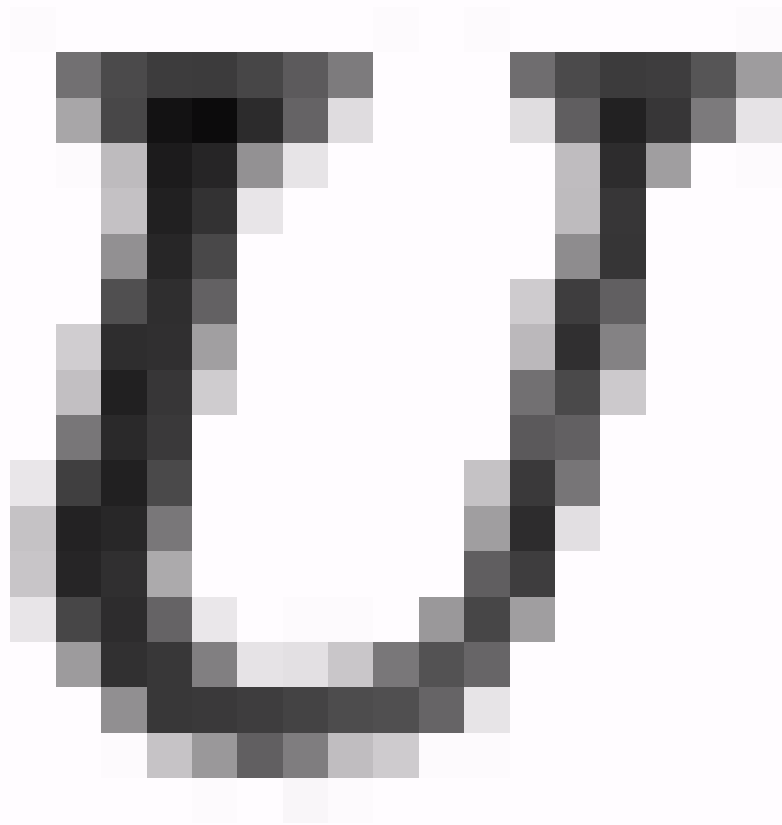
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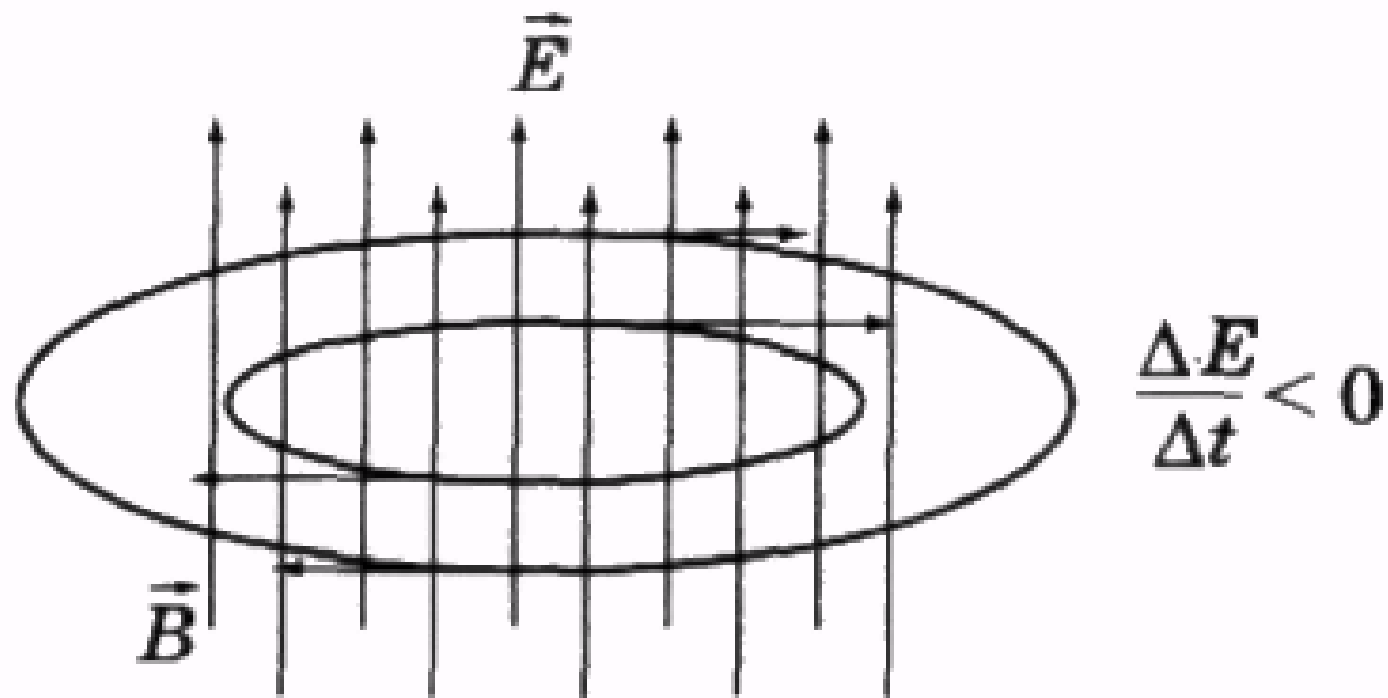
U L



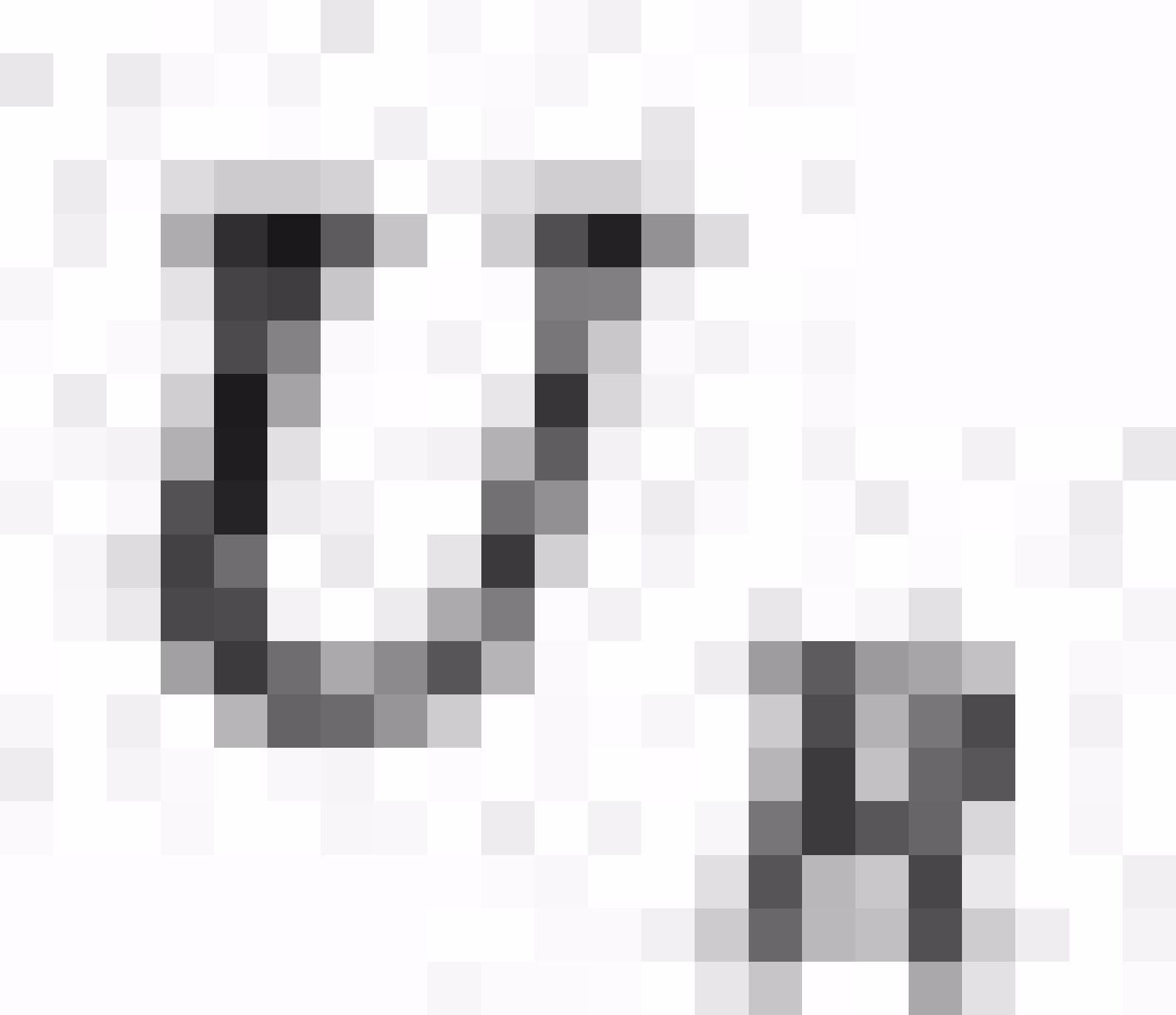
$$\frac{\Delta E}{\Delta t} > 0$$

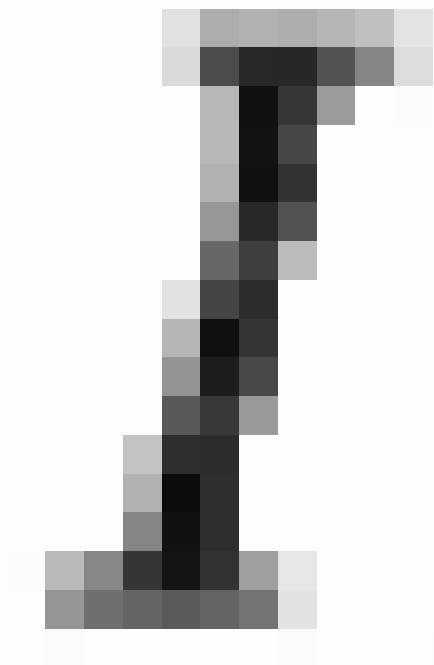
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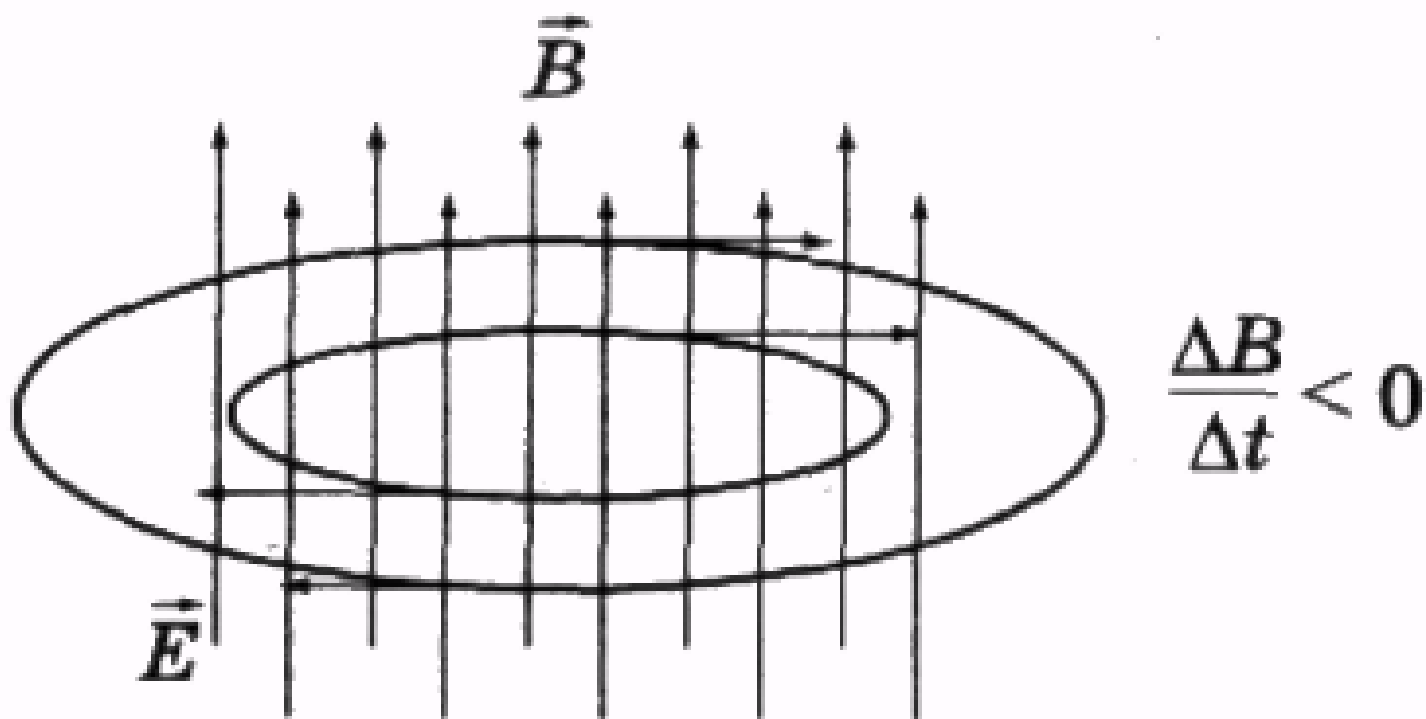
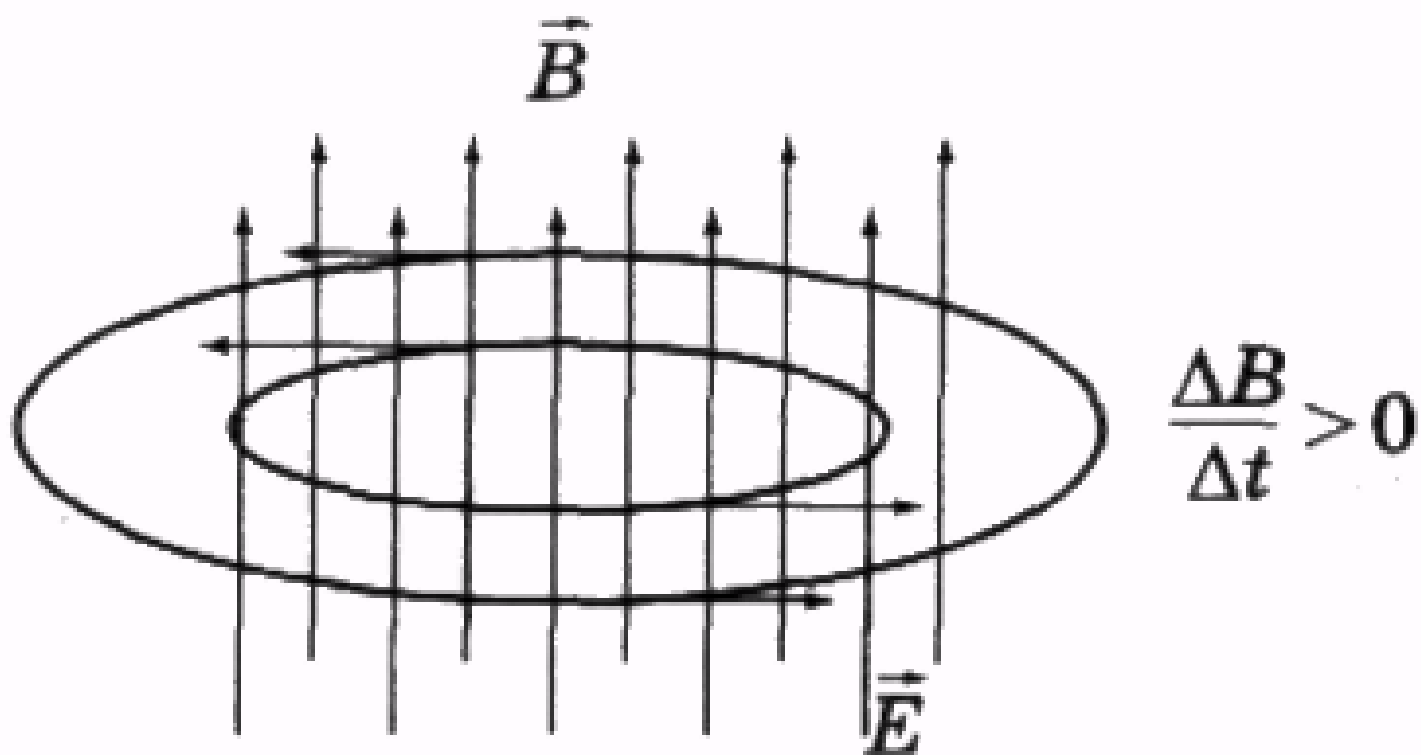




Мал. 2.168



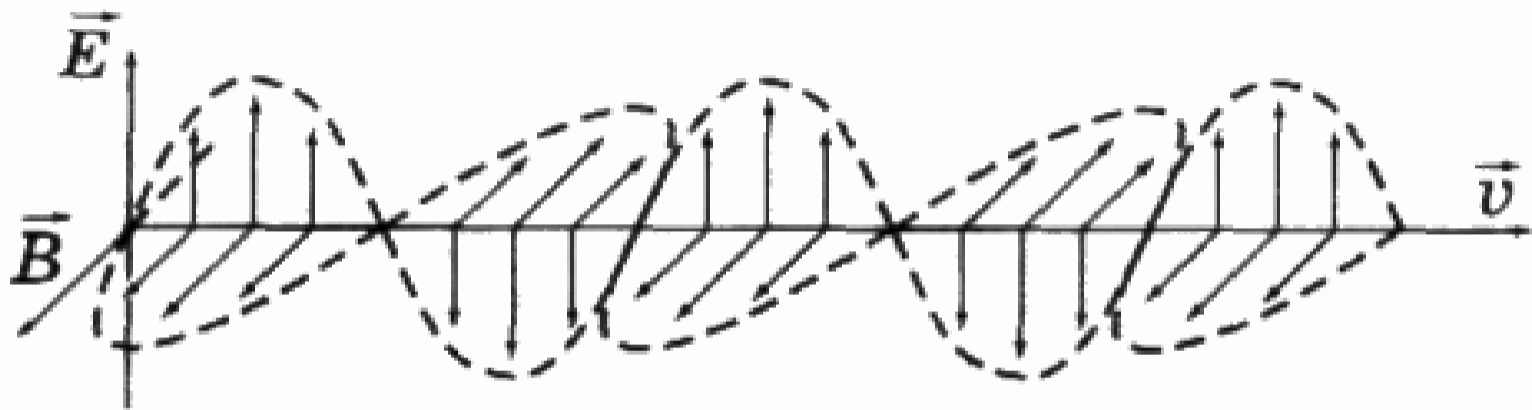




Мал. 2.169



$$\mathbb{I}_R = \frac{U}{R} = \frac{U}{R} \quad (50.20).$$



Мал. 2.170

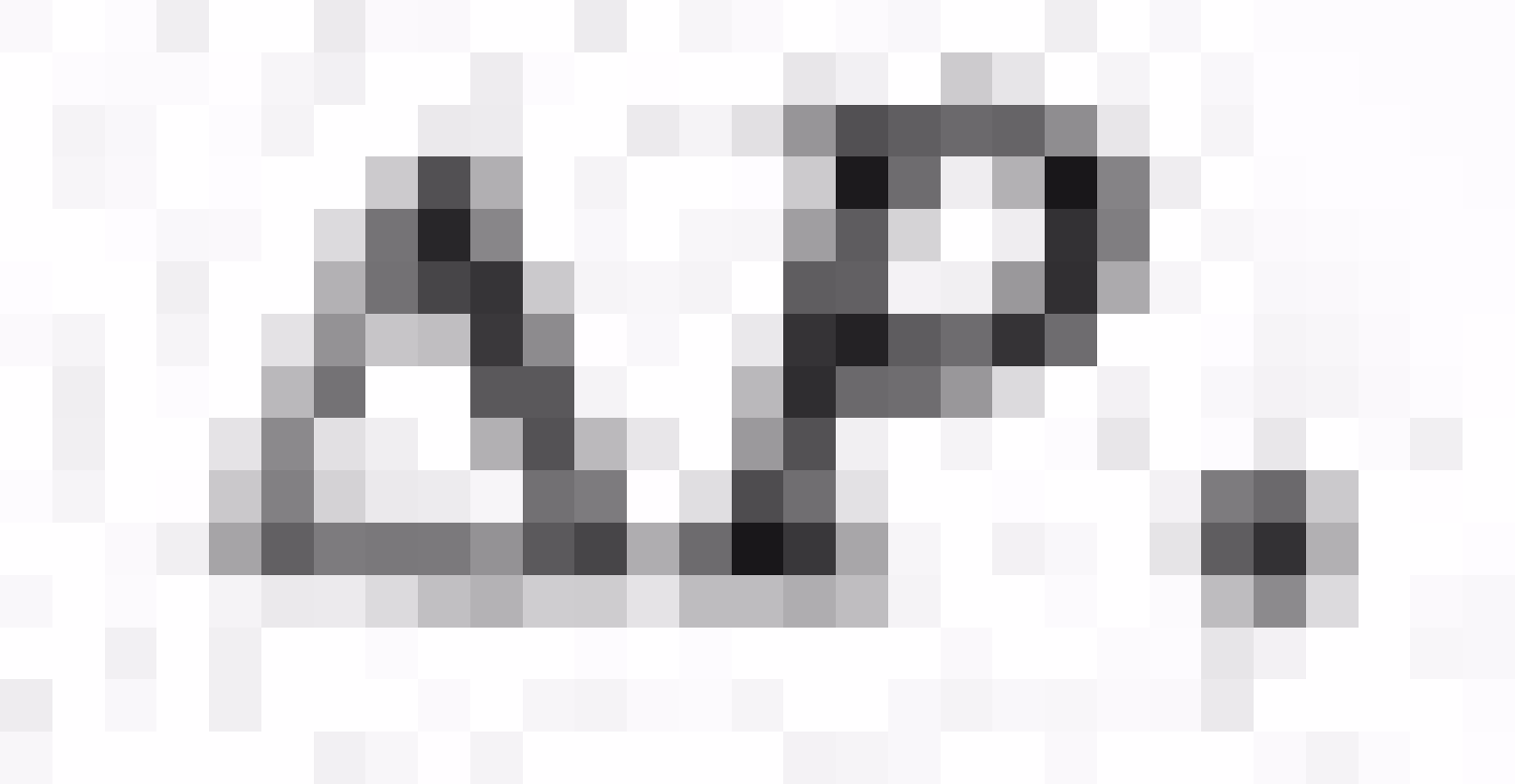
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$$c = \frac{1}{\sqrt{\epsilon_0 \mu_0}} \approx 300\,000\,000 \text{ e i / s } \quad (52.1).$$



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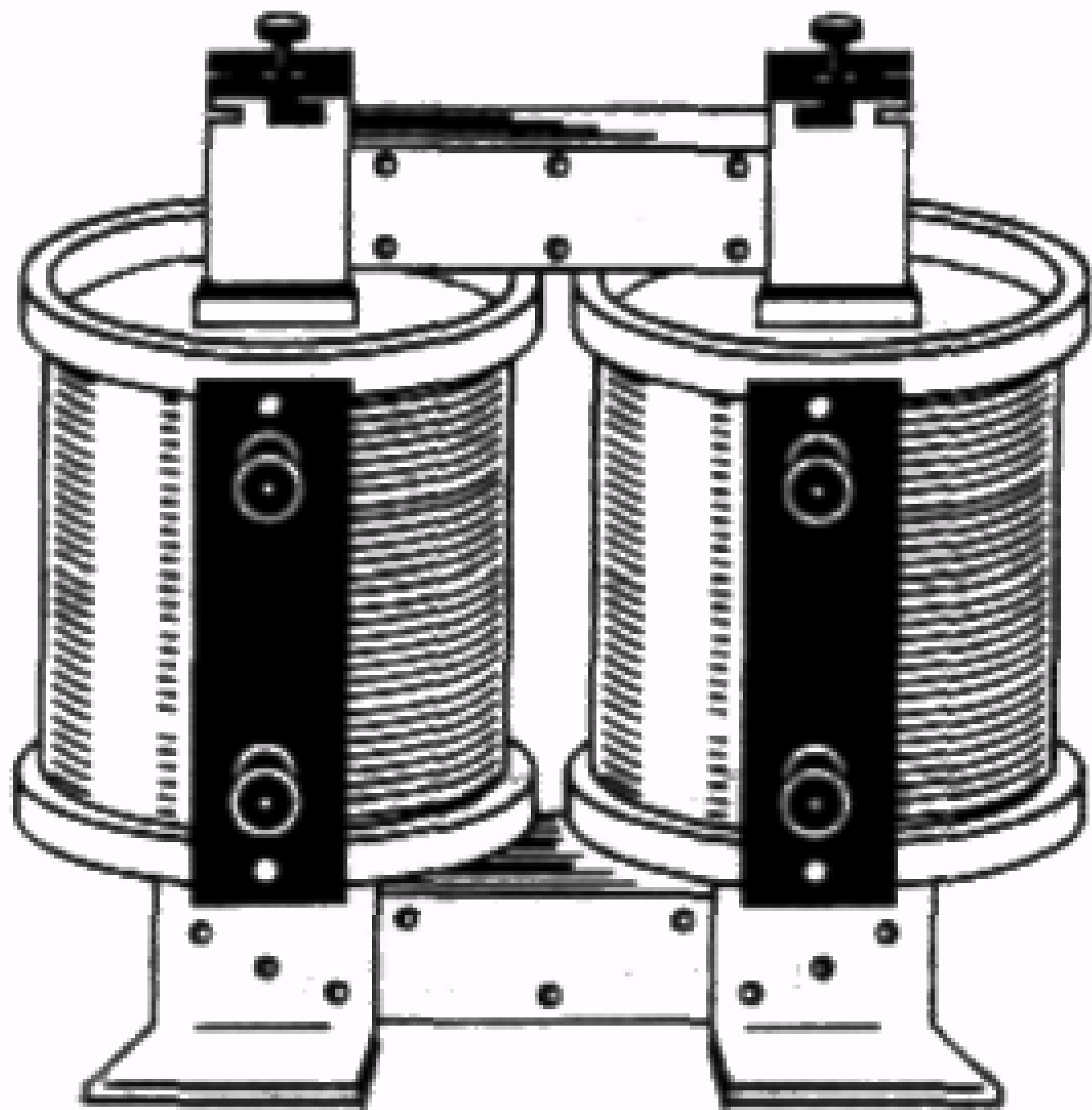
IRP

(51.1)

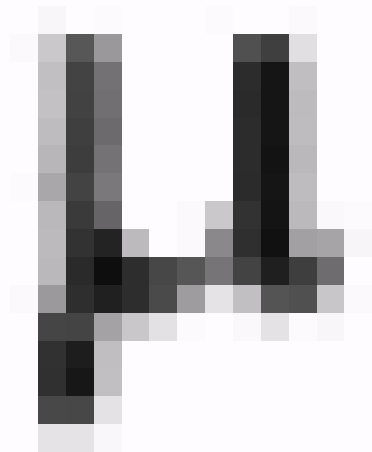
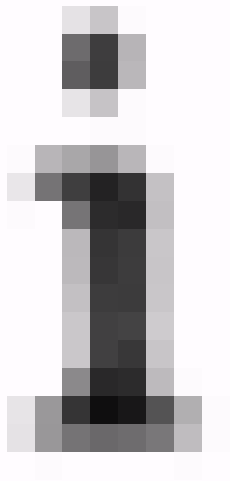
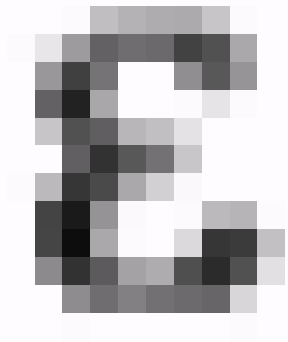
$$v = \frac{1}{\sqrt{\epsilon\epsilon_0\mu\mu_0}} \quad (52.2)$$

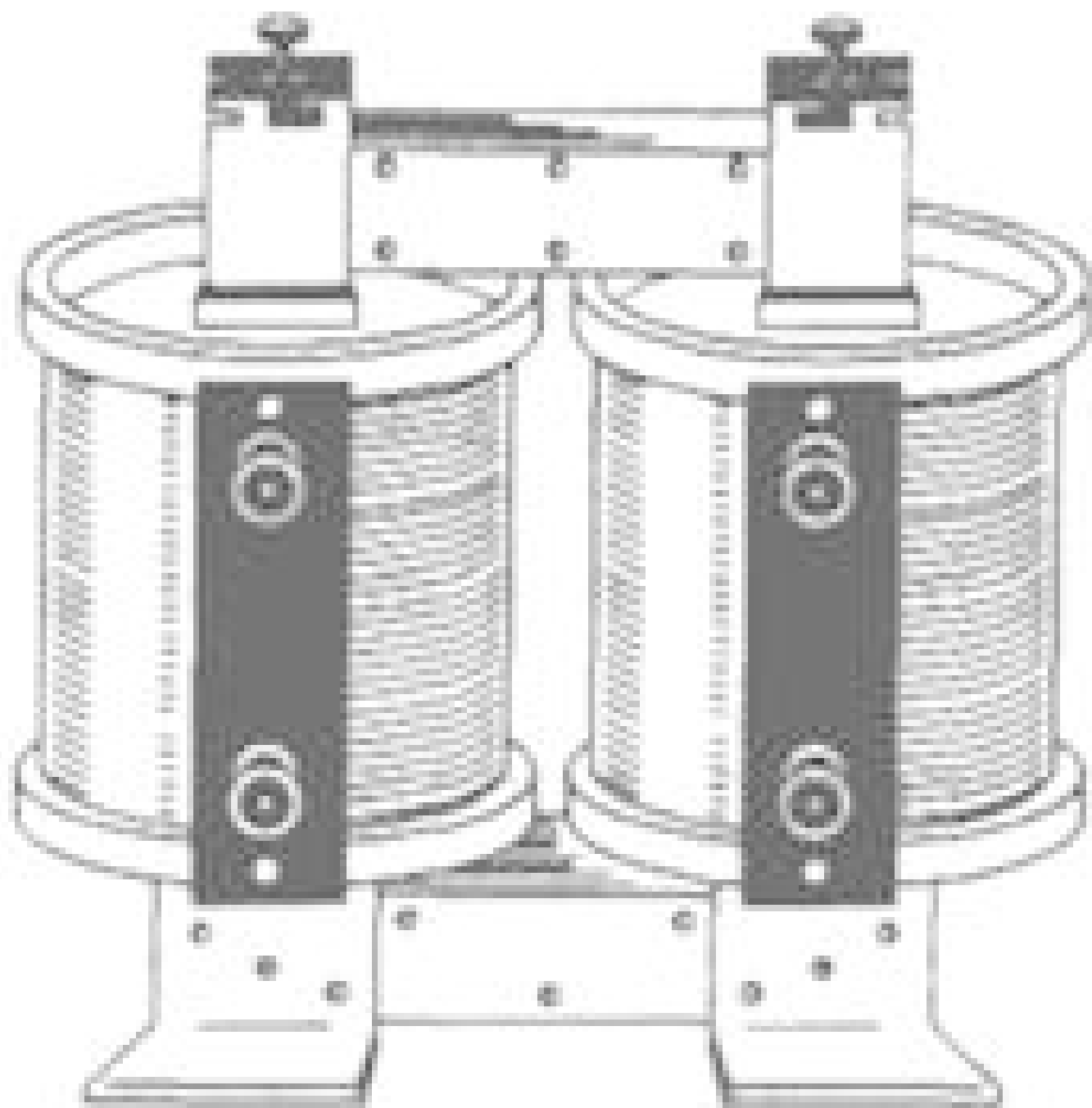
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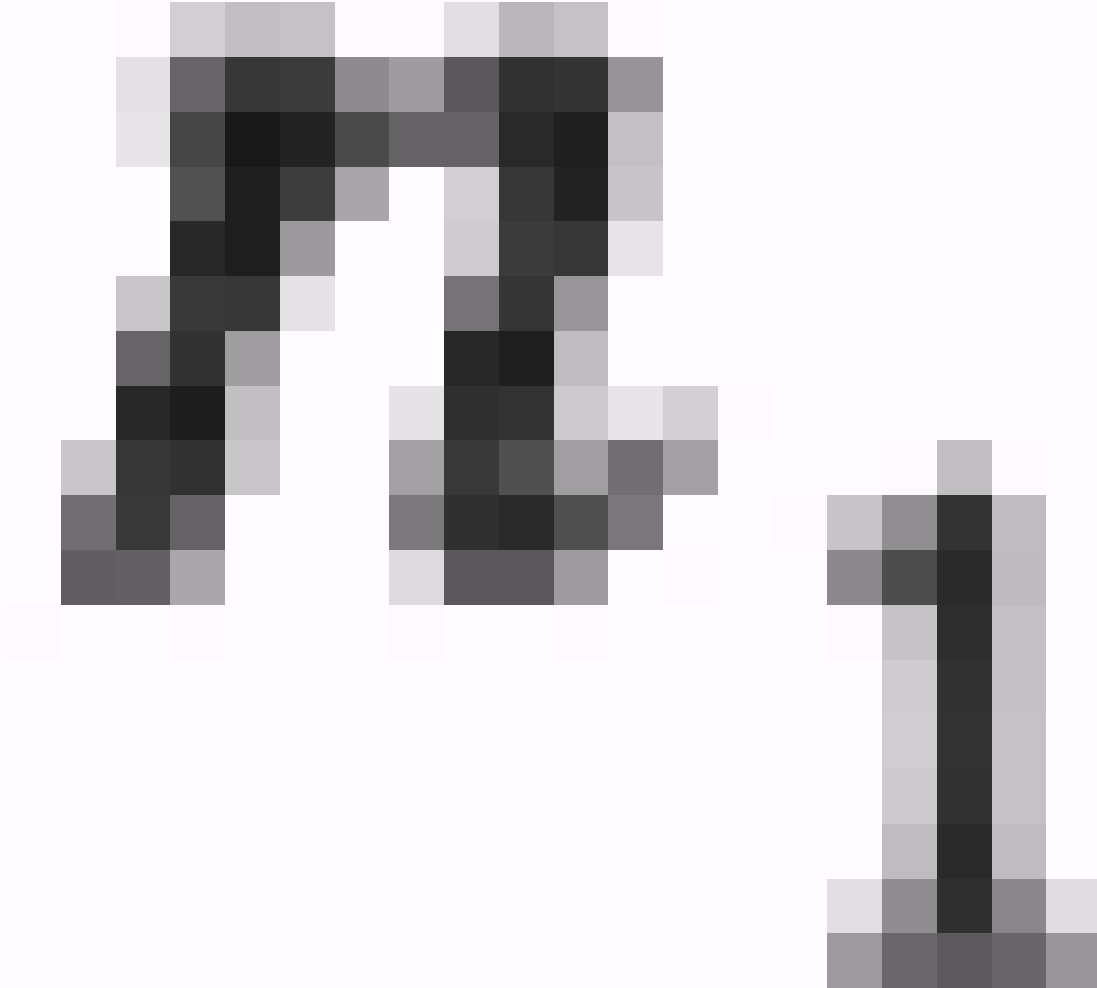


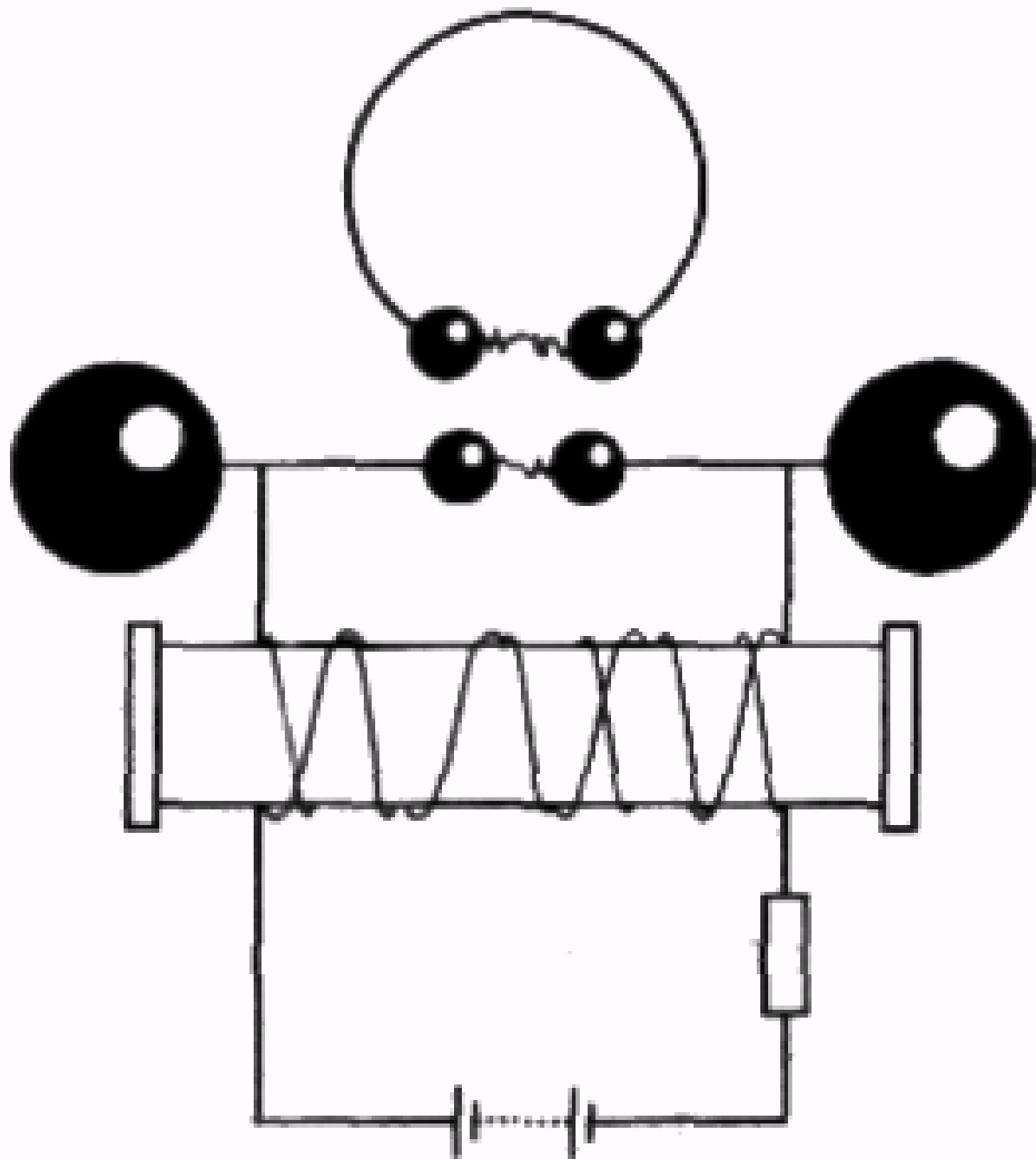
Мал. 2.167



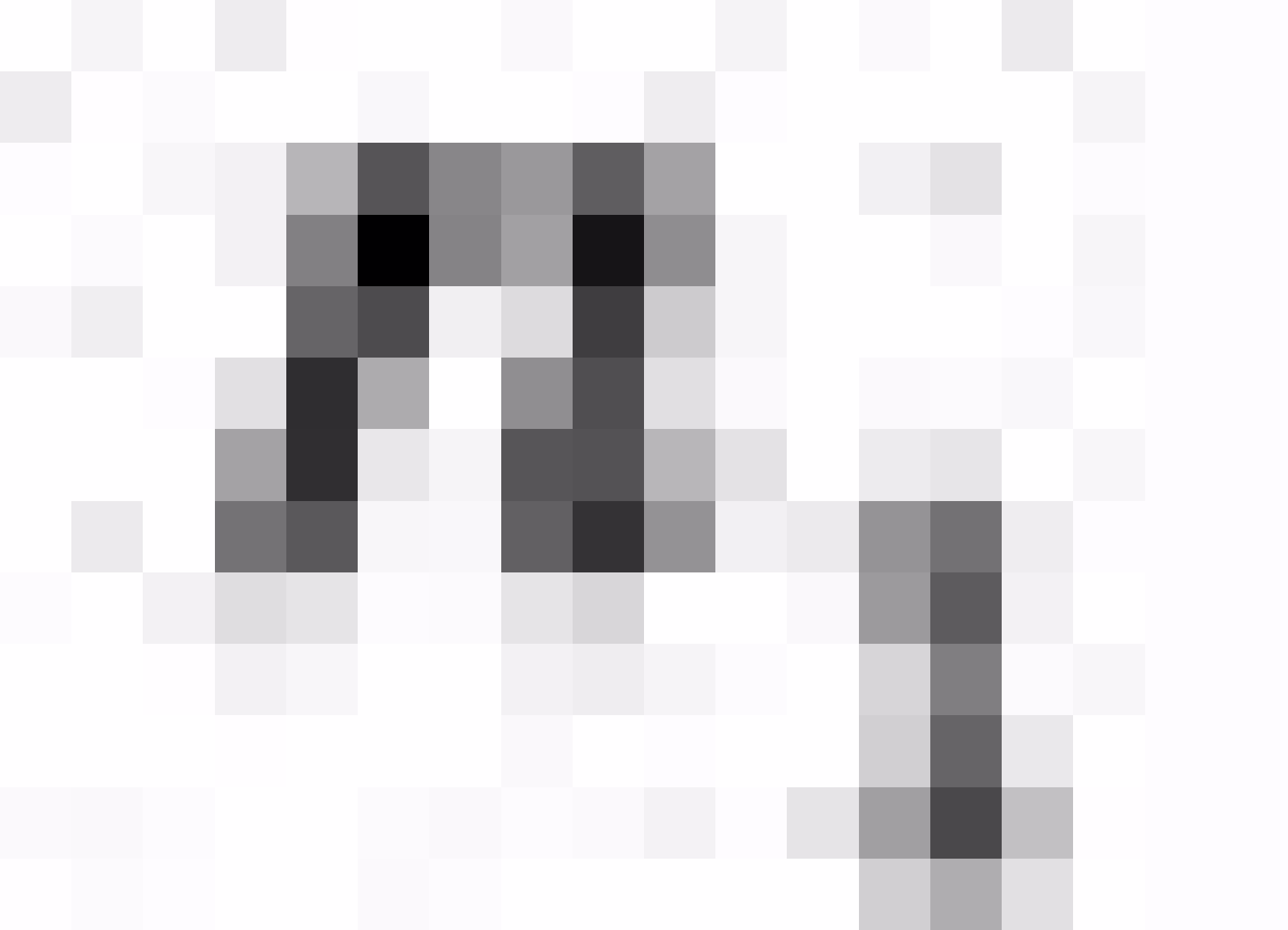


Мал. 2.167





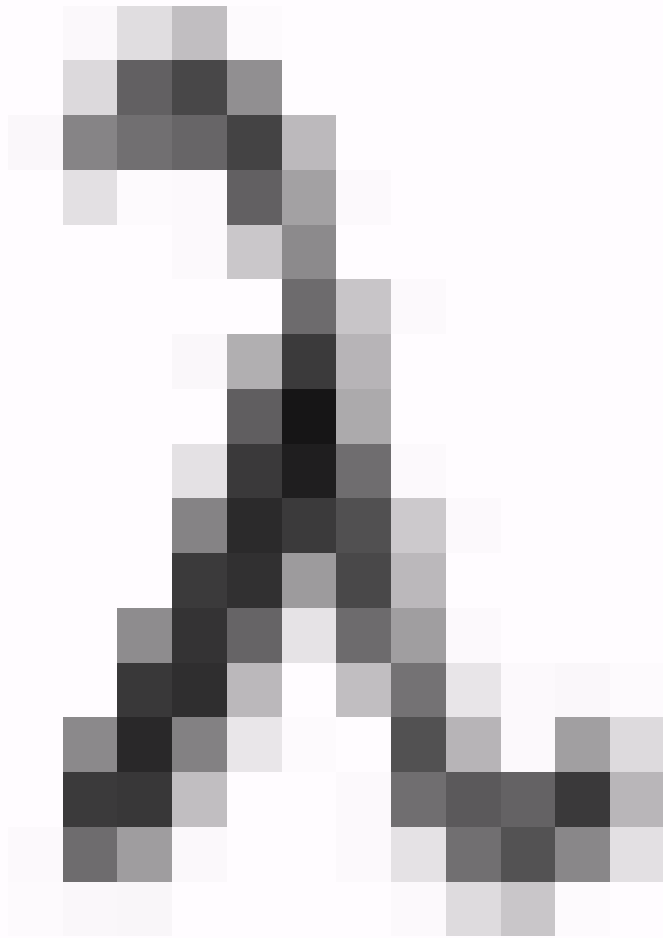
Мал. 2.171



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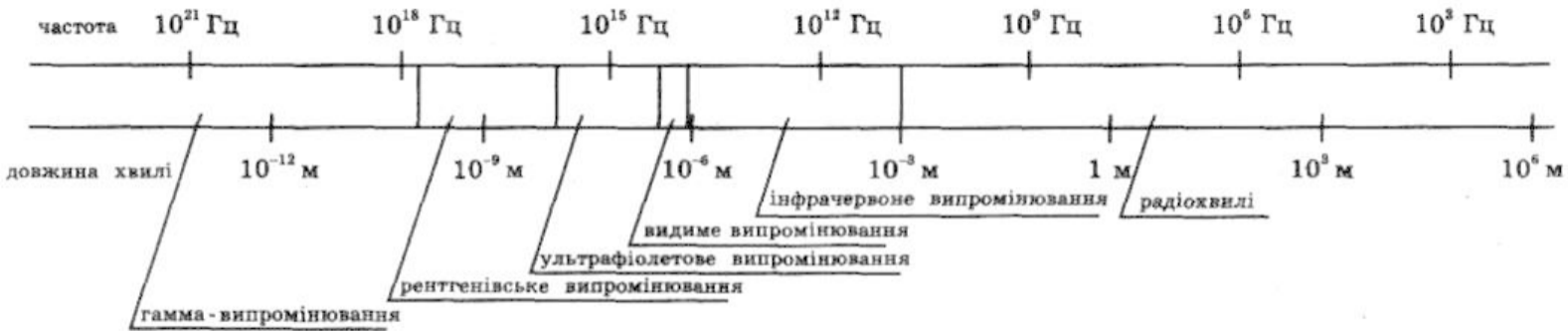
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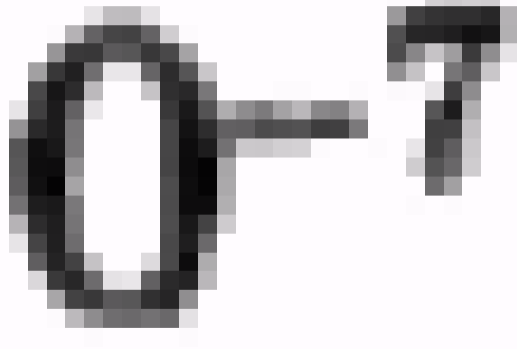
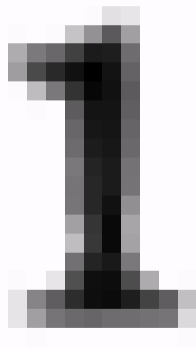
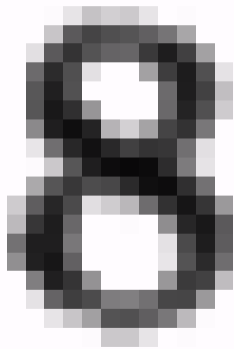
$$\frac{e_1}{\hbar} = \frac{n_1}{\hbar}$$

$$e_2 = n_2$$

(51.2)



Мал. 2.172



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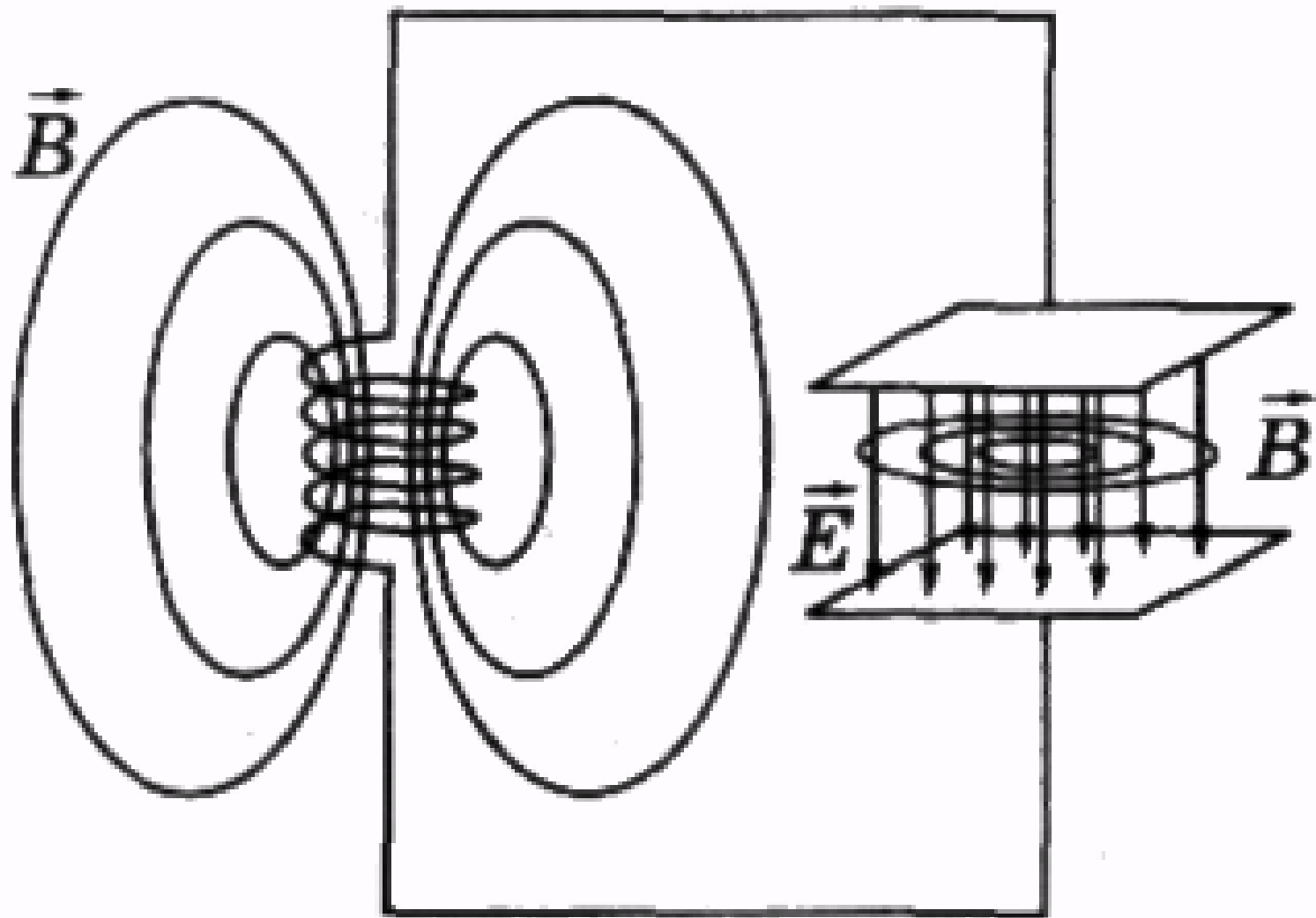
$$\Phi = \frac{E}{t}$$

(52.3).

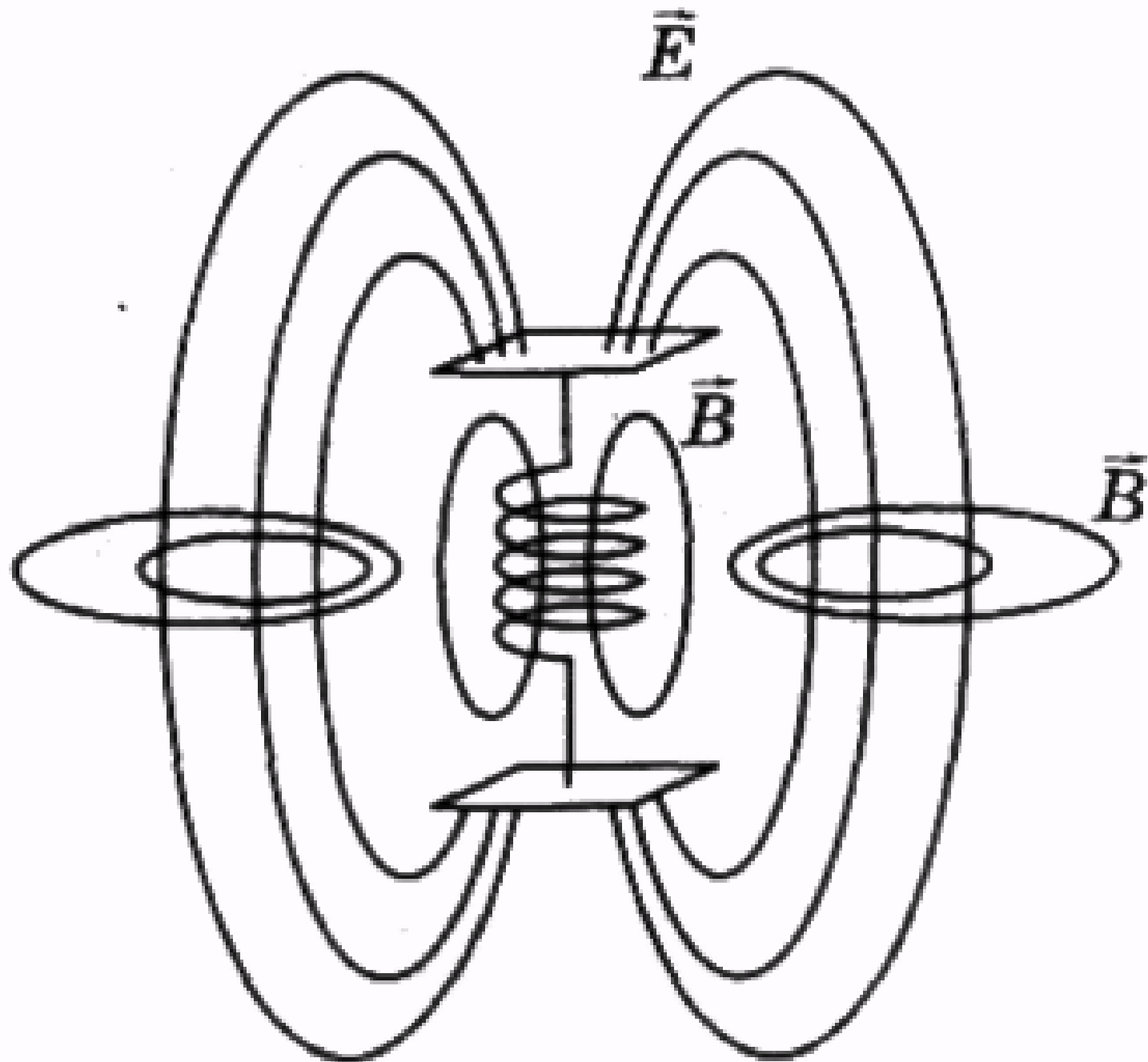
$$\varphi = \frac{\Phi}{S}$$

(52.4)

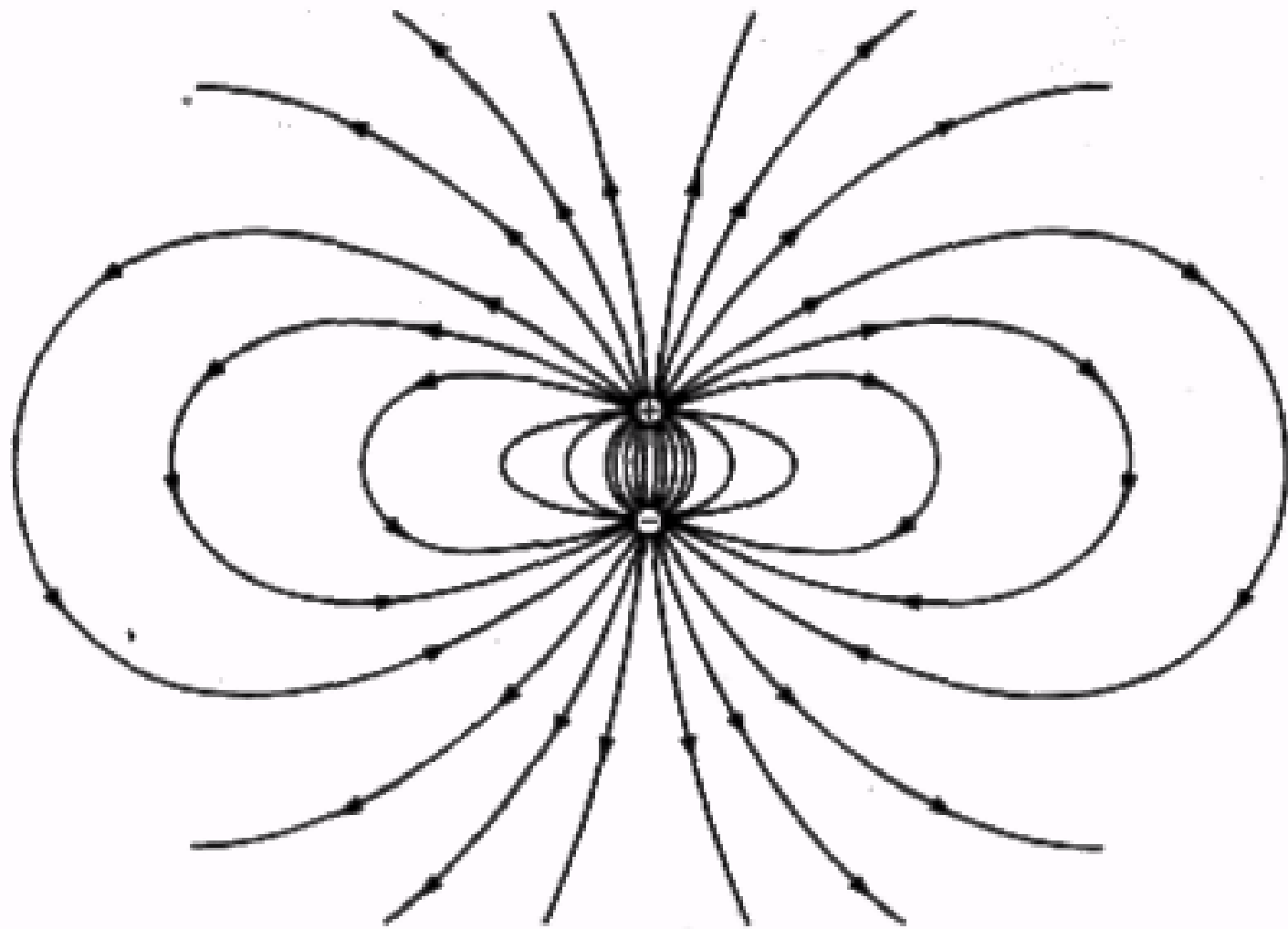
$$\varphi = \frac{\Phi}{S} = \frac{\Phi}{4\pi R^2} = \frac{E}{4\pi R^2 t} \quad (52.5)$$



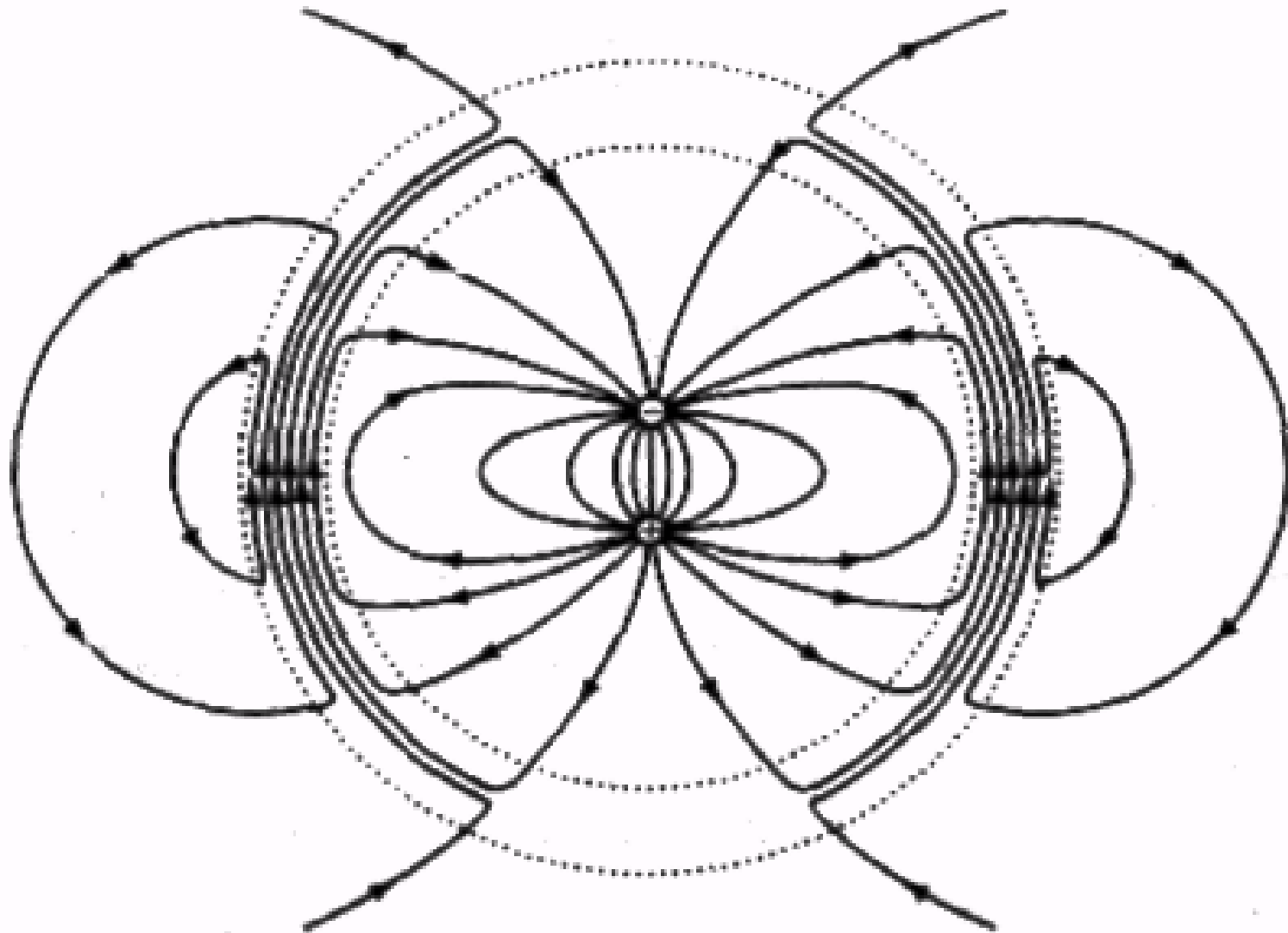
Мал. 2.173



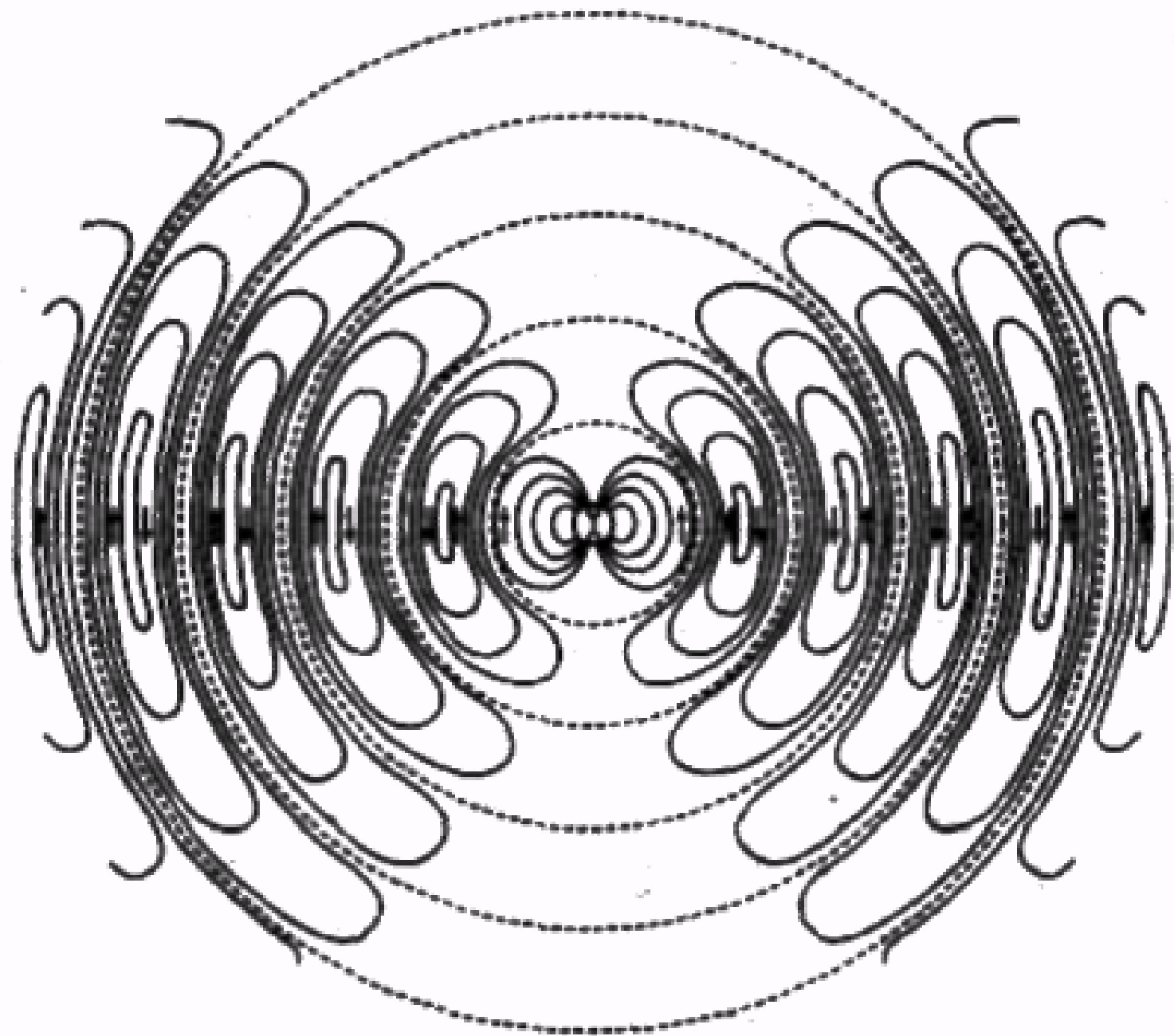
Мал. 2.174



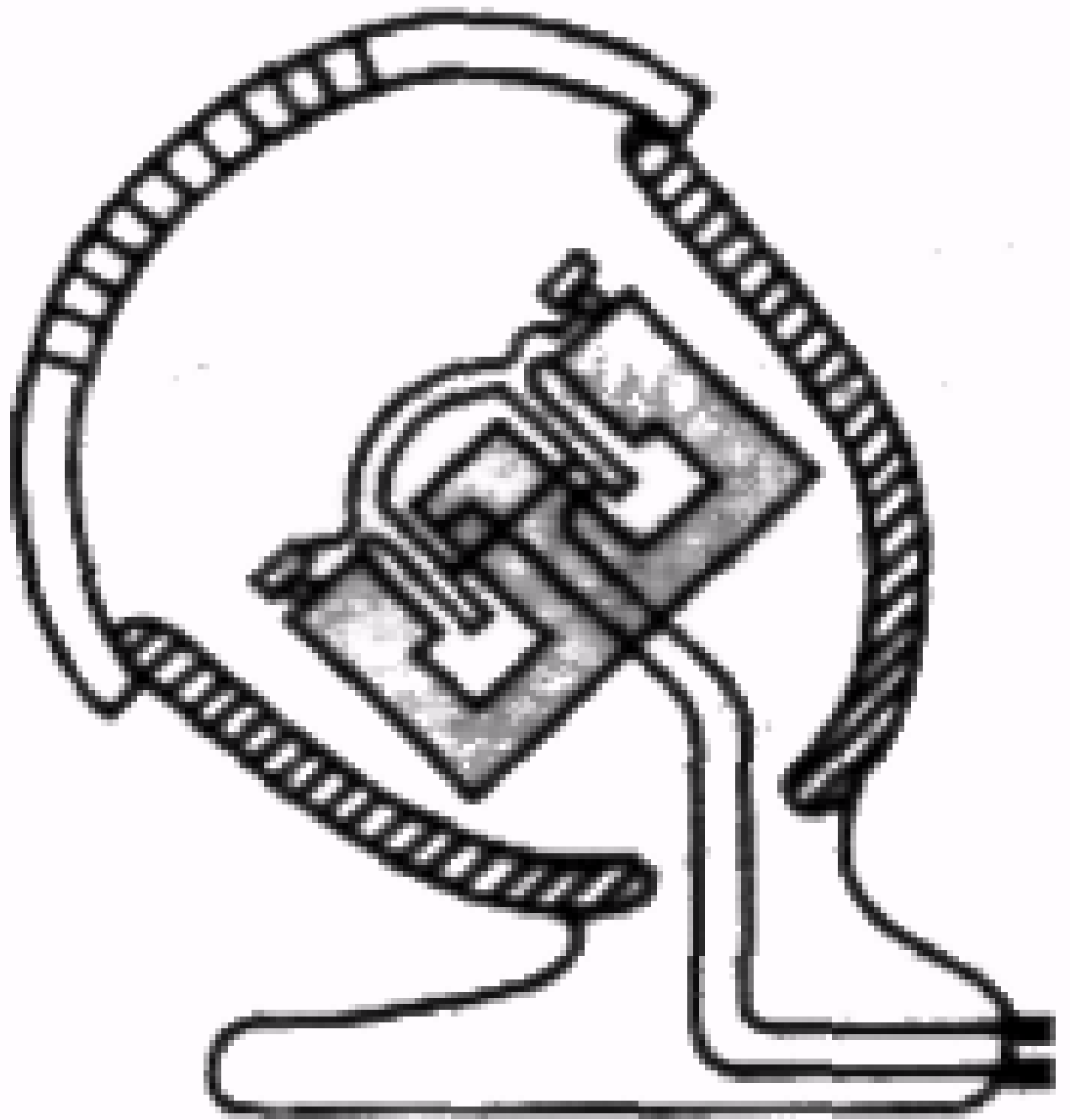
Мал. 2.175



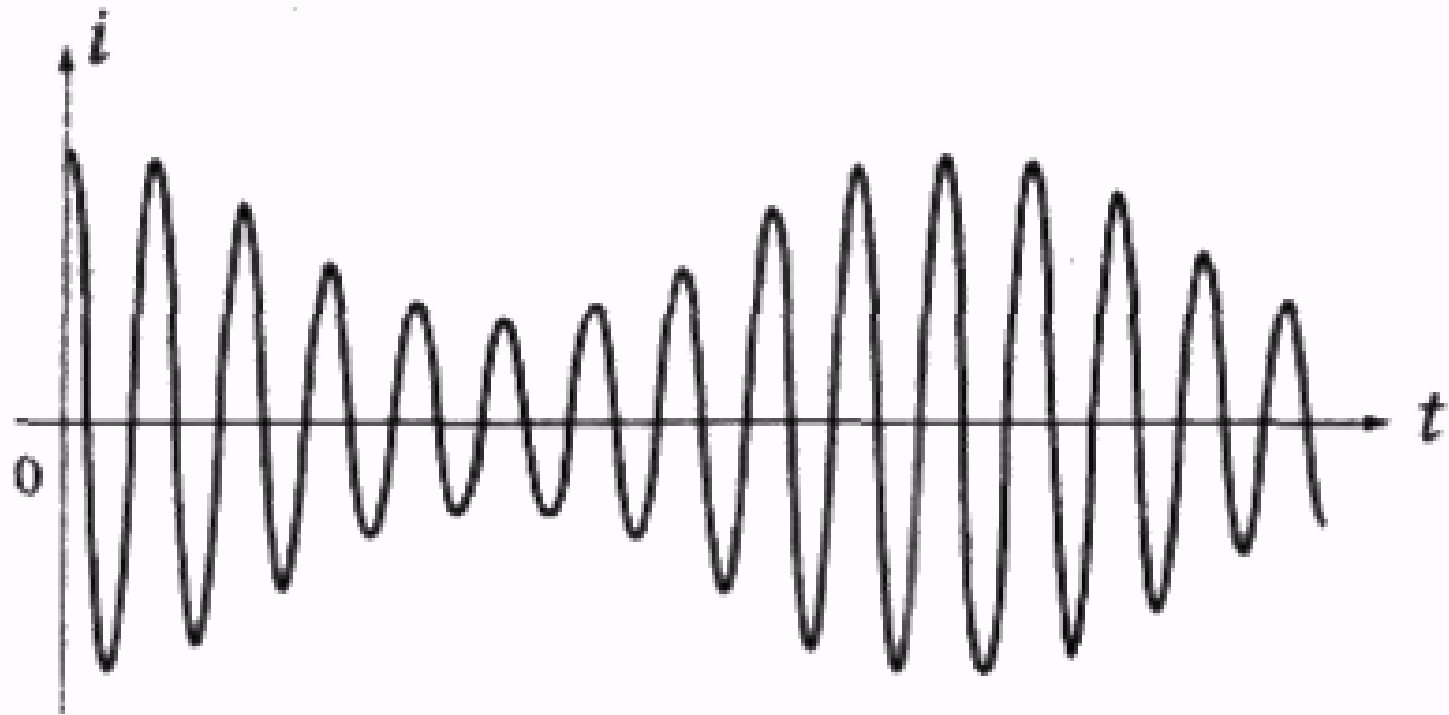
Мал. 2.176



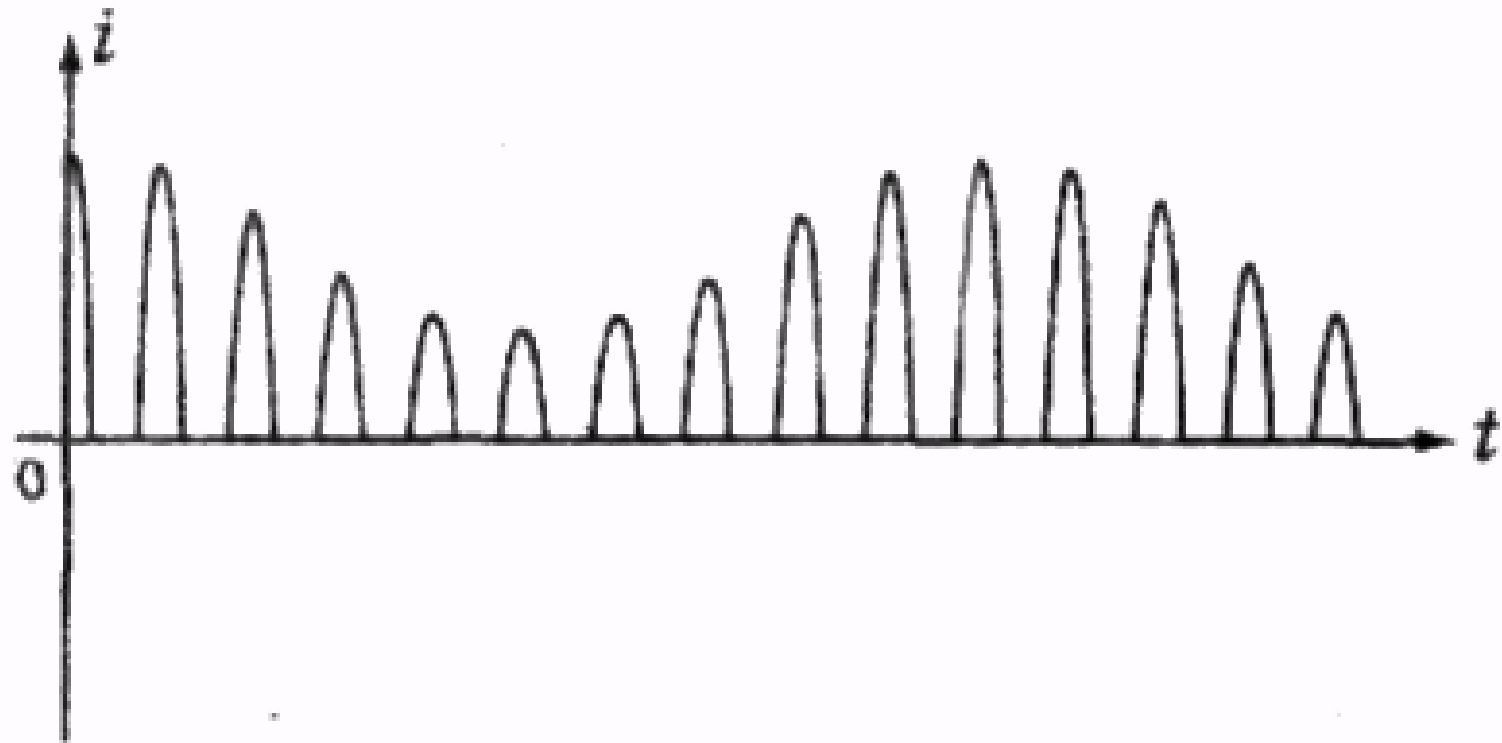
Мал. 2.177



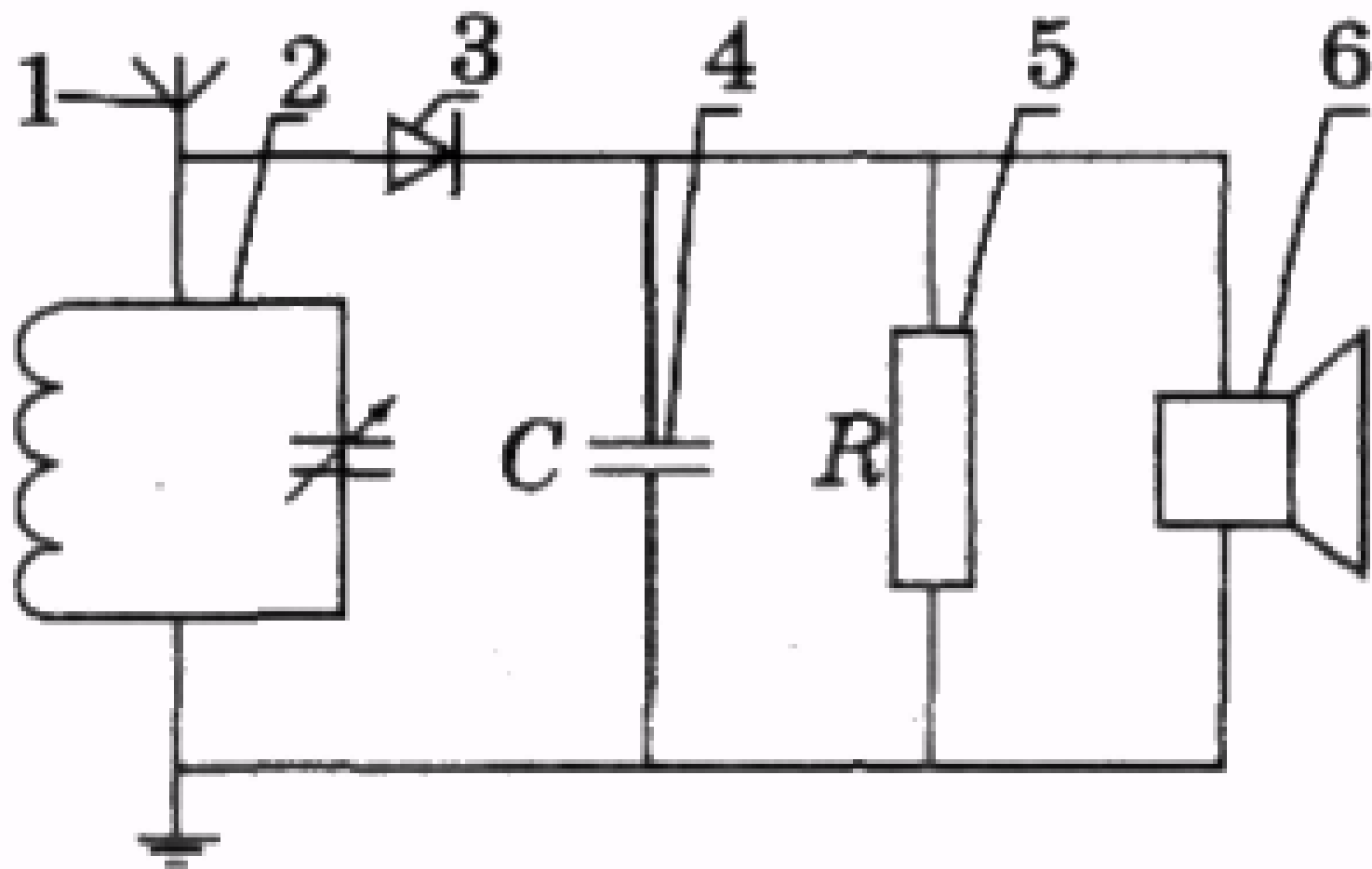
Мал. 2.178



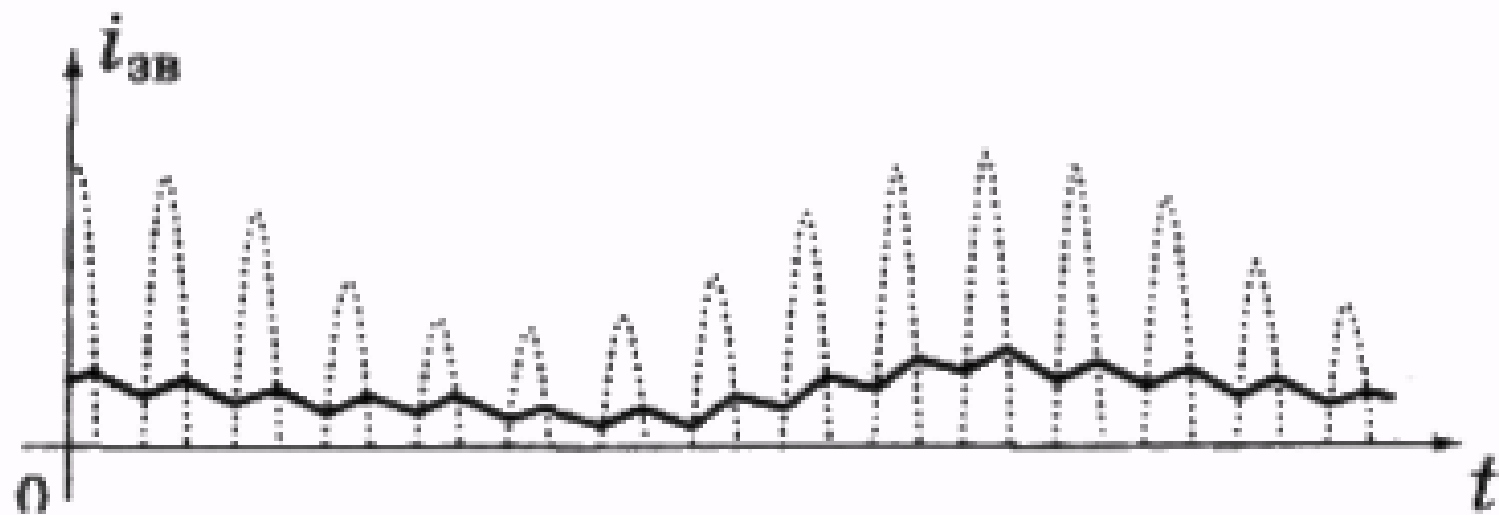
Мал. 2.179



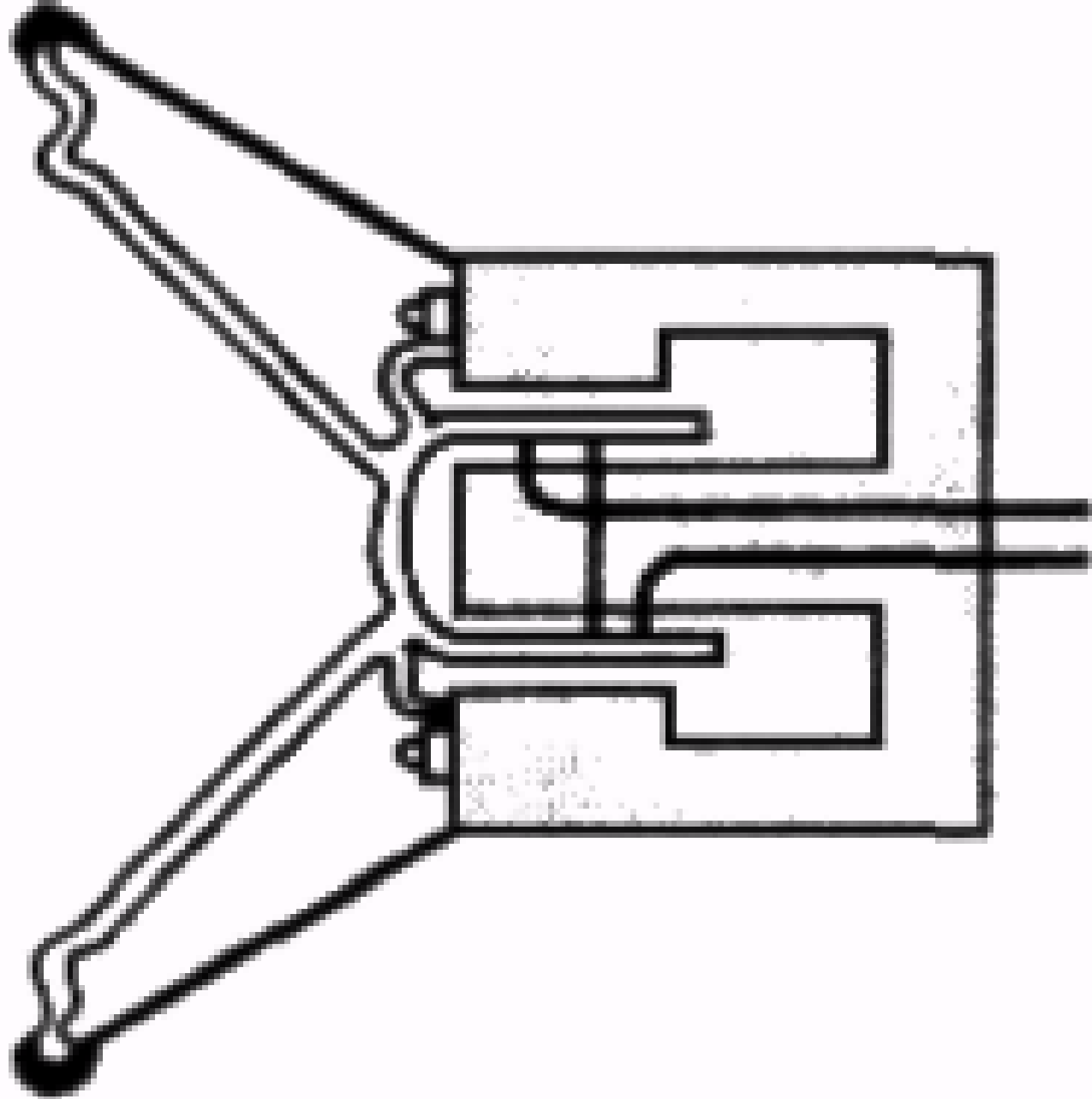
Мал. 2.181



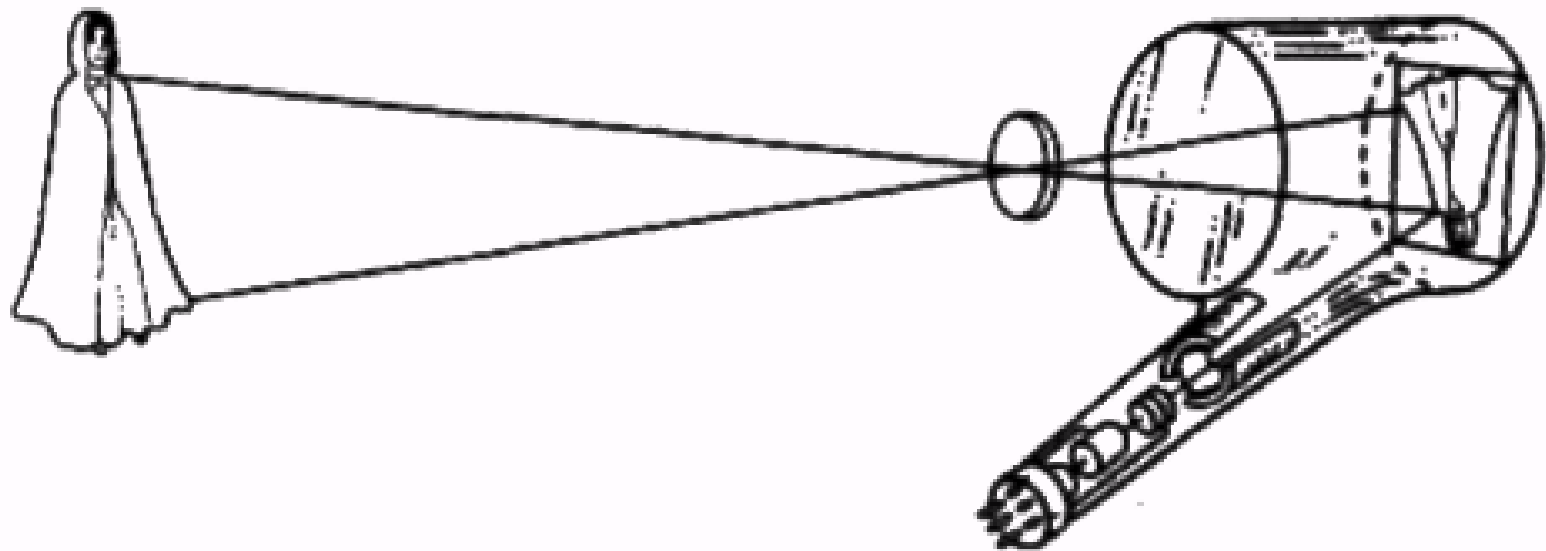
Мал. 2.180



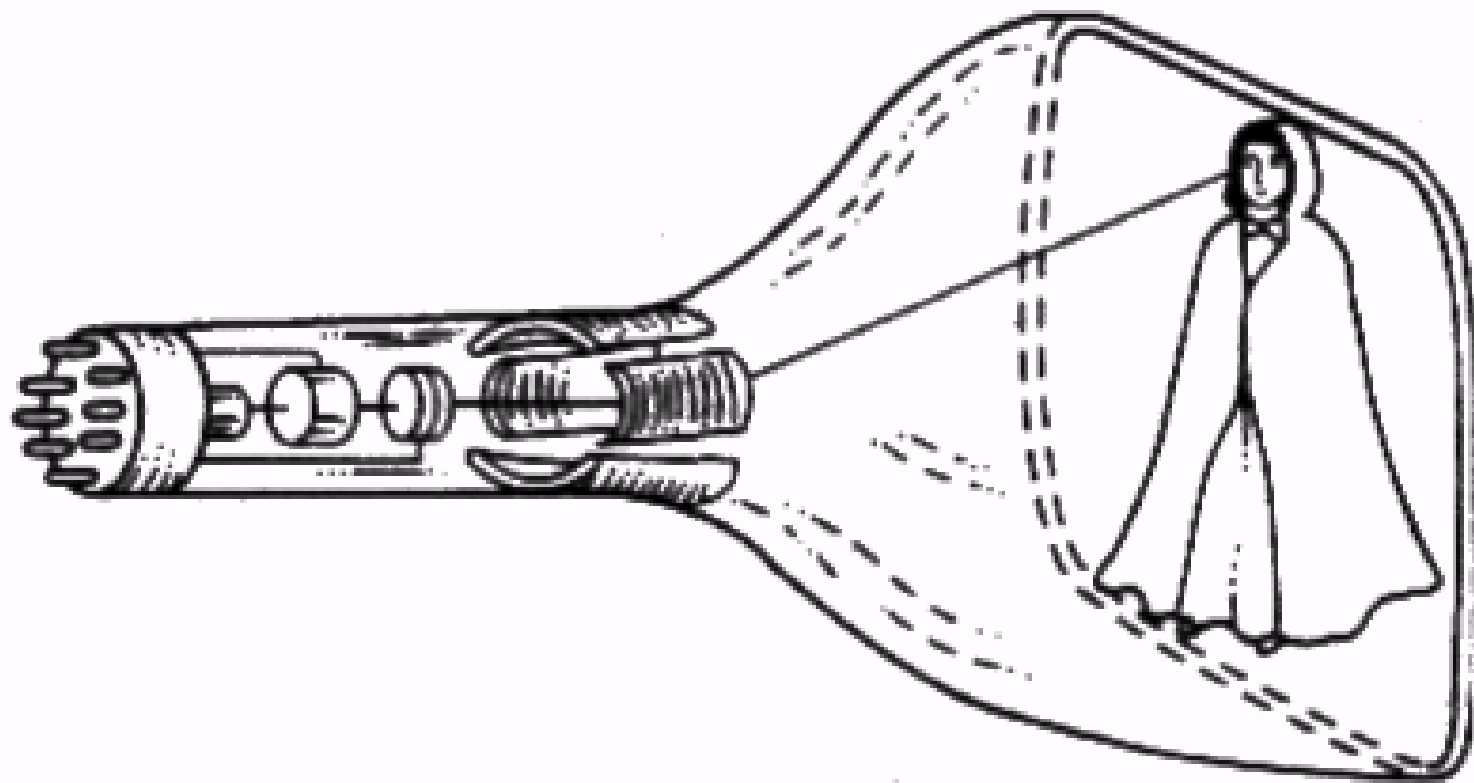
Мал. 2.182



Мал. 2.183



Мал. 2.184



Мал. 2.185

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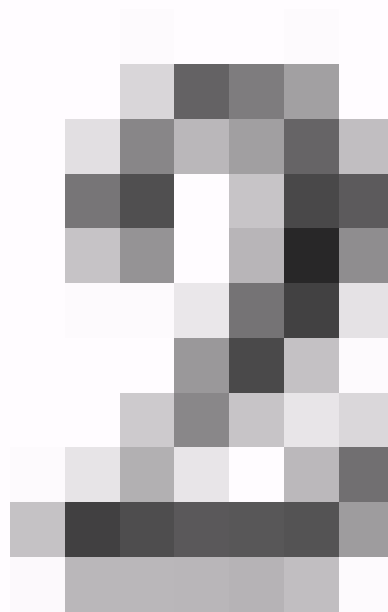
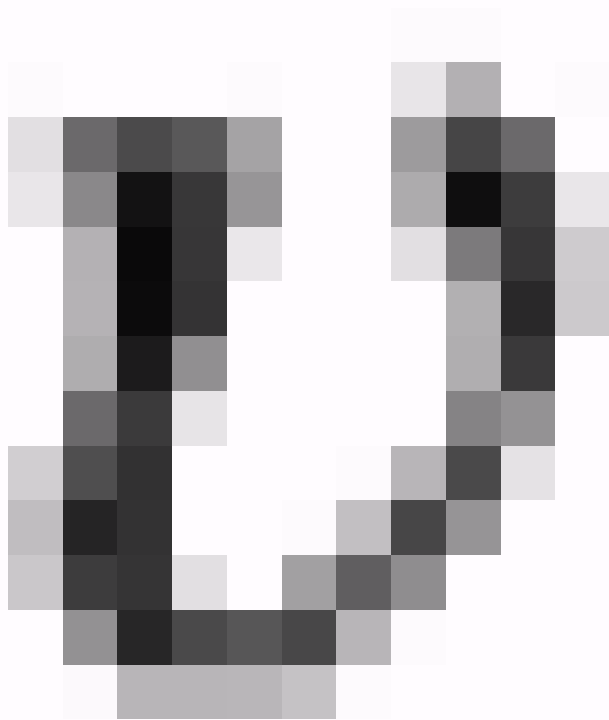
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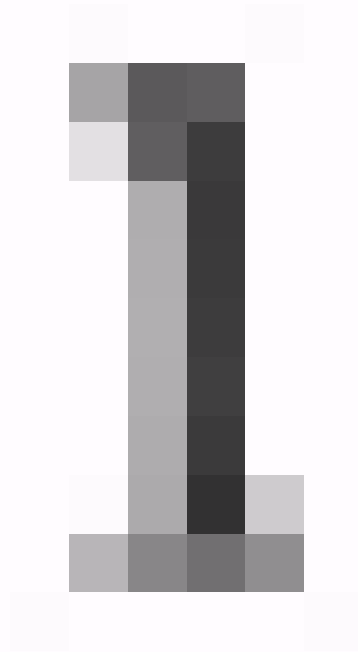
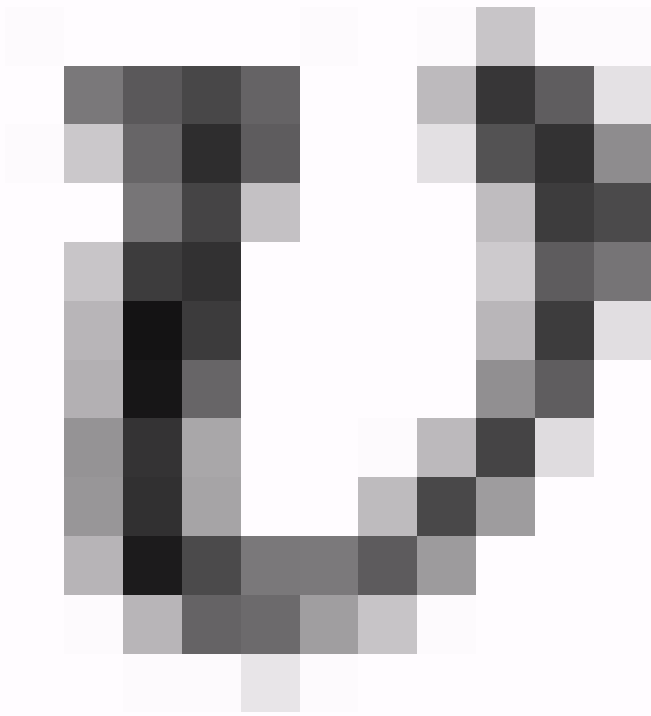


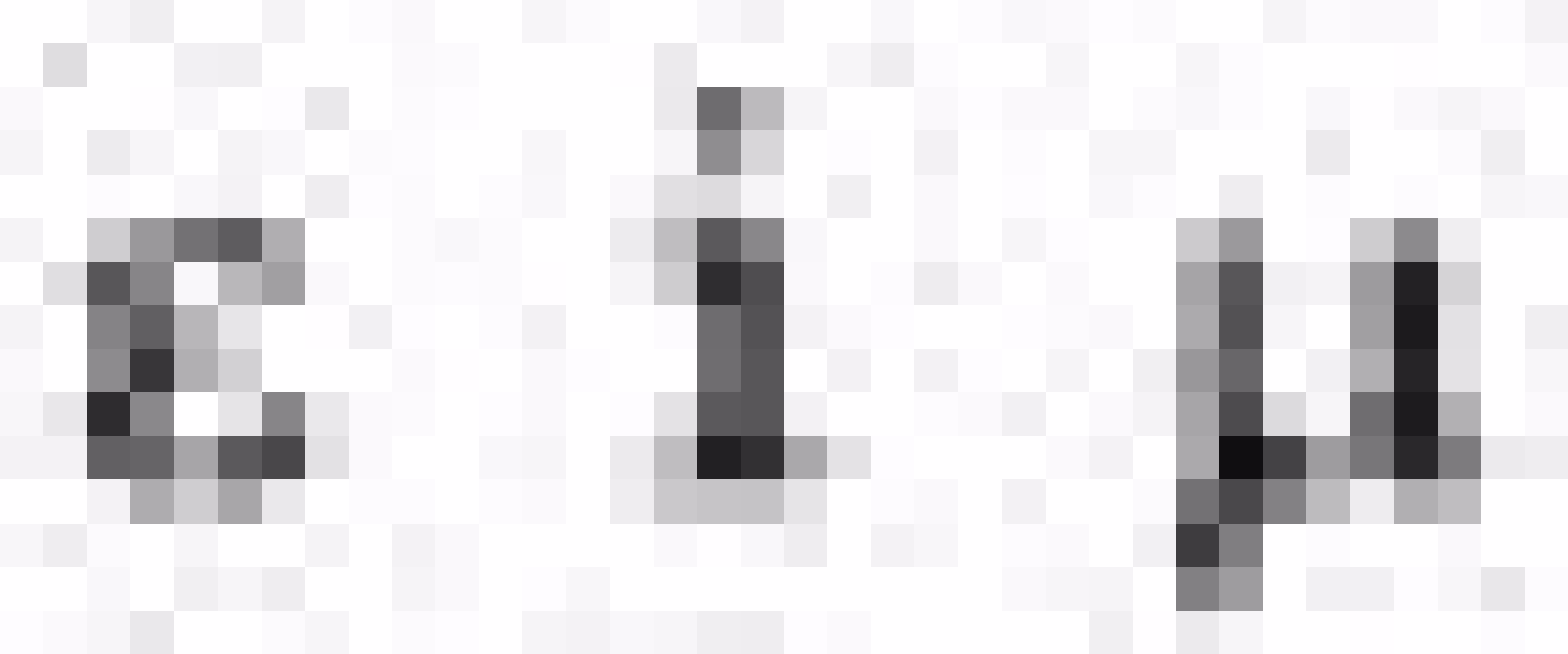
Мал. 2.186



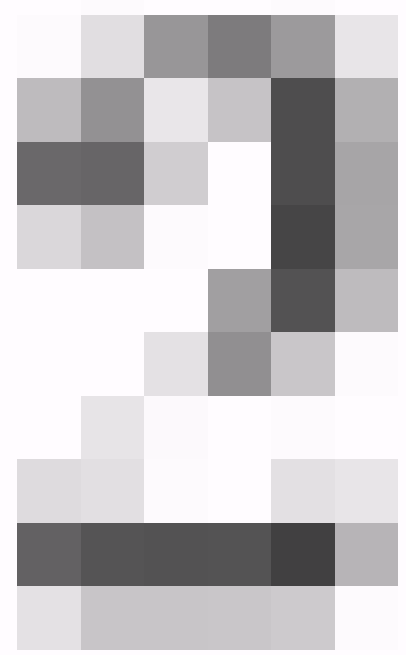
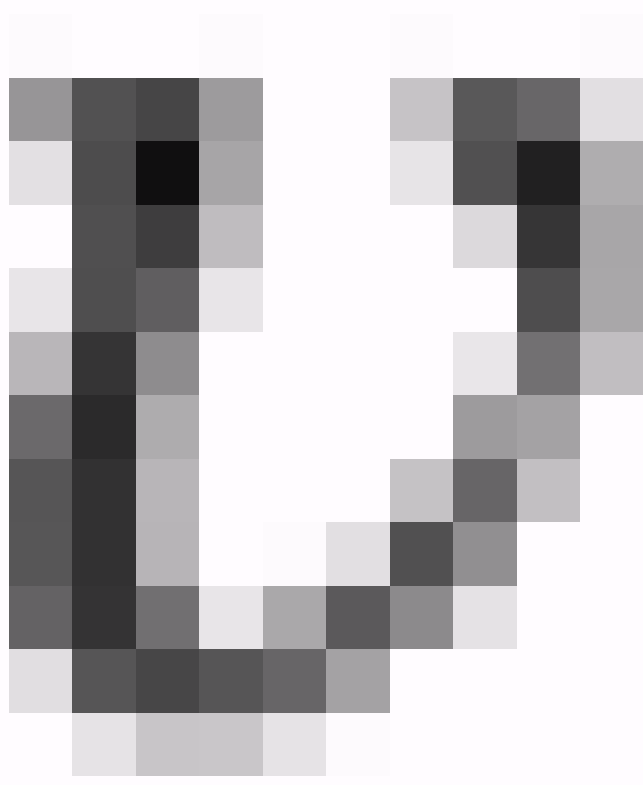
Мал. 2.187

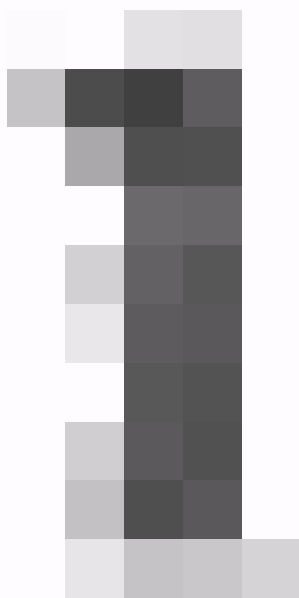
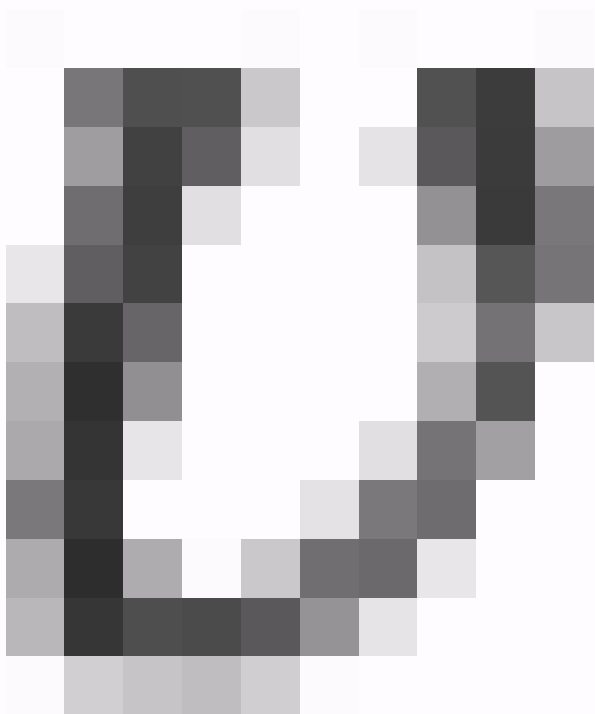




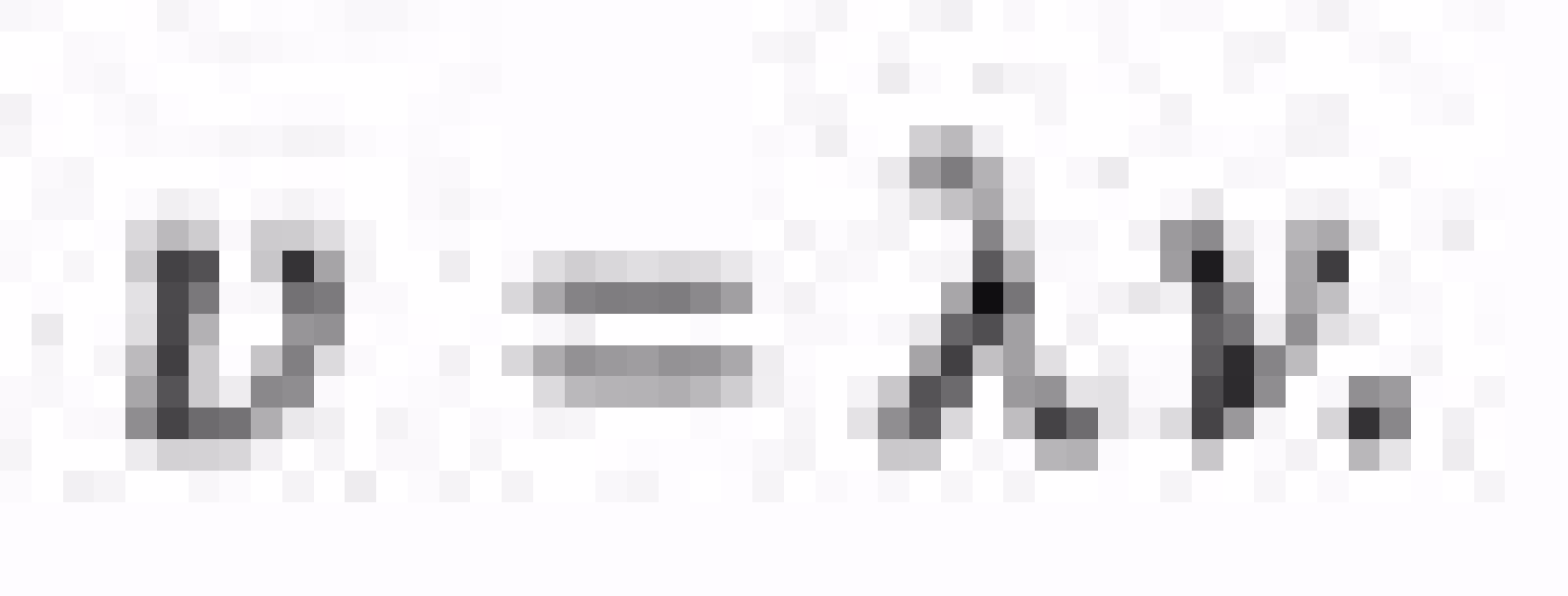


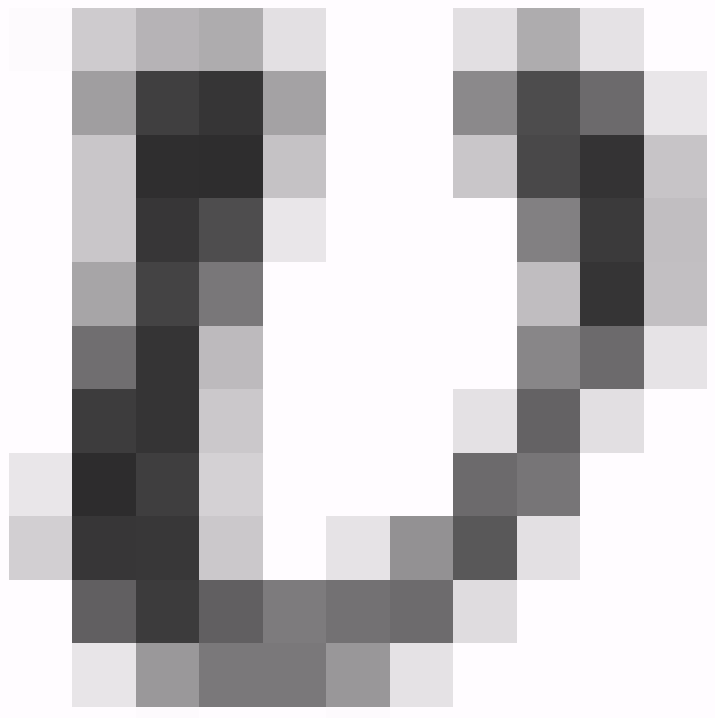
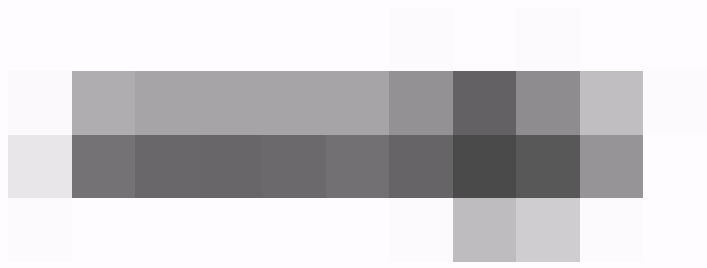
$$v = \frac{v_1 + v_2}{1 + \frac{v_1 v_2}{c^2}} \quad (54.1).$$

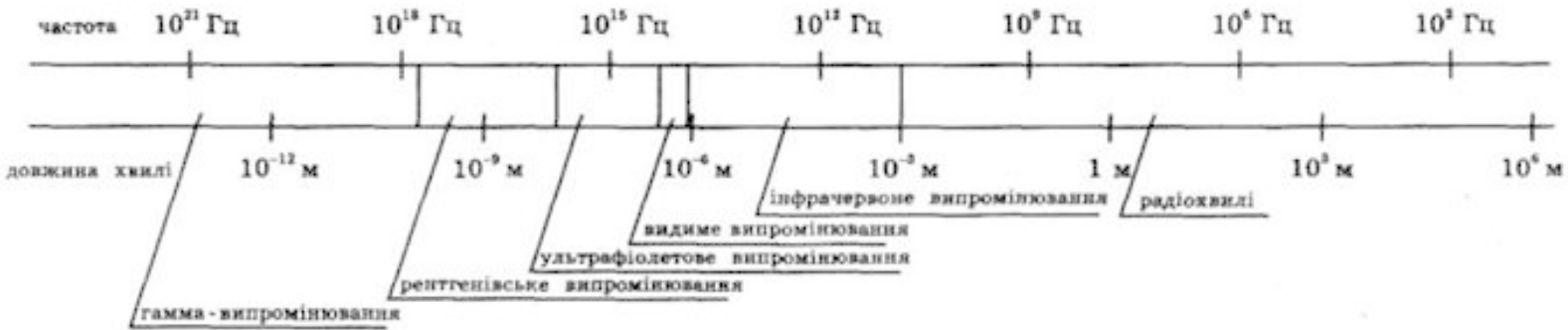




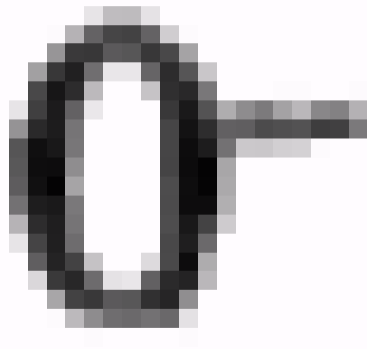
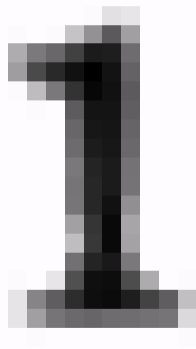
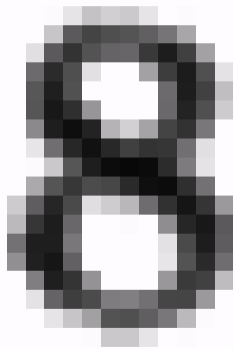
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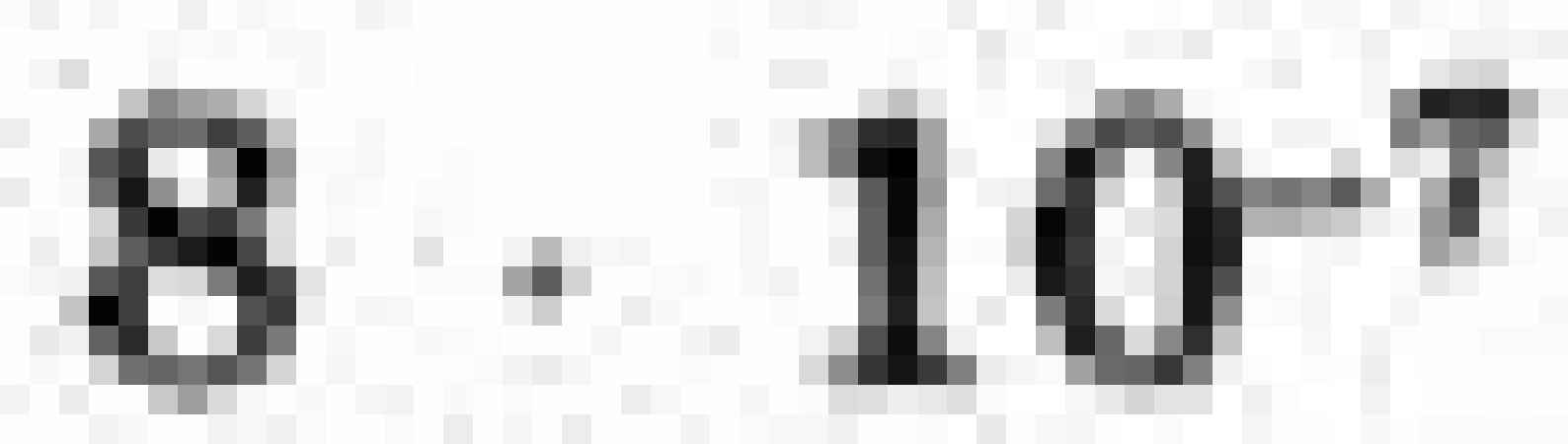




Мал. 2.172



$$\vec{p} = \frac{m\vec{v}}{\sqrt{1 - \frac{v^2}{c^2}}} \quad (54.2).$$



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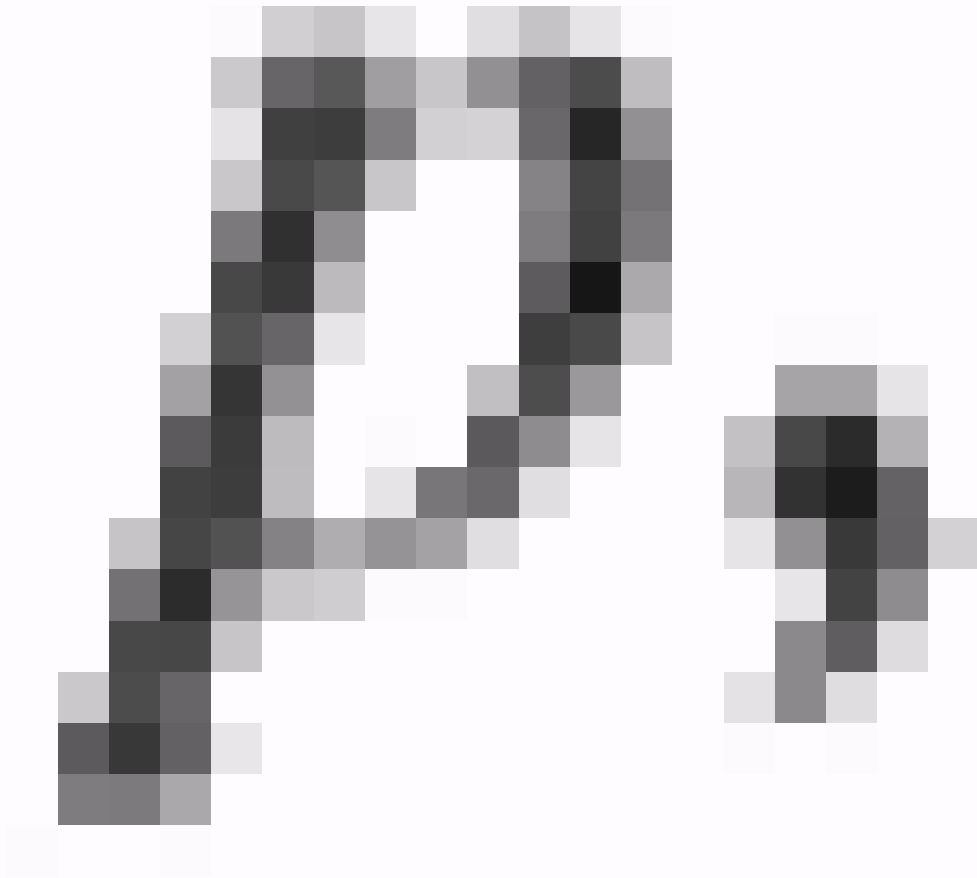
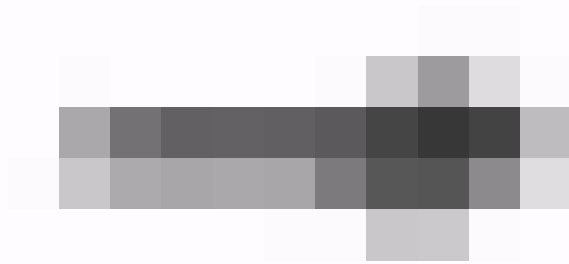
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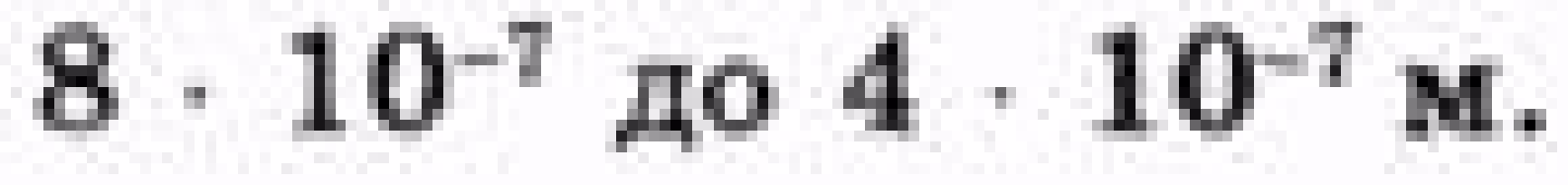
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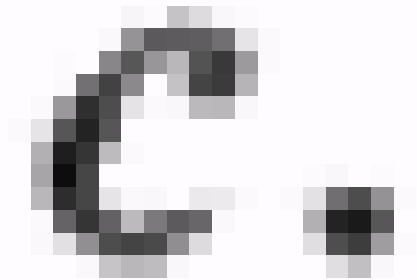
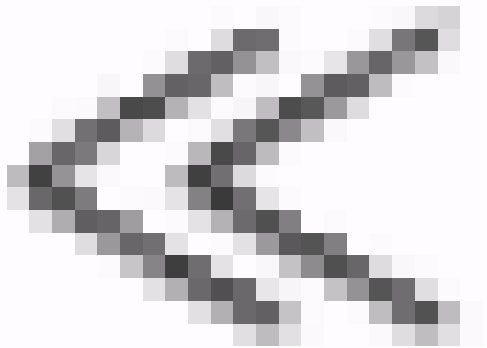
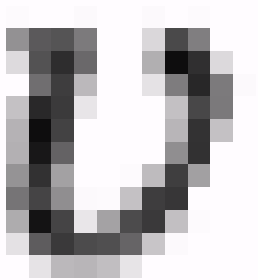
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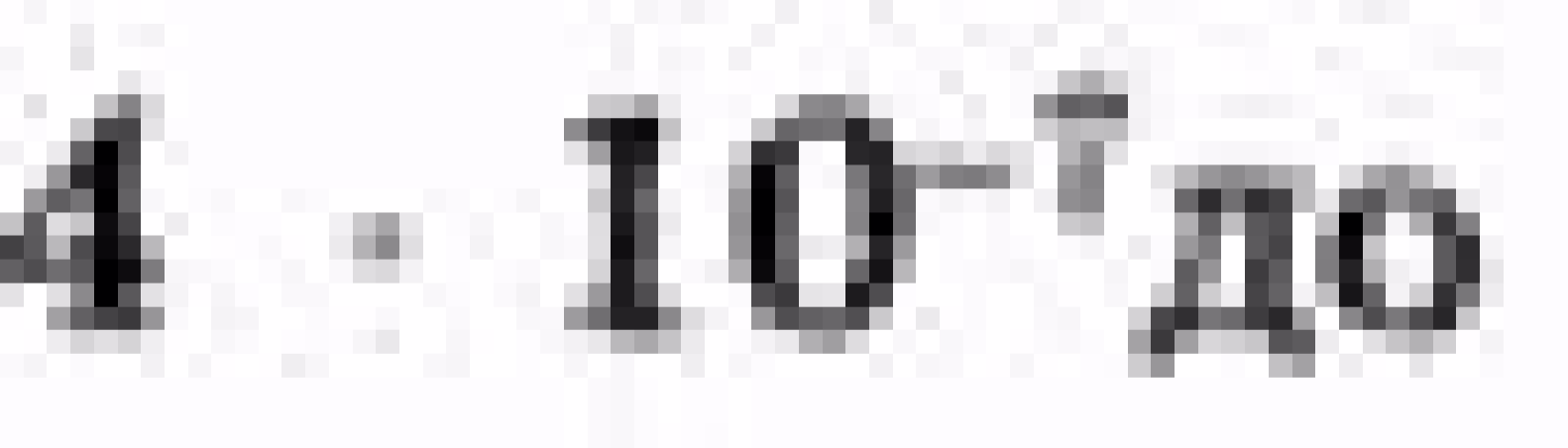
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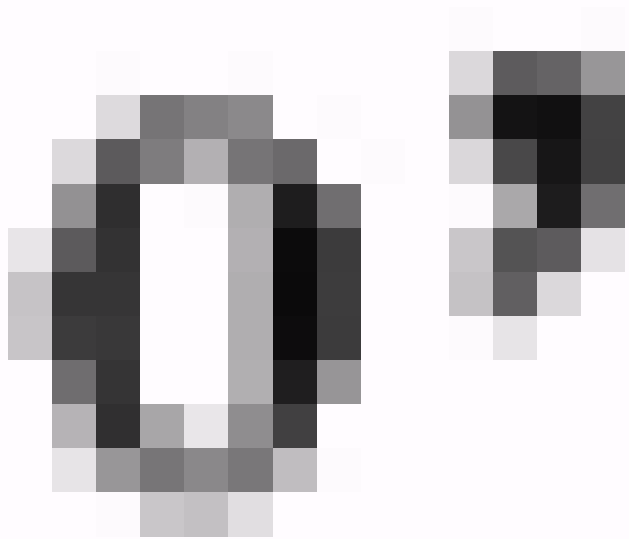
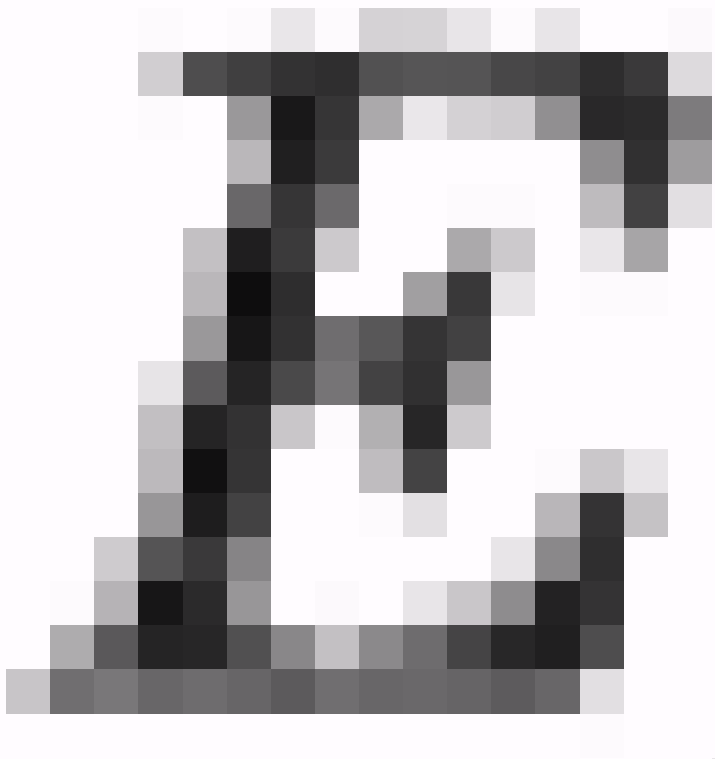
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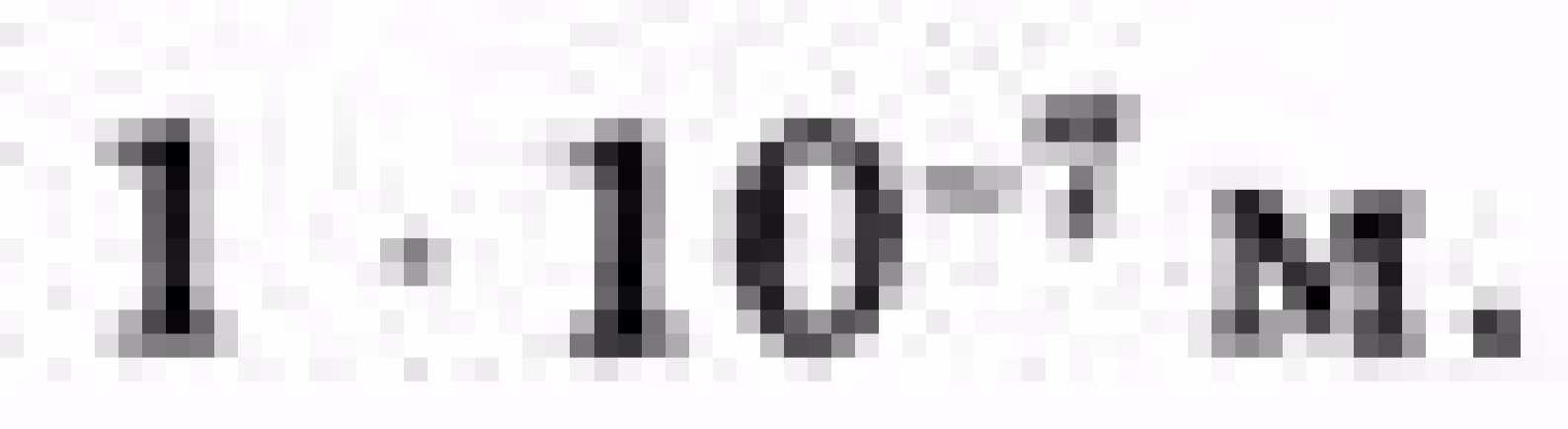
0







$$E_n = mc^2 (54.9)$$



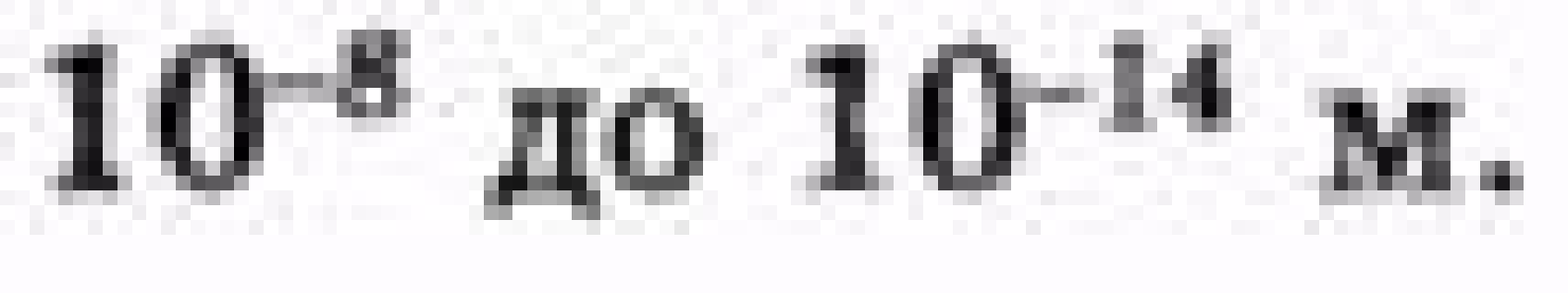
1000

1000

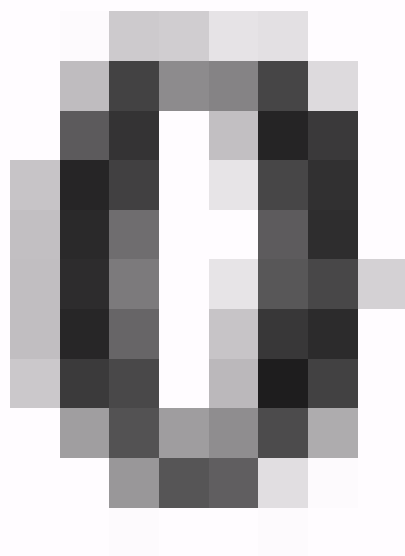
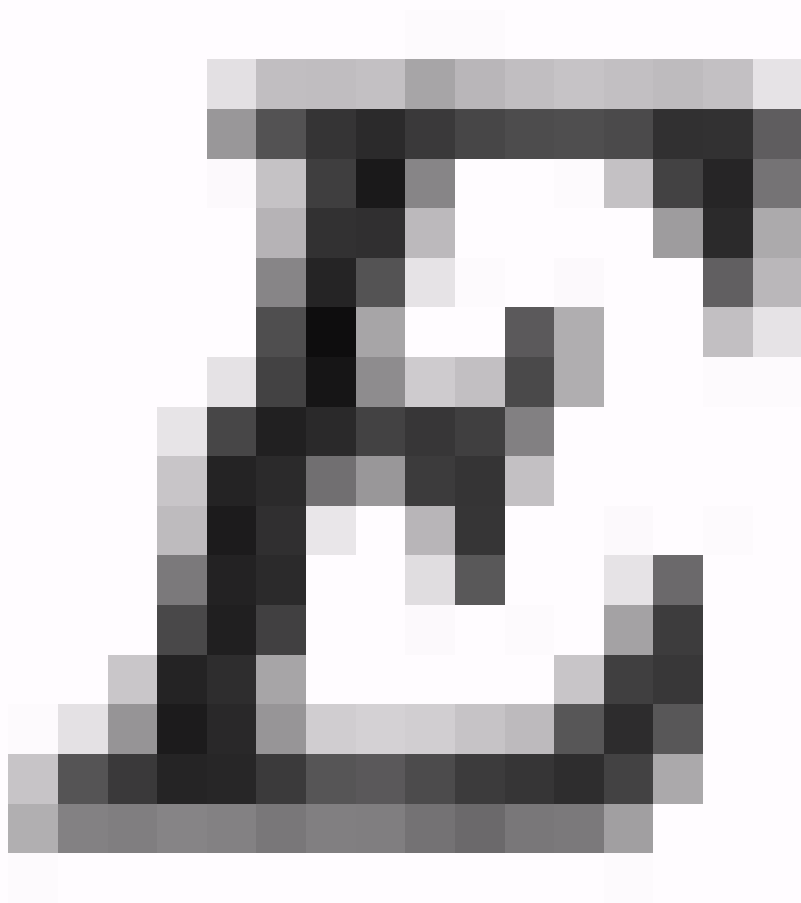
1000

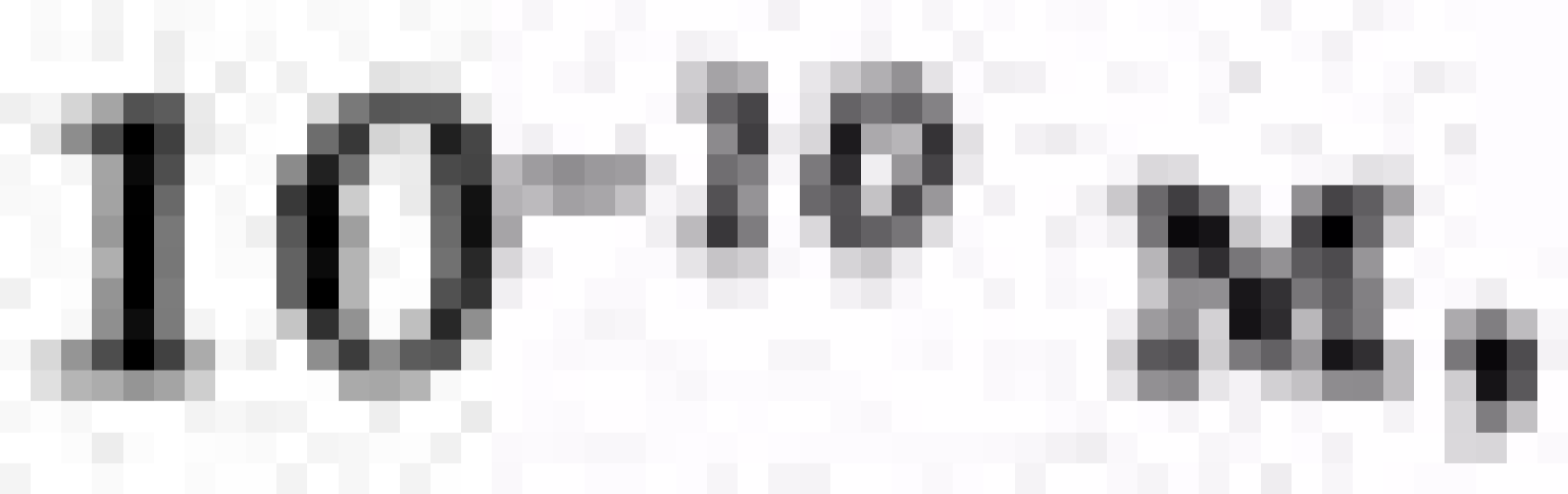
1000

$$E = \frac{mc^2}{\sqrt{1 - \frac{v^2}{c^2}}} \quad (54.4).$$



1010 110



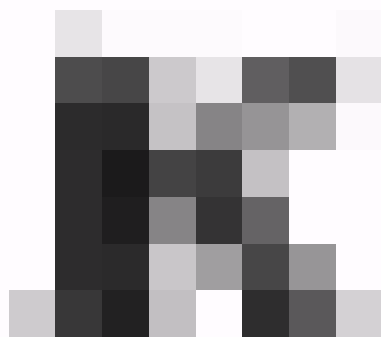
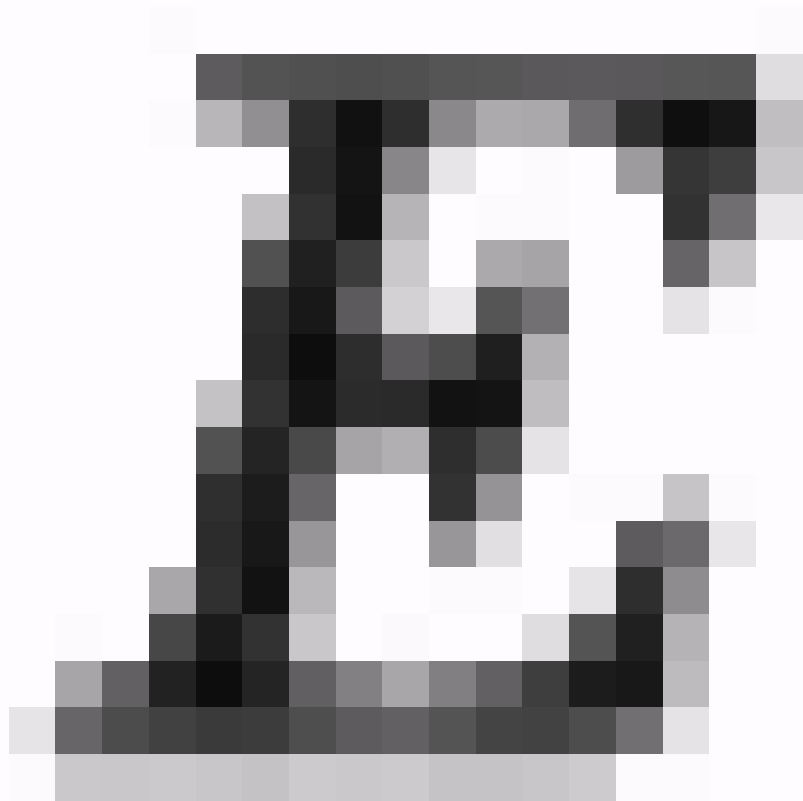


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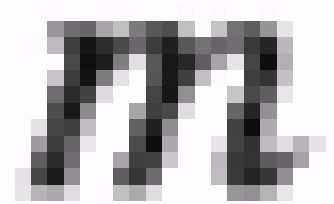
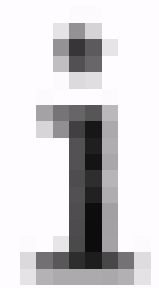
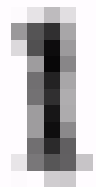
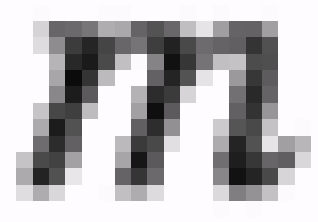
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$E = E - E_0$

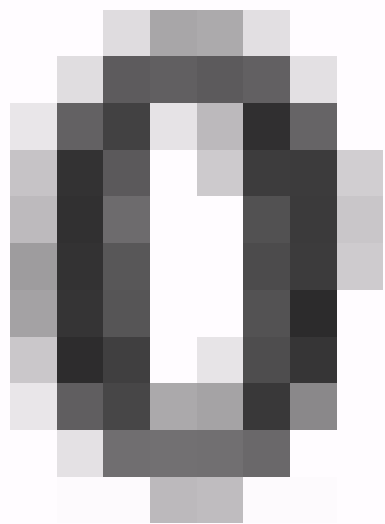
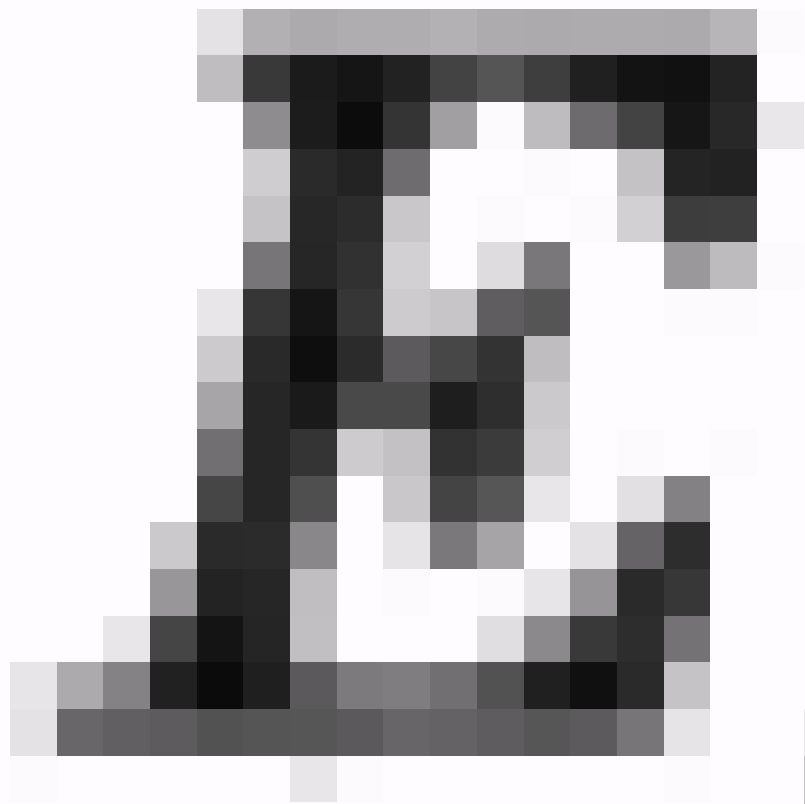
(54.5)



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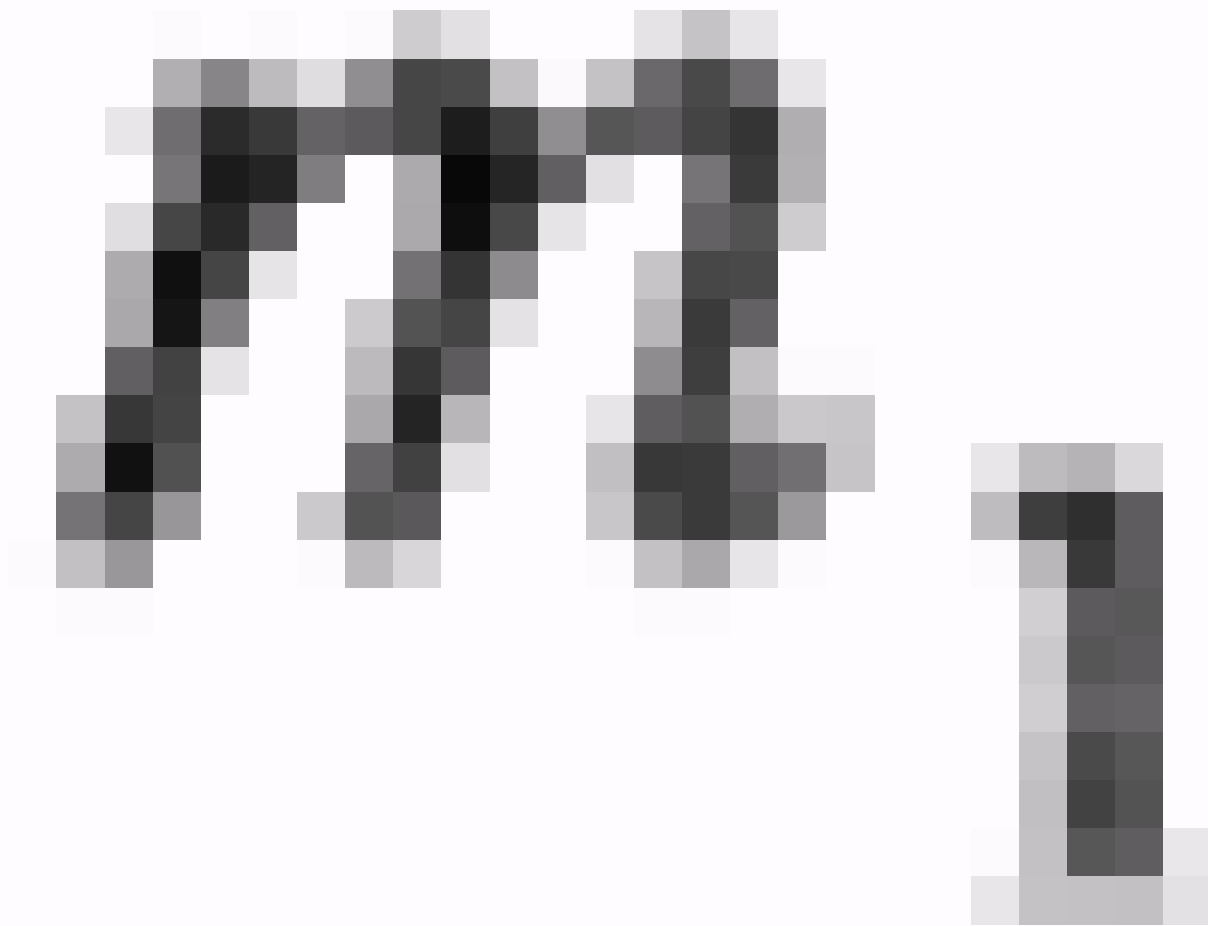


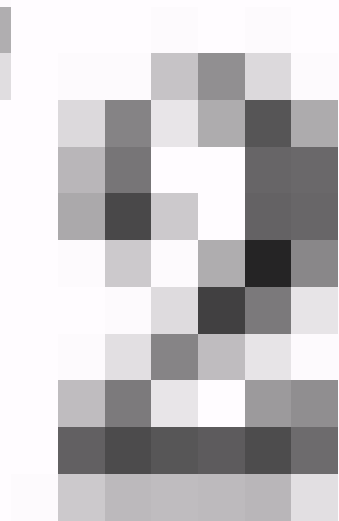
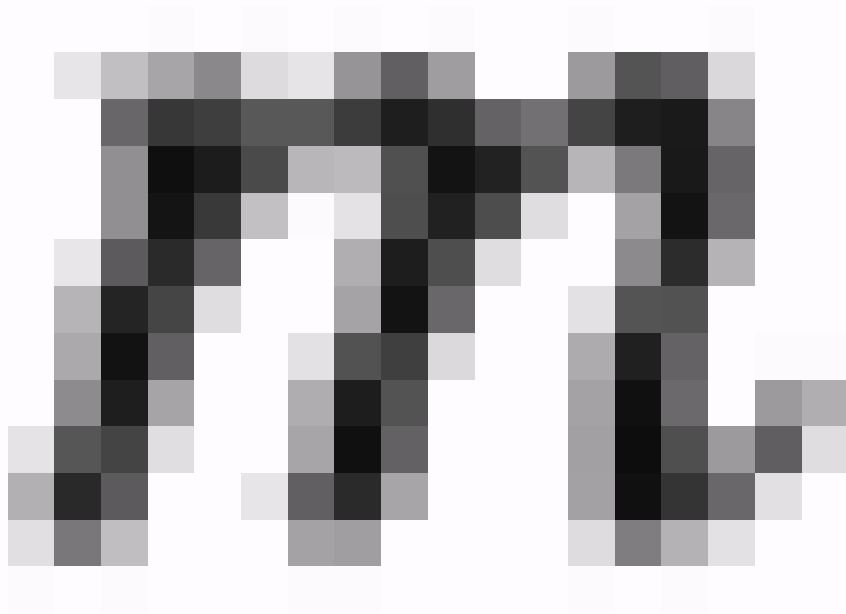


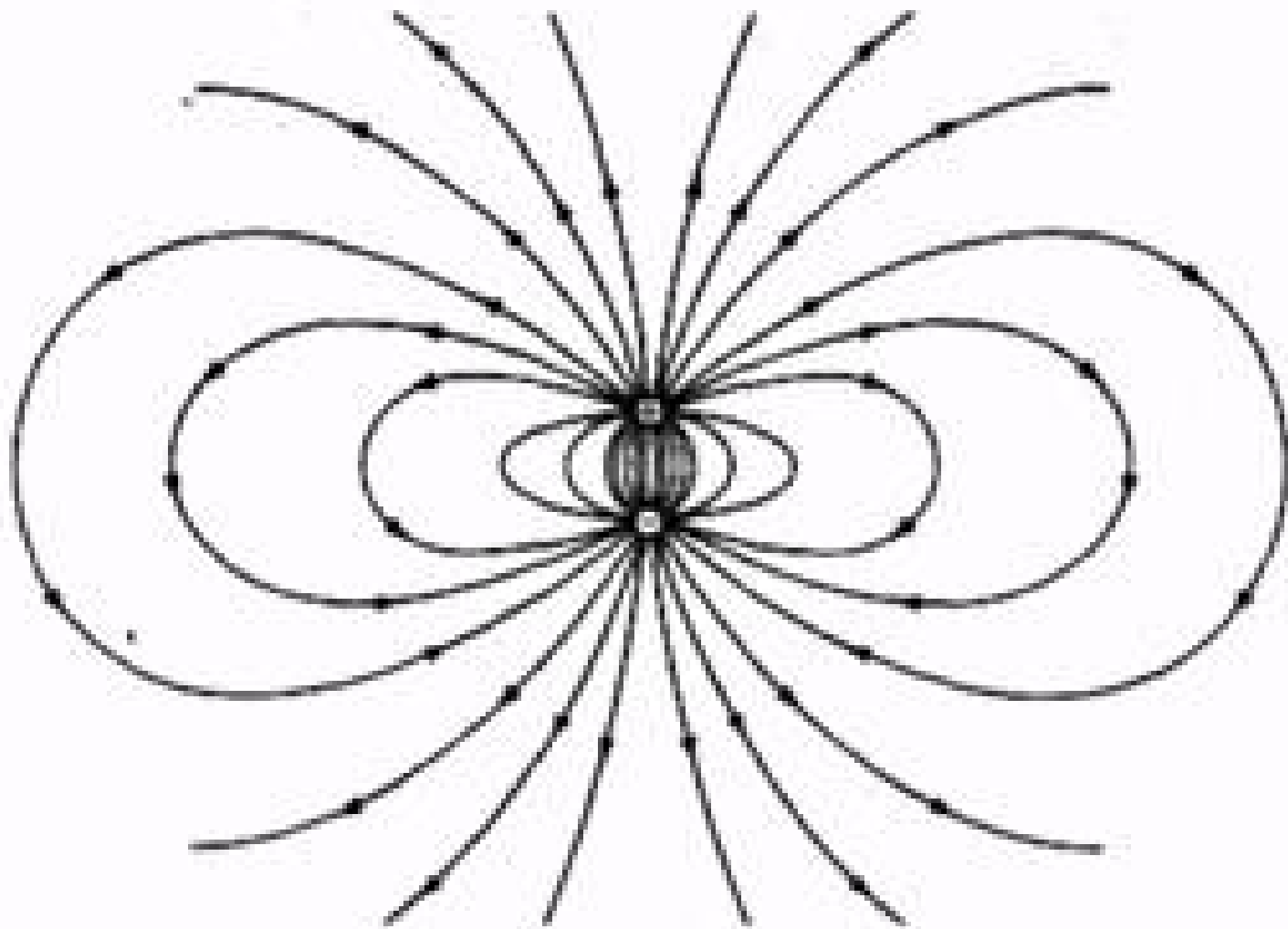
$$E_0 = E_{0_1} + E_{0_2} + W \quad (54.6)$$

$$\frac{E_0}{c^2} = \frac{E_{0_1}}{c^2} + \frac{E_{0_2}}{c^2} + \frac{W}{c^2} \quad (54.7),$$

$$M = m_1 + m_2 + \frac{W}{c^2} \quad (54.8).$$



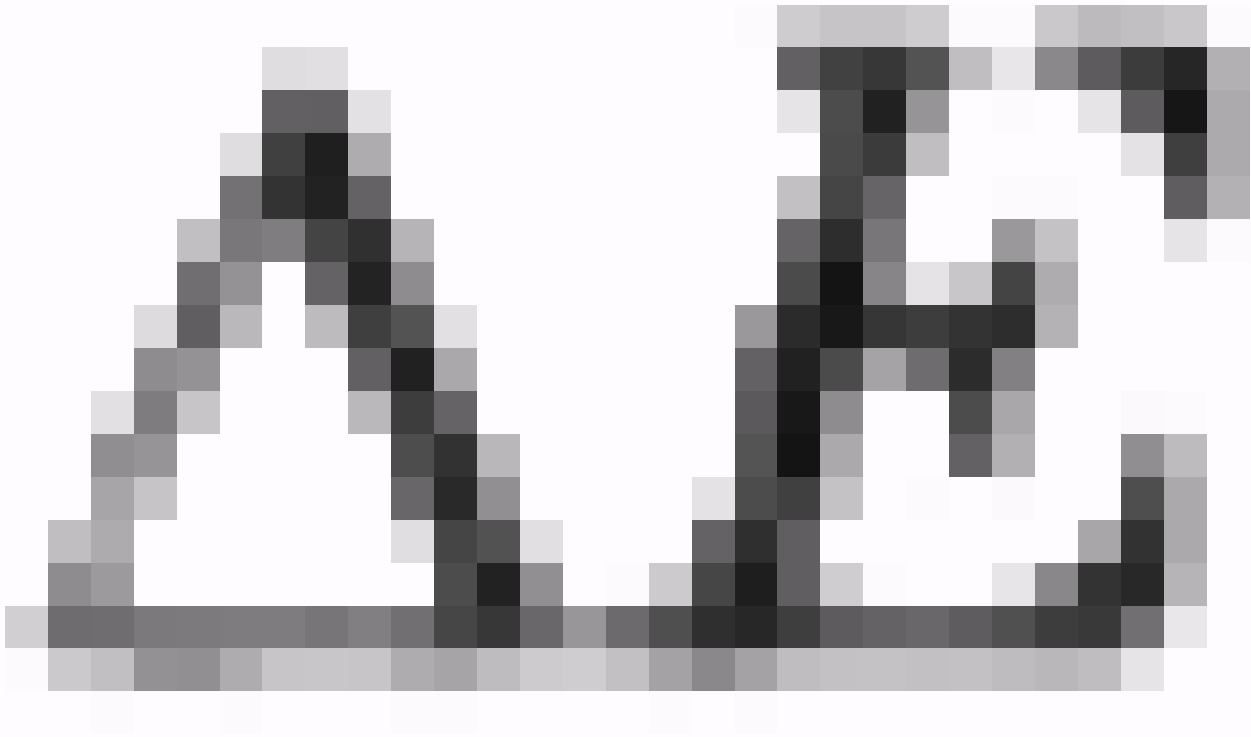


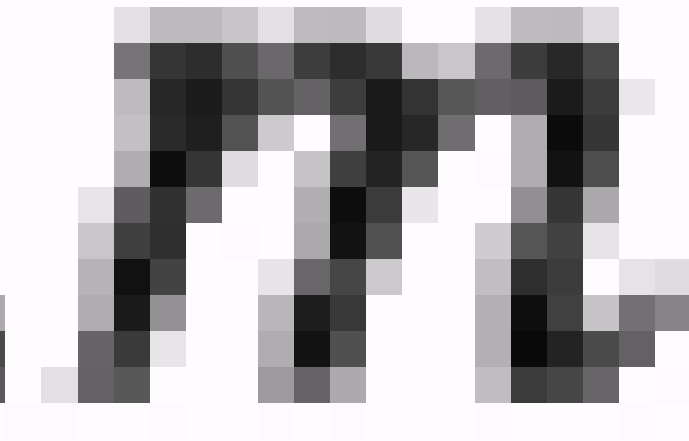
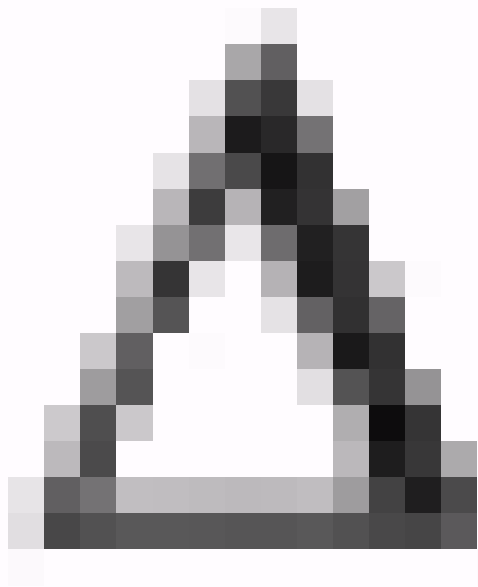


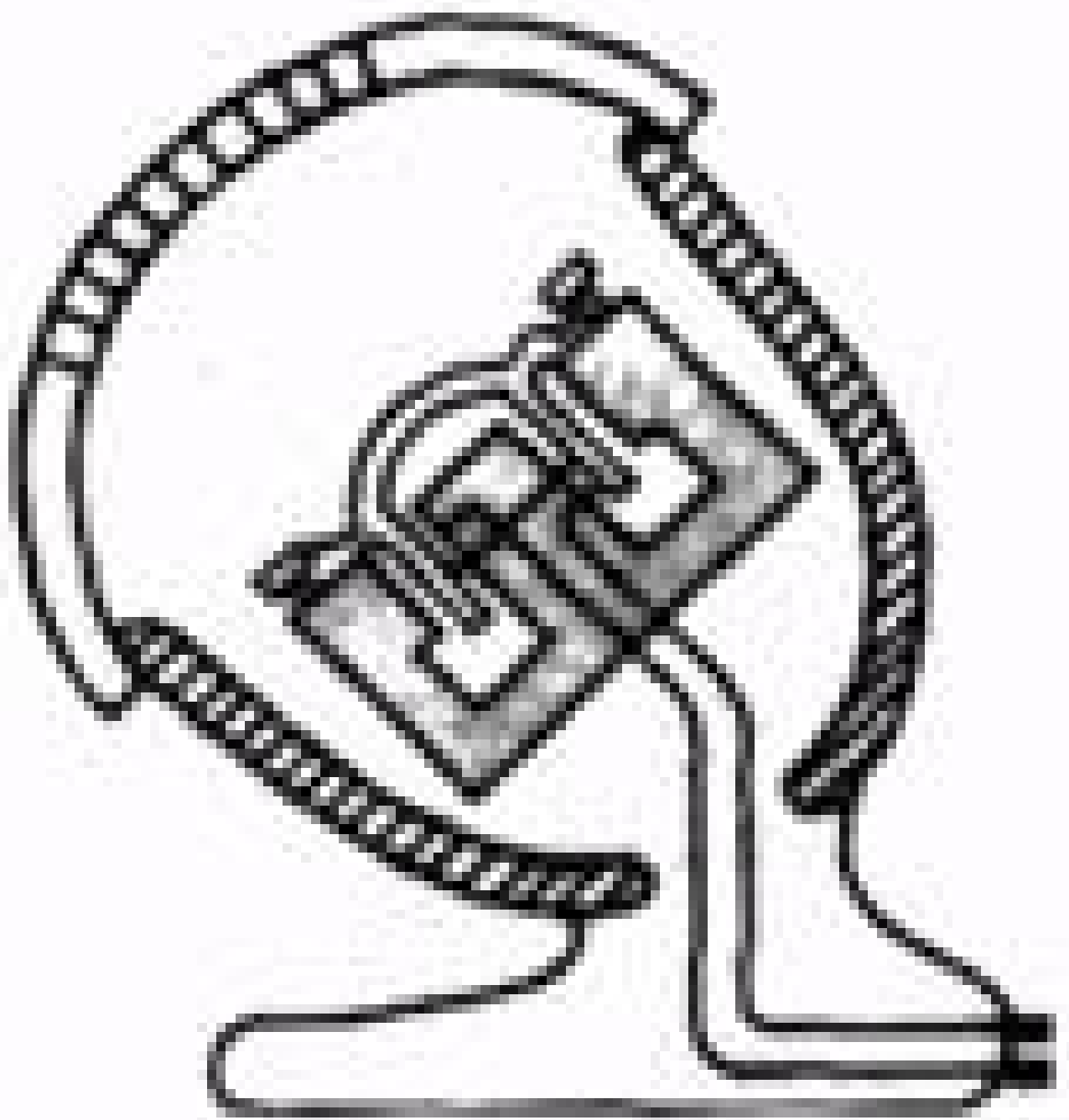
Мал. 2.175



$$\Delta m = m_1 + m_2 - M = -\frac{W}{c^2} \quad (54.9)$$







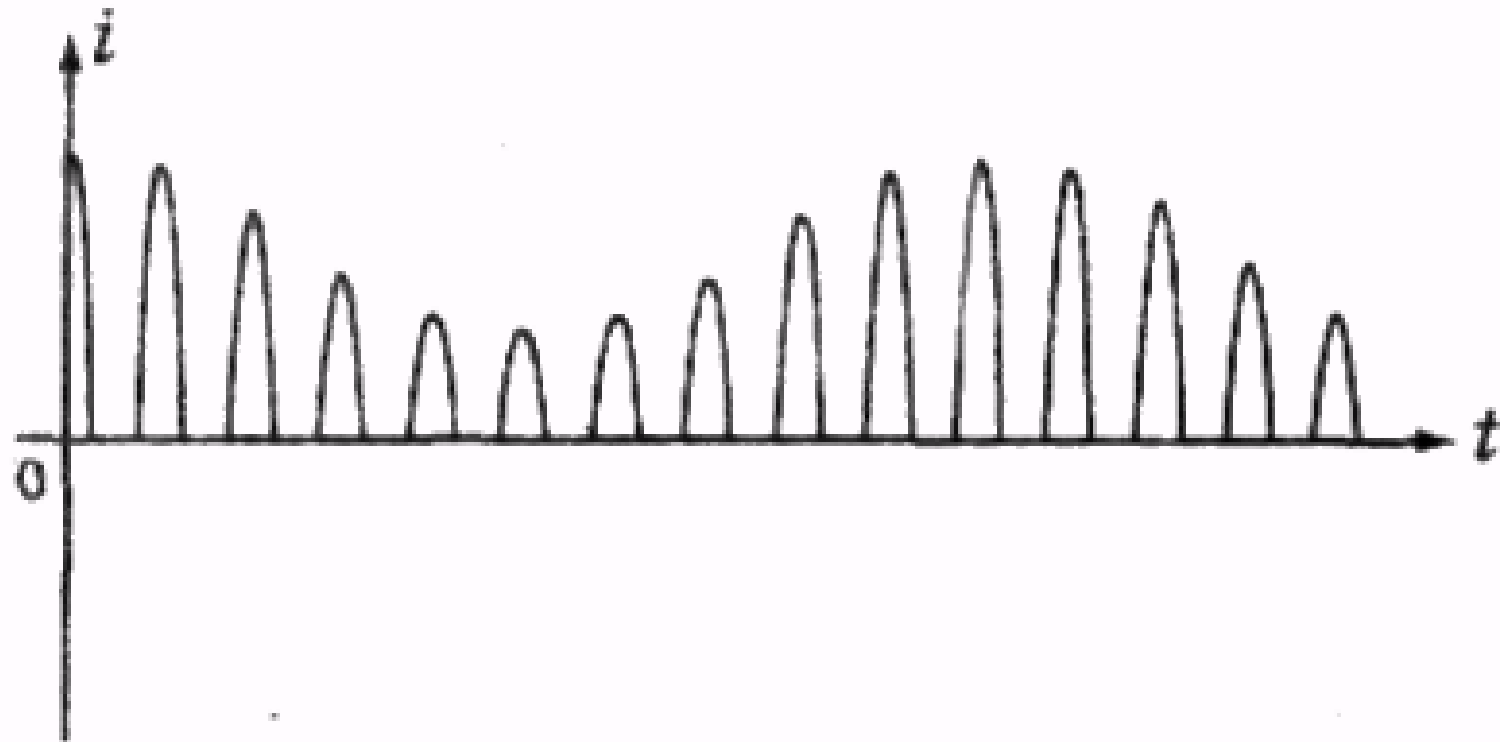
Мол. 2.178

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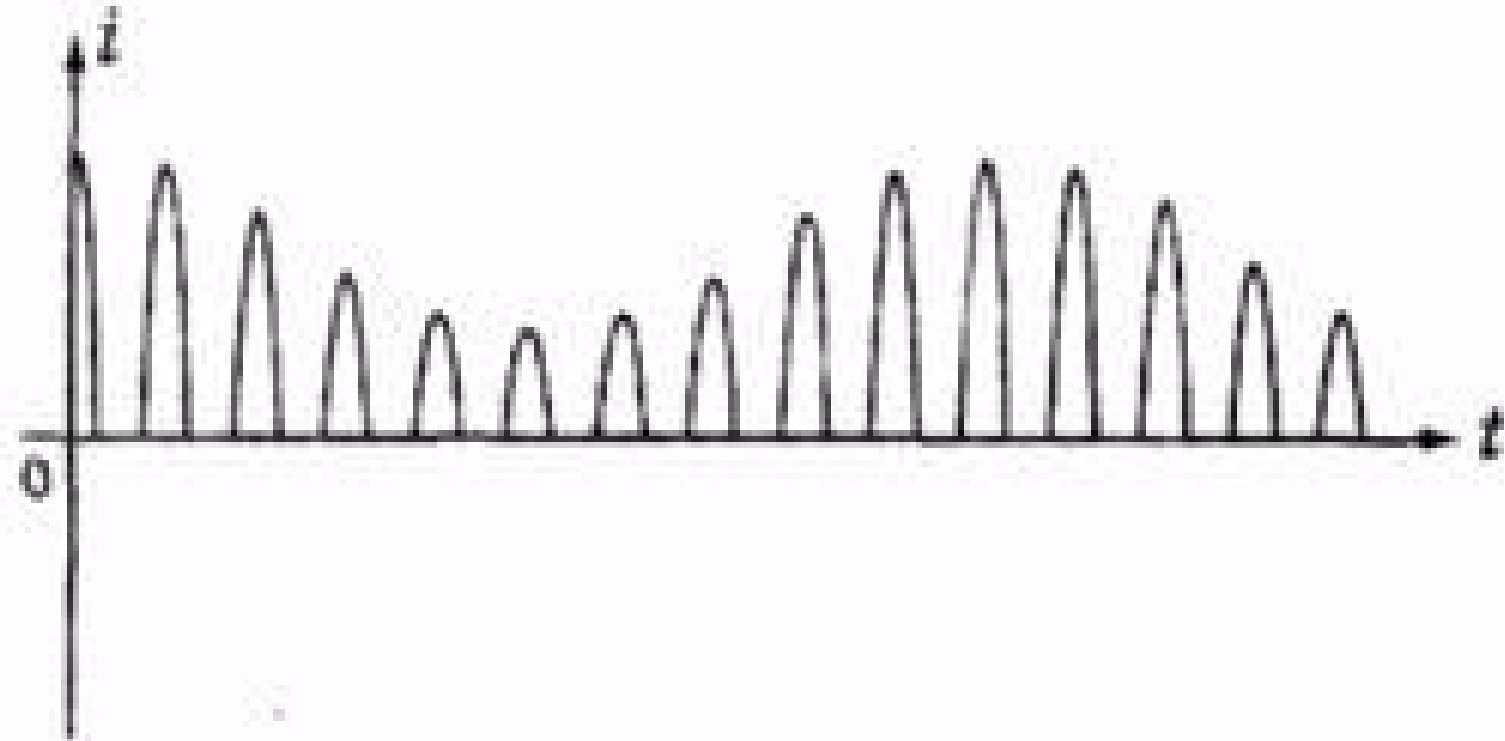
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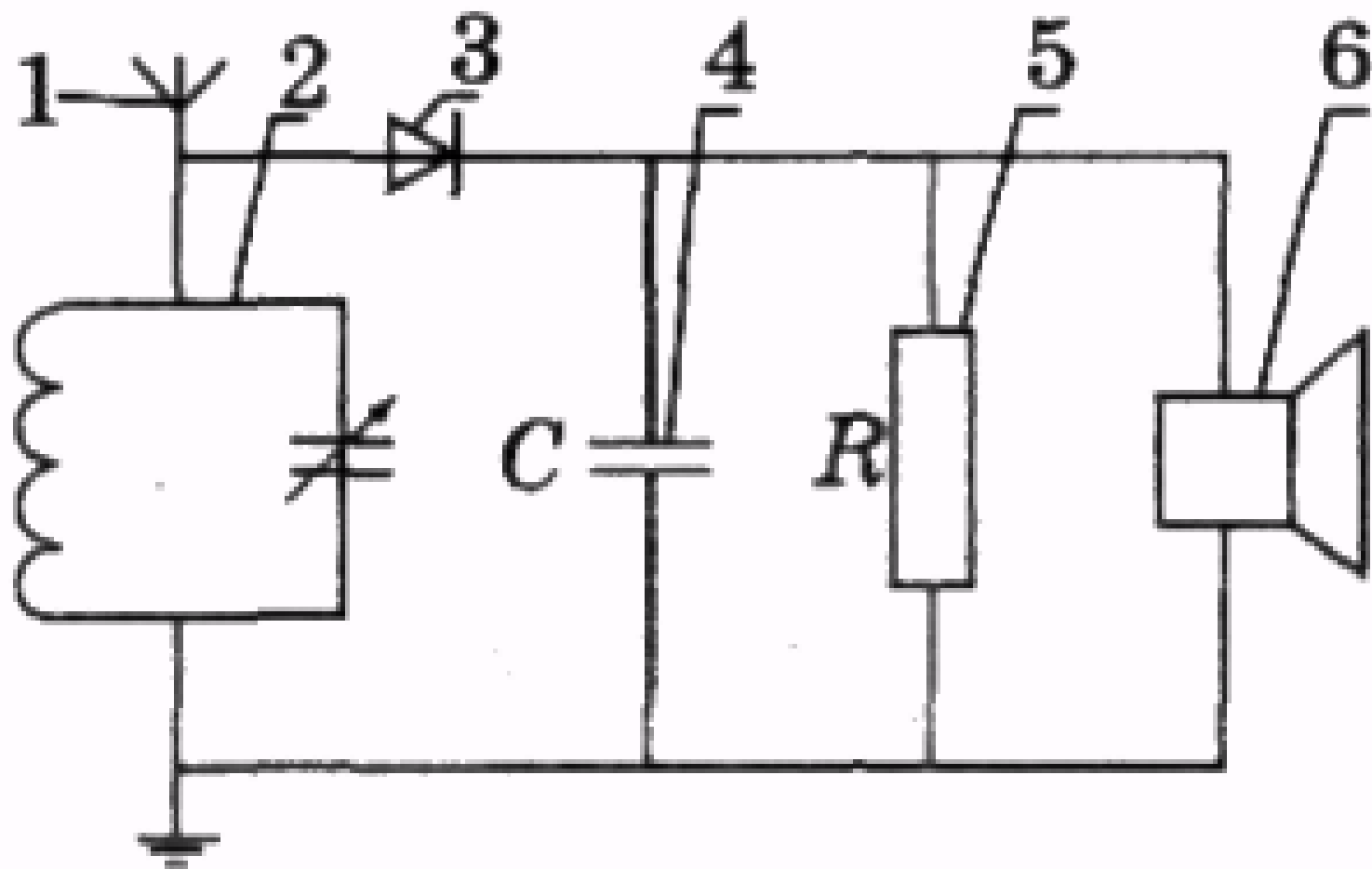
(54.10)



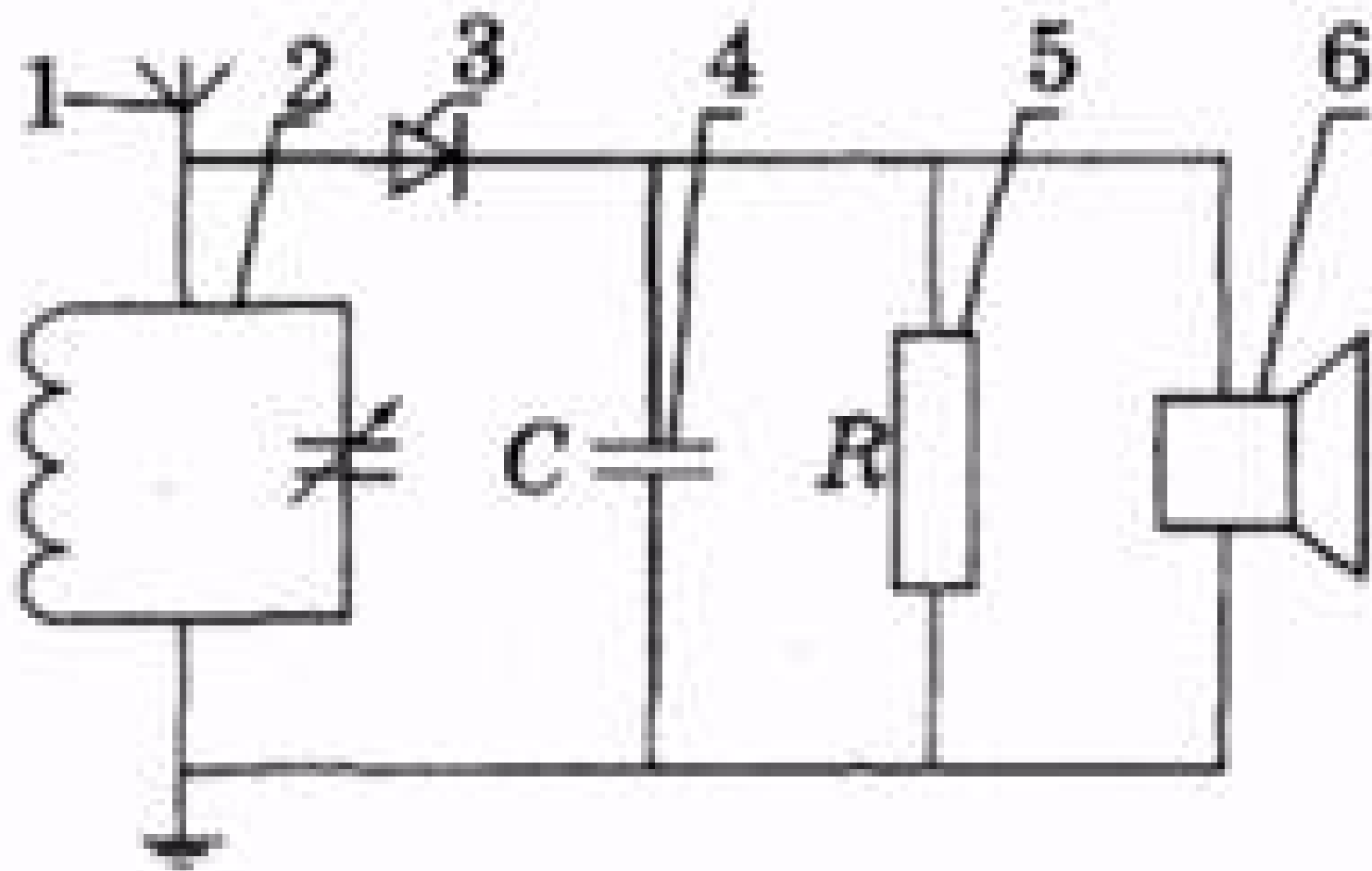
Мал. 2.181



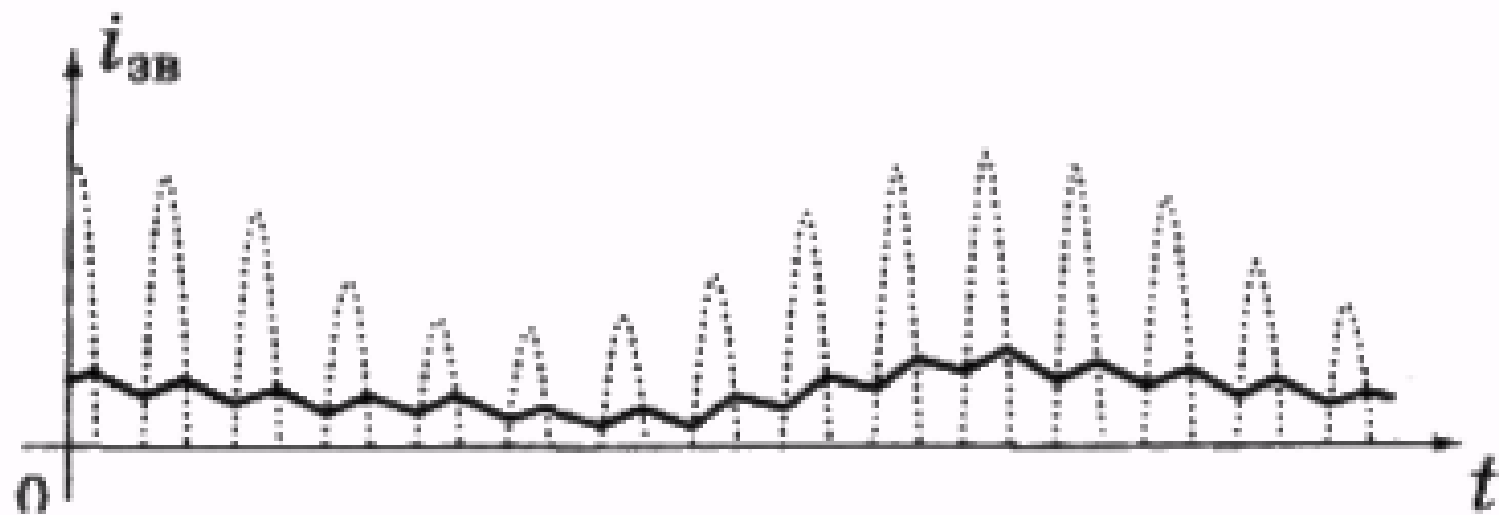
Мал. 2.181



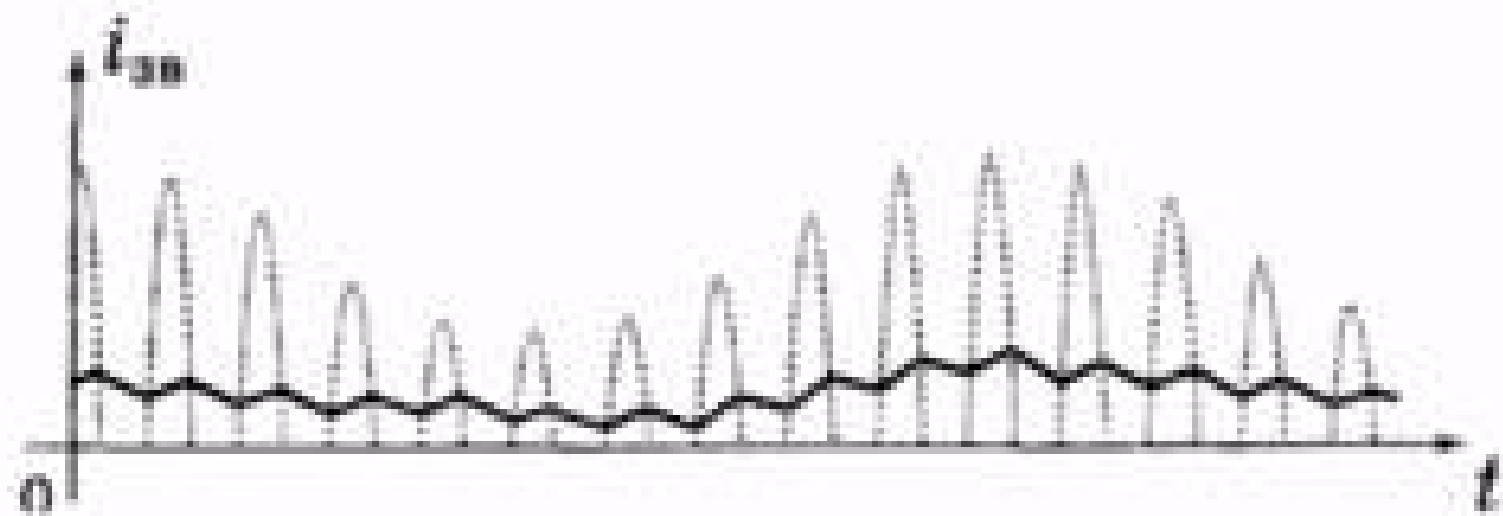
Мал. 2.180



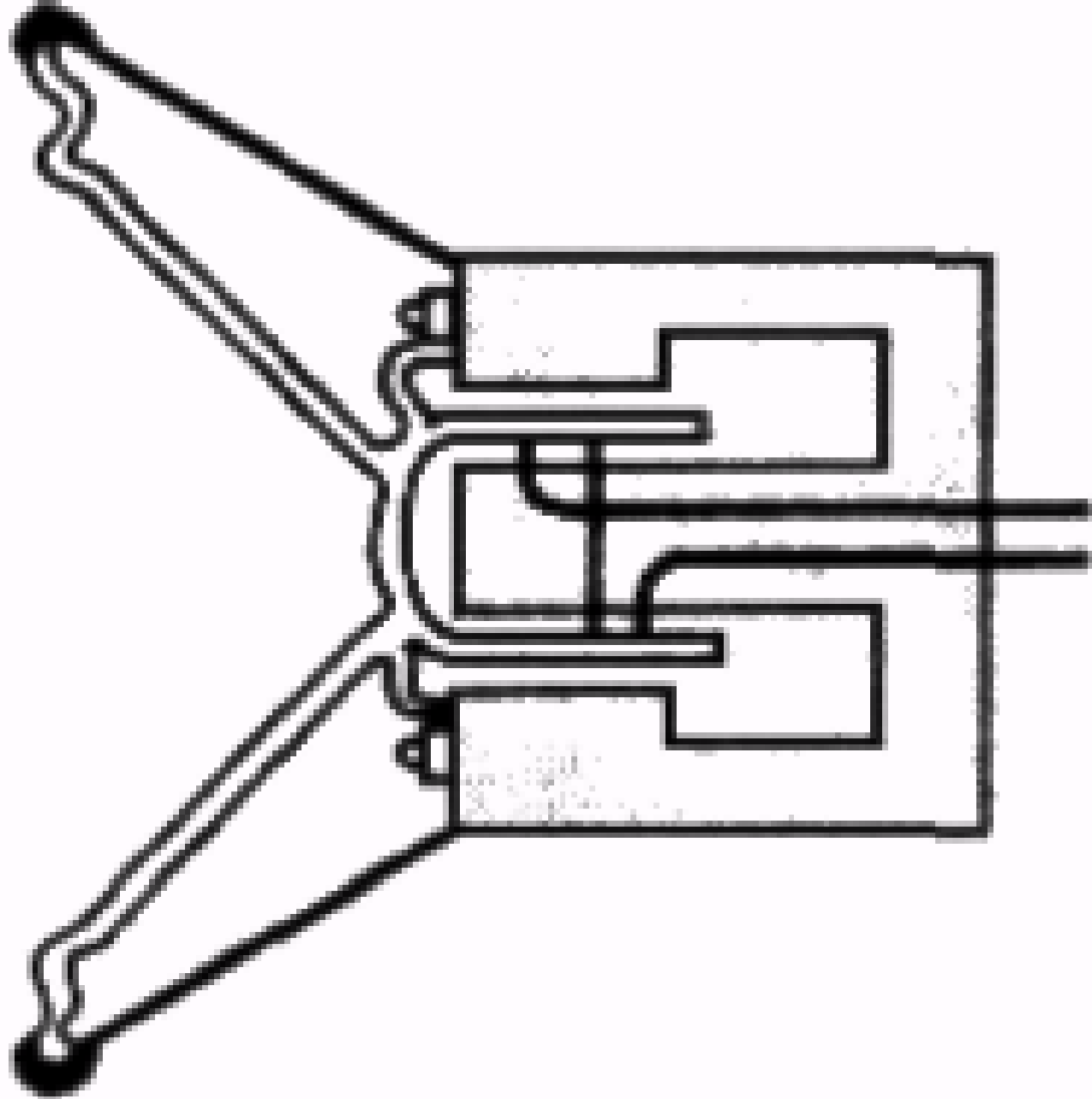
Мал. 2.180



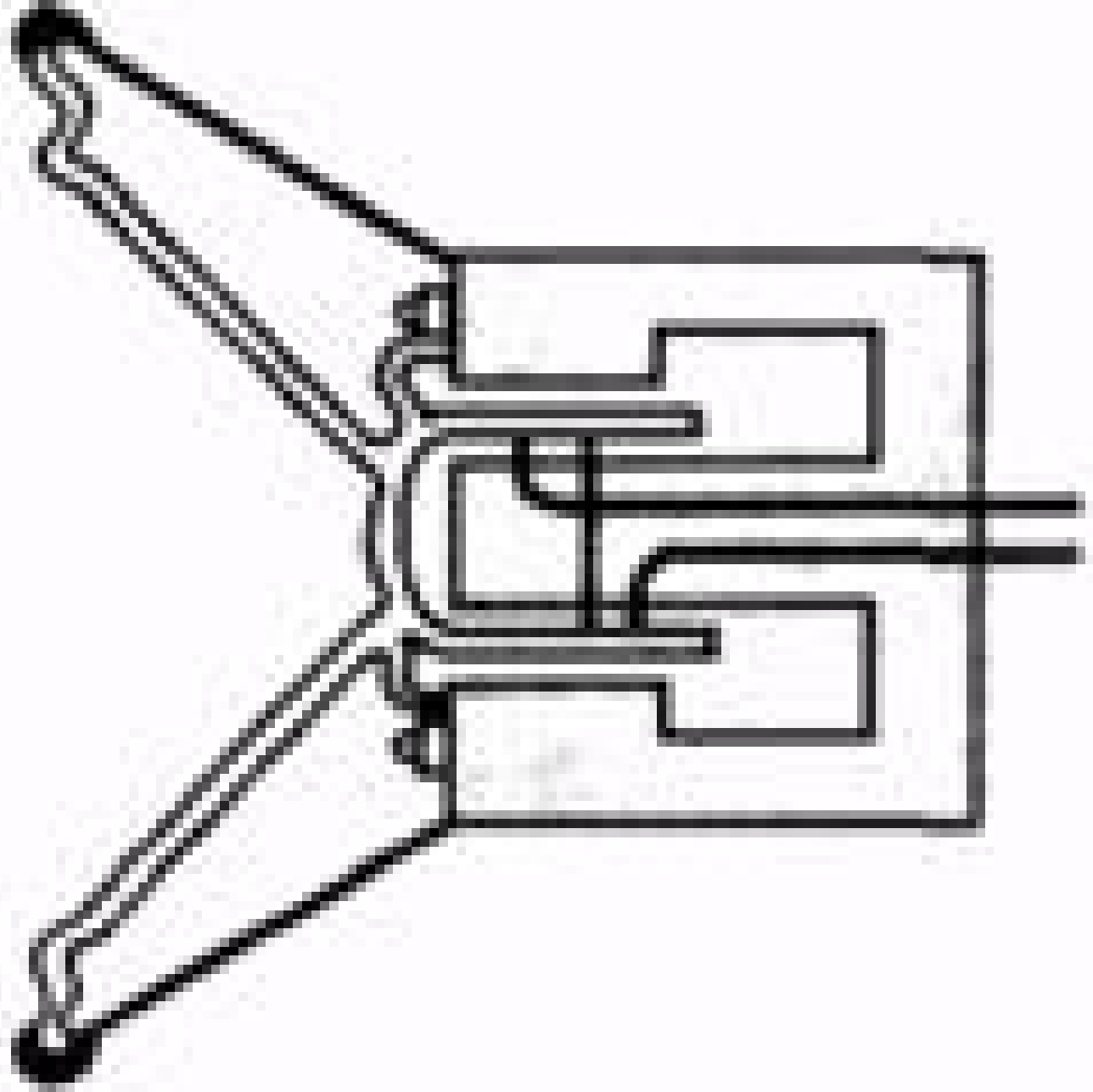
Мал. 2.182



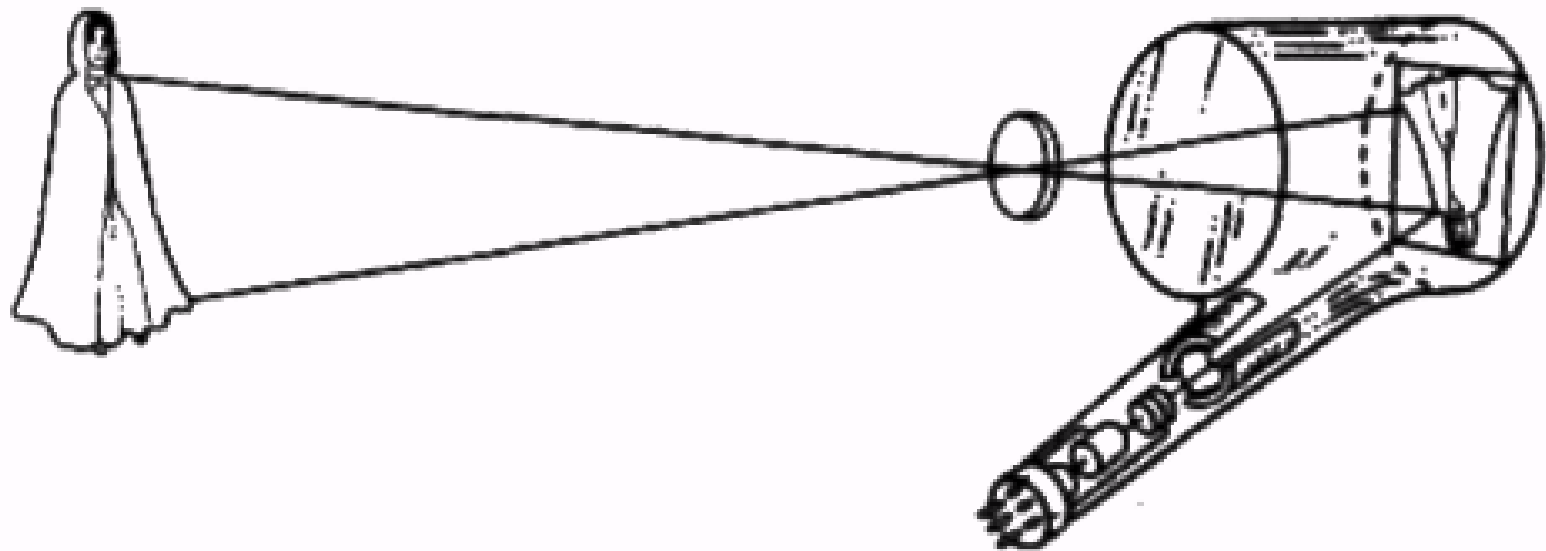
Мал. 2.182



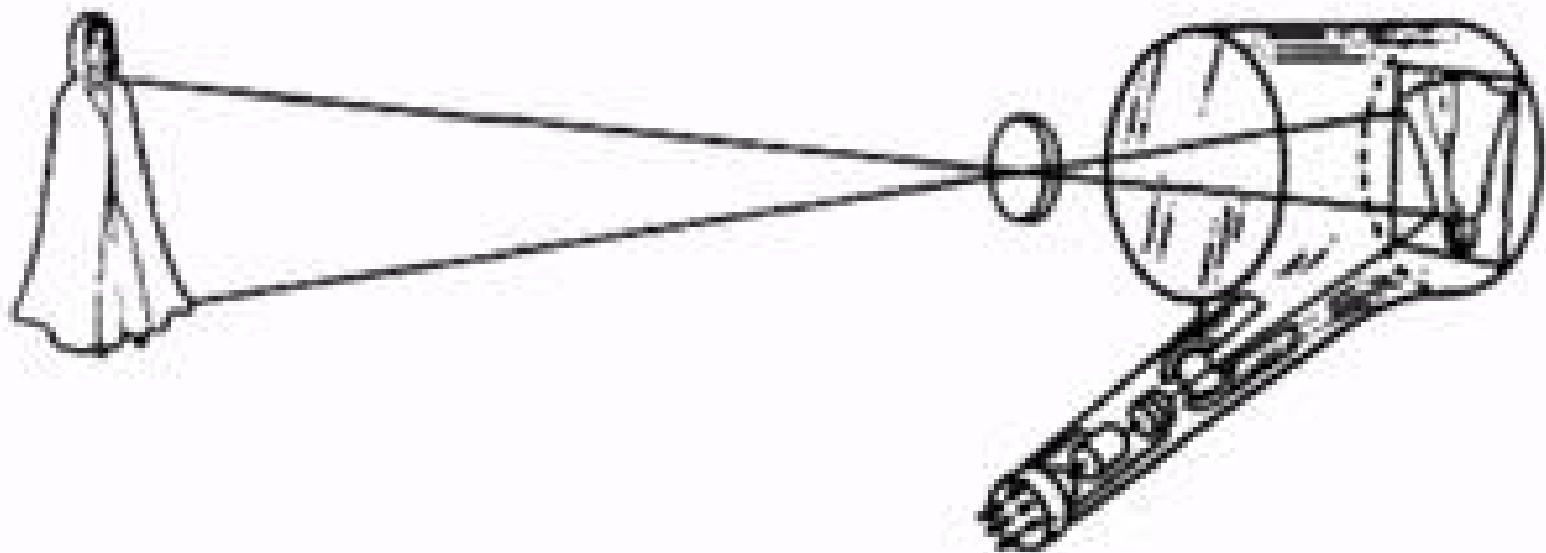
Мал. 2.183



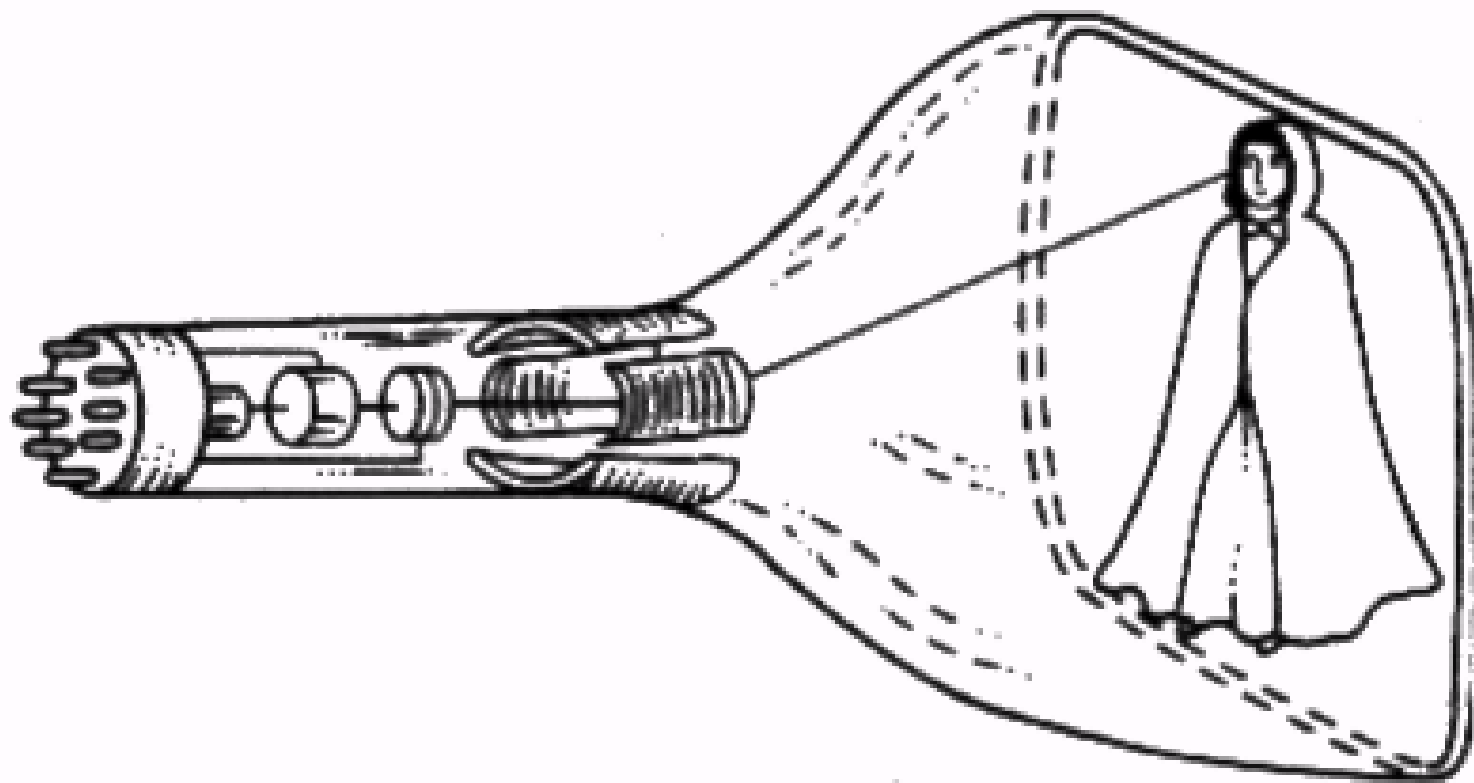
Mar. 2. 1883



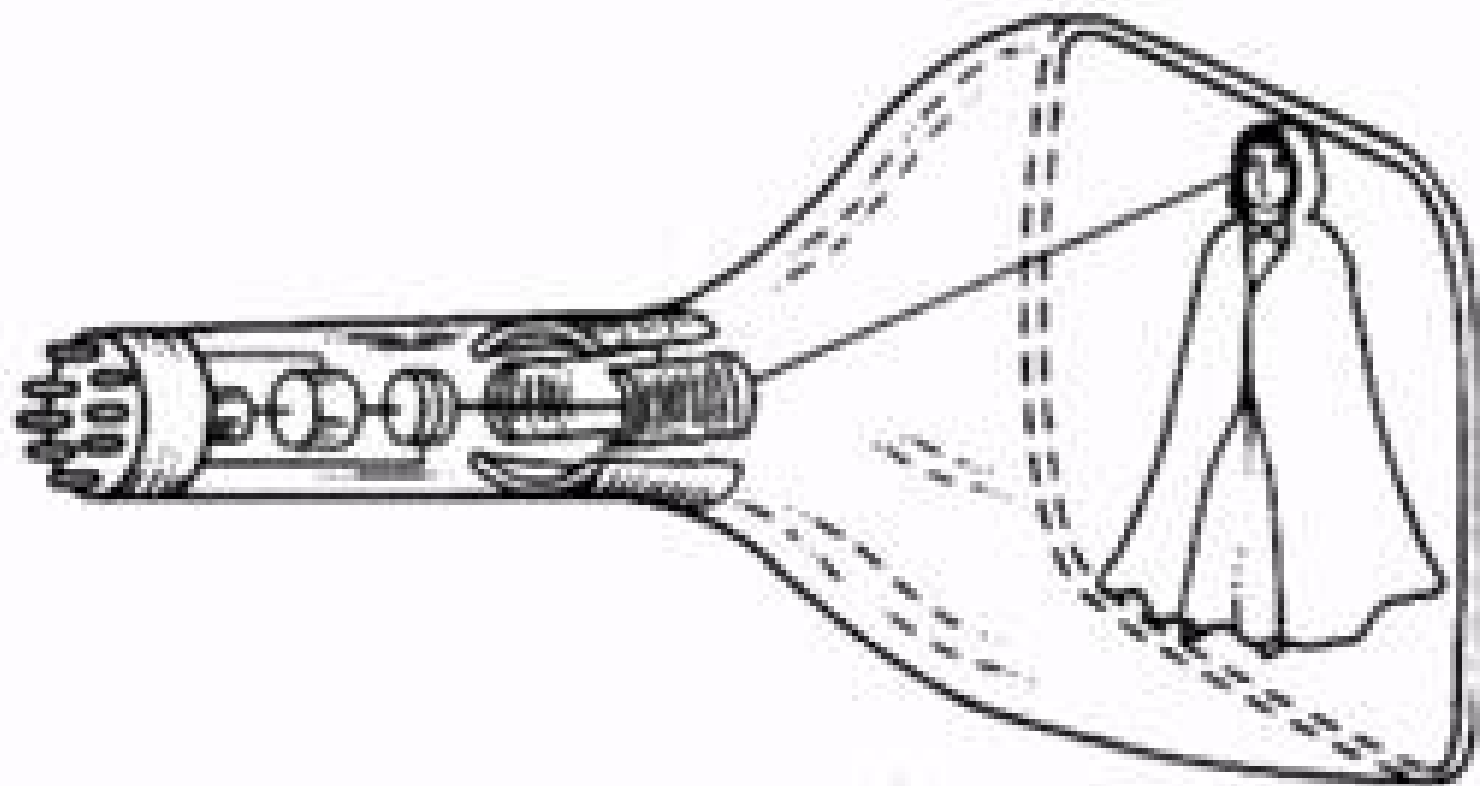
Мал. 2.184



Мал. 2.184



Мал. 2.185



Мал. 2.185

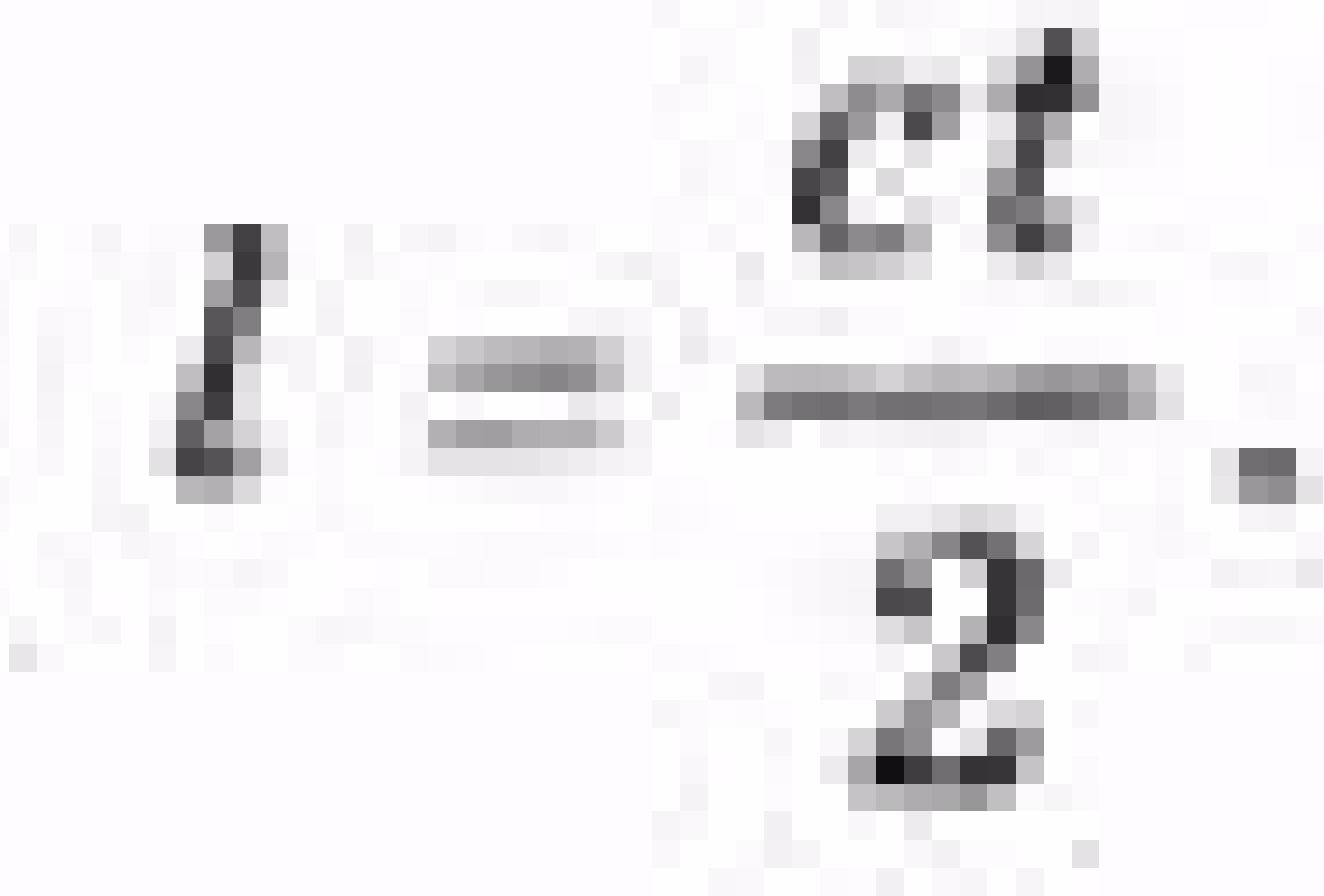
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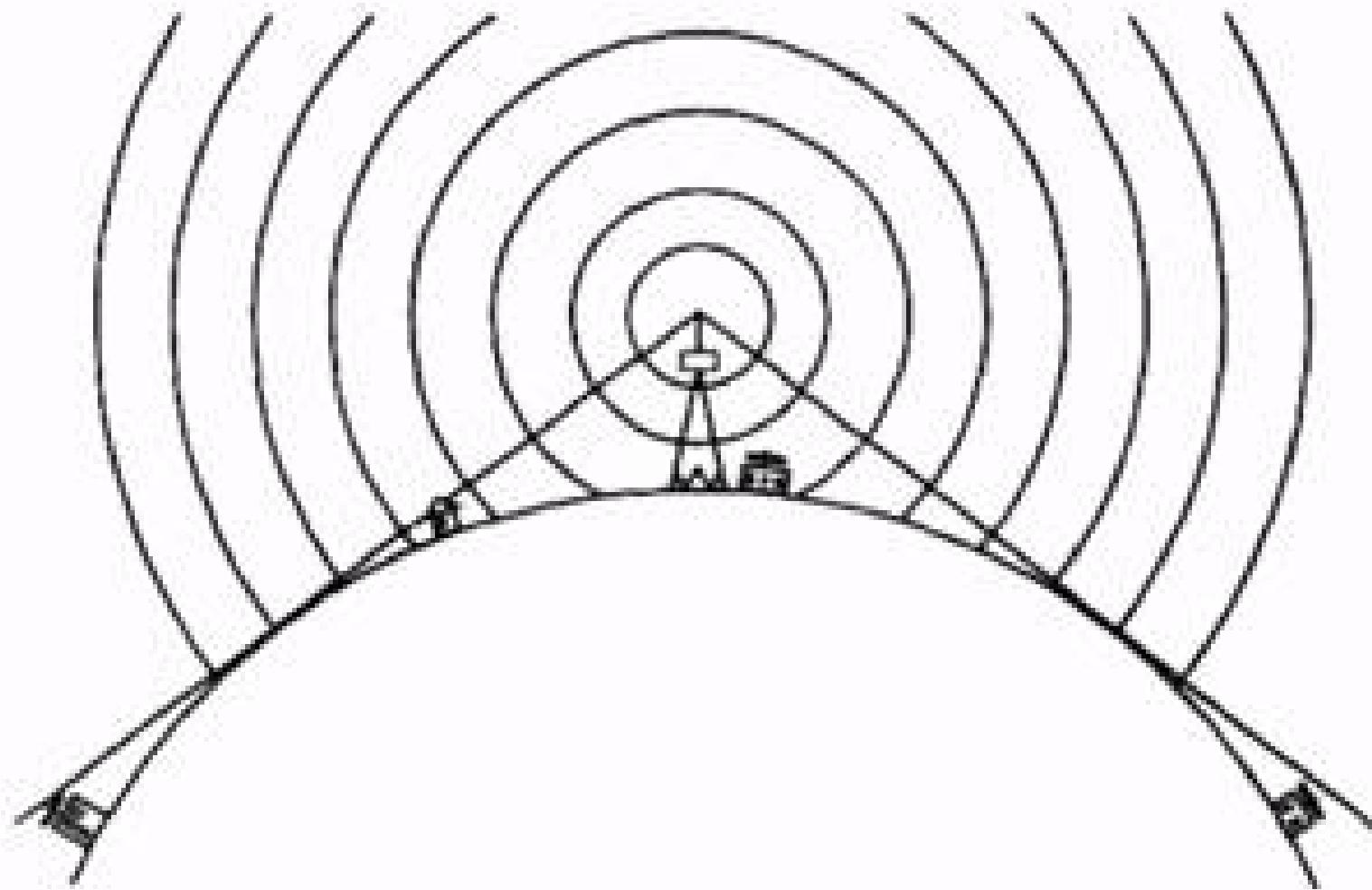
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Мал. 2.186



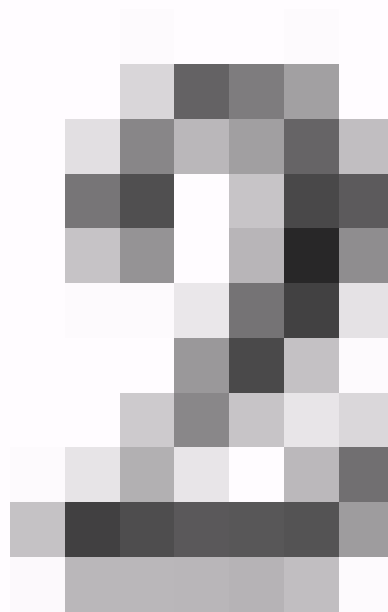
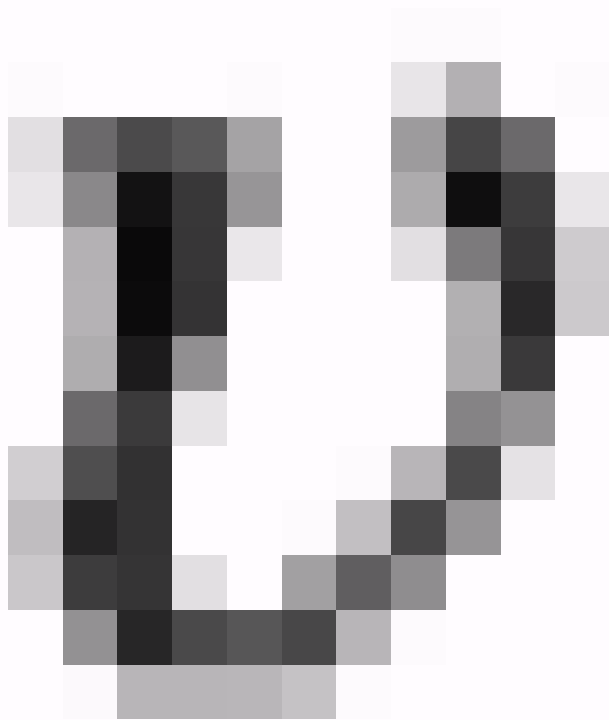
Мал. 2.186



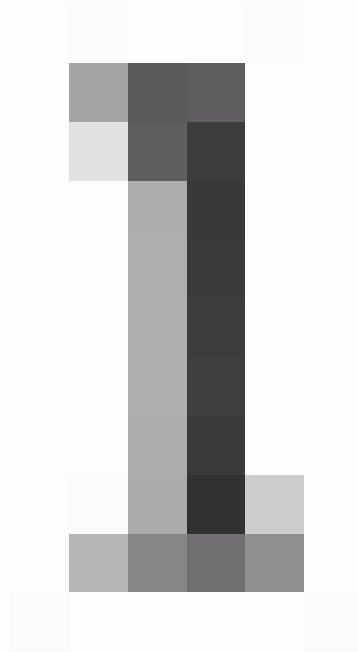
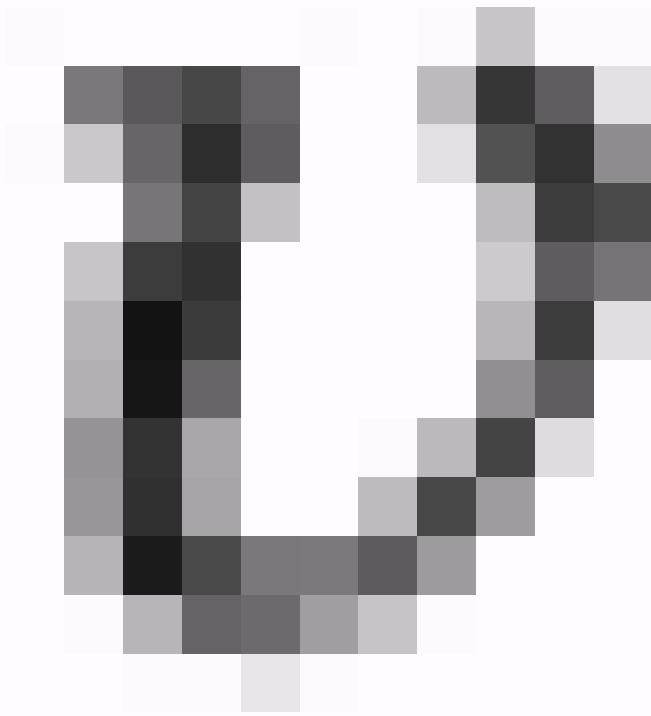
Мал. 2.187



Мал. 2.187





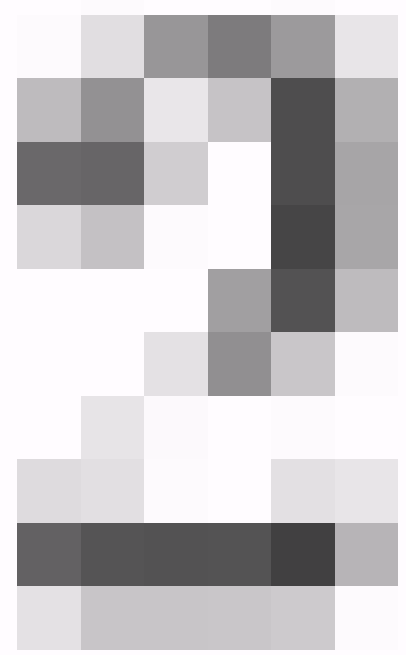
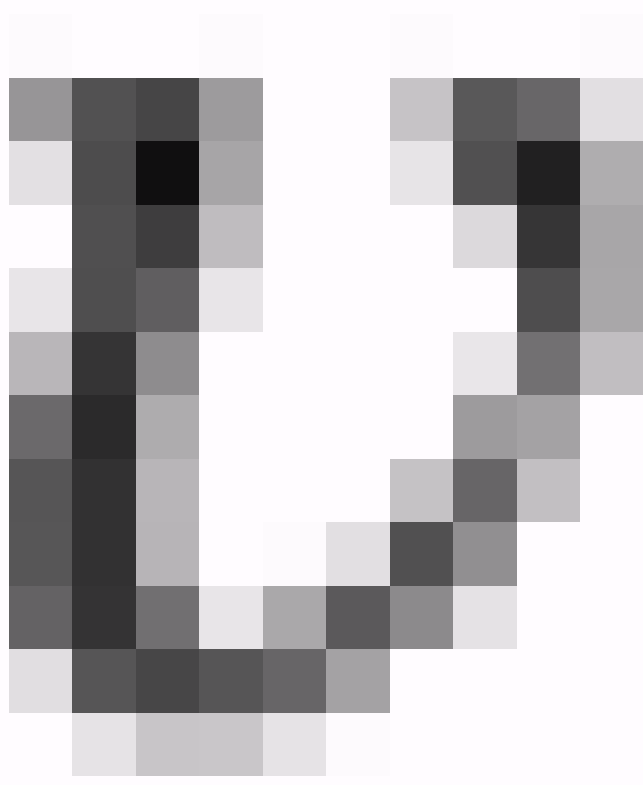




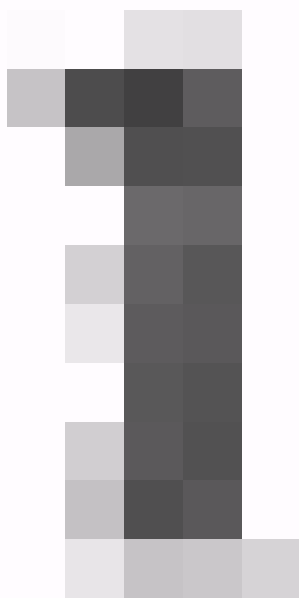
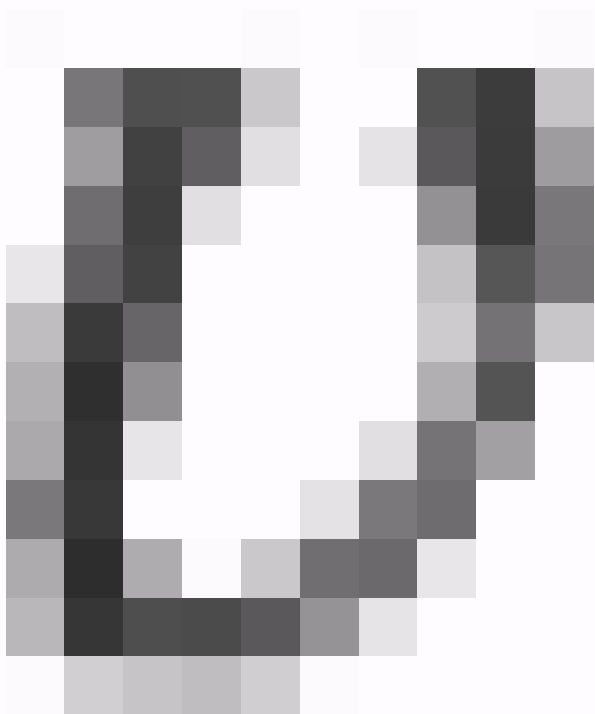
$$v = \frac{v_1 + v_2}{1 + \frac{v_1 v_2}{c^2}} \quad (54.1).$$

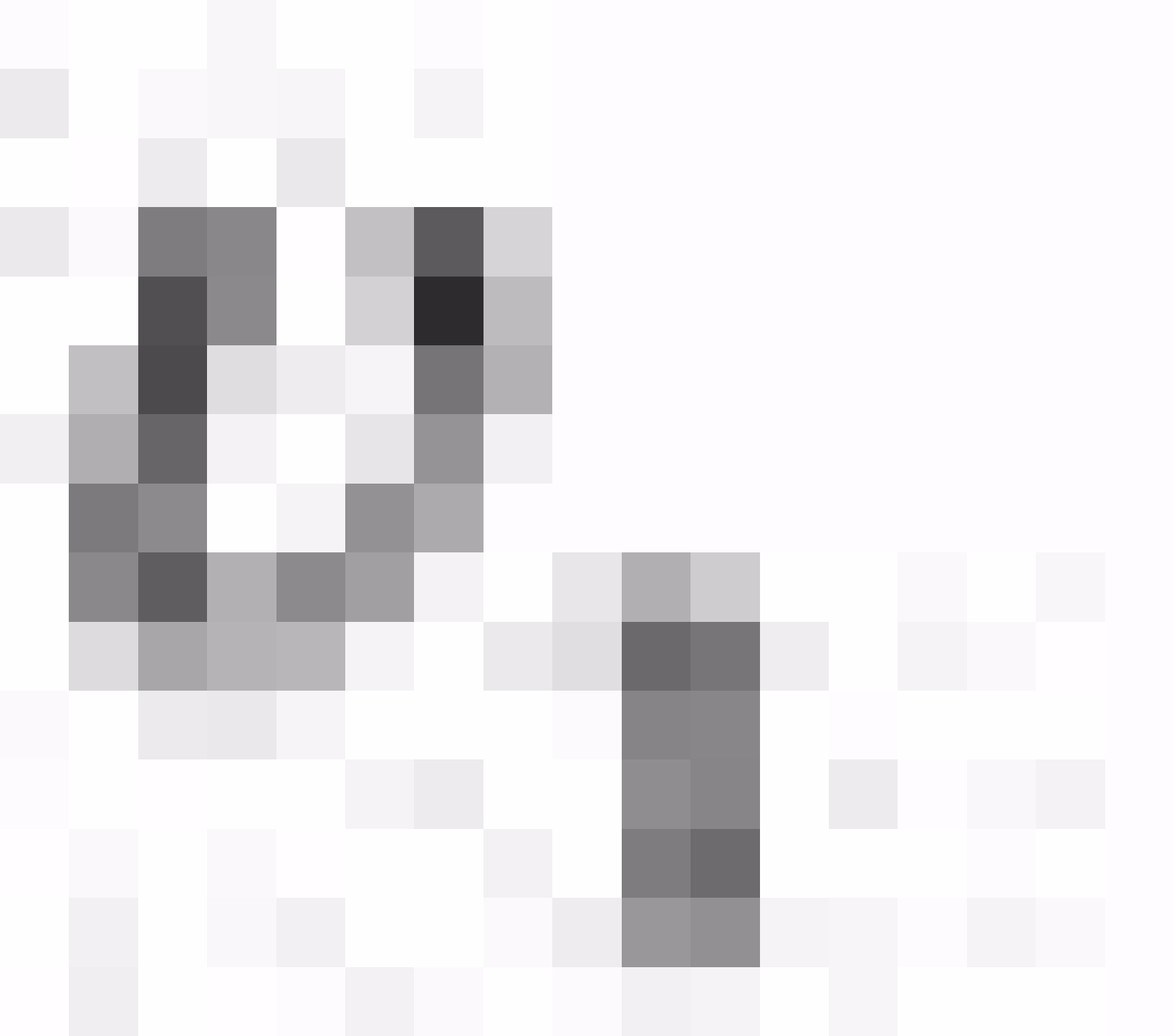
$$\frac{v_1 + v_2}{l + \frac{v_1 v_2}{c}}$$

$$(54.1)$$



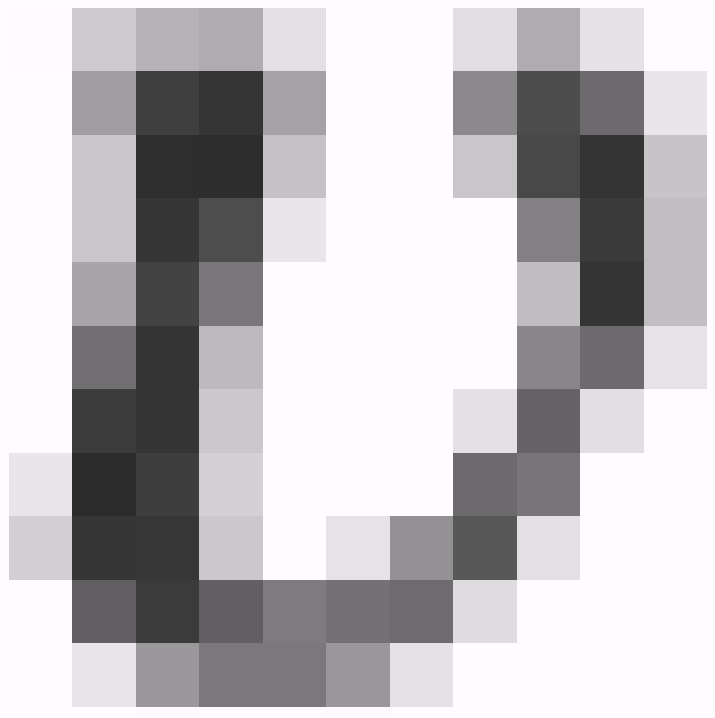
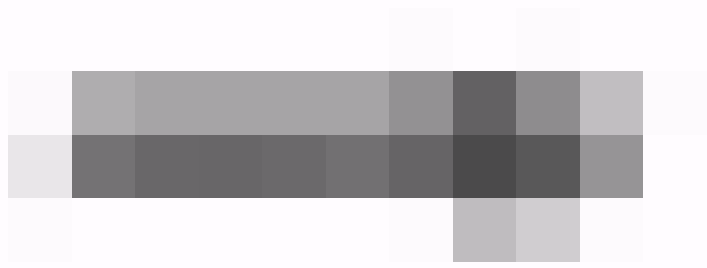


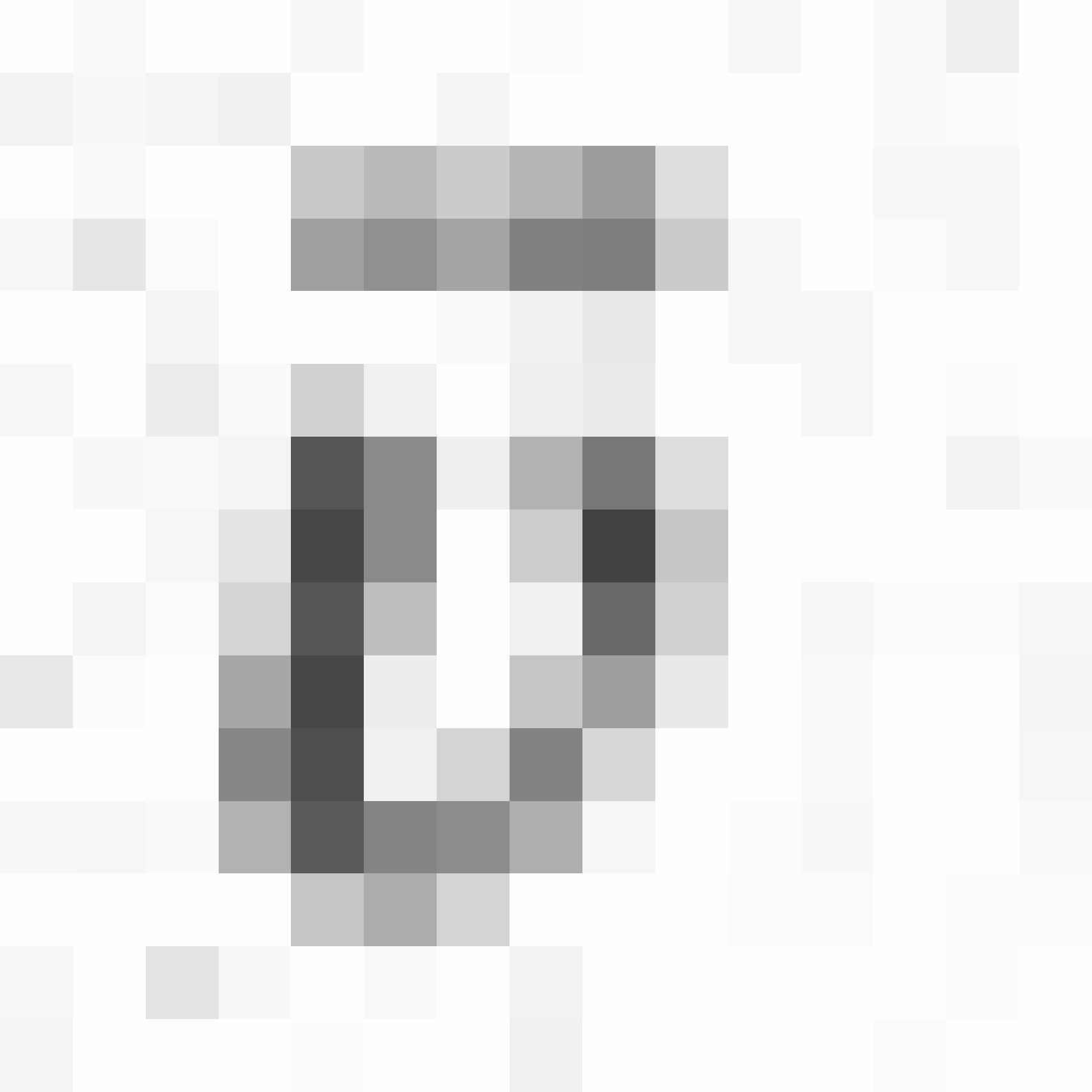




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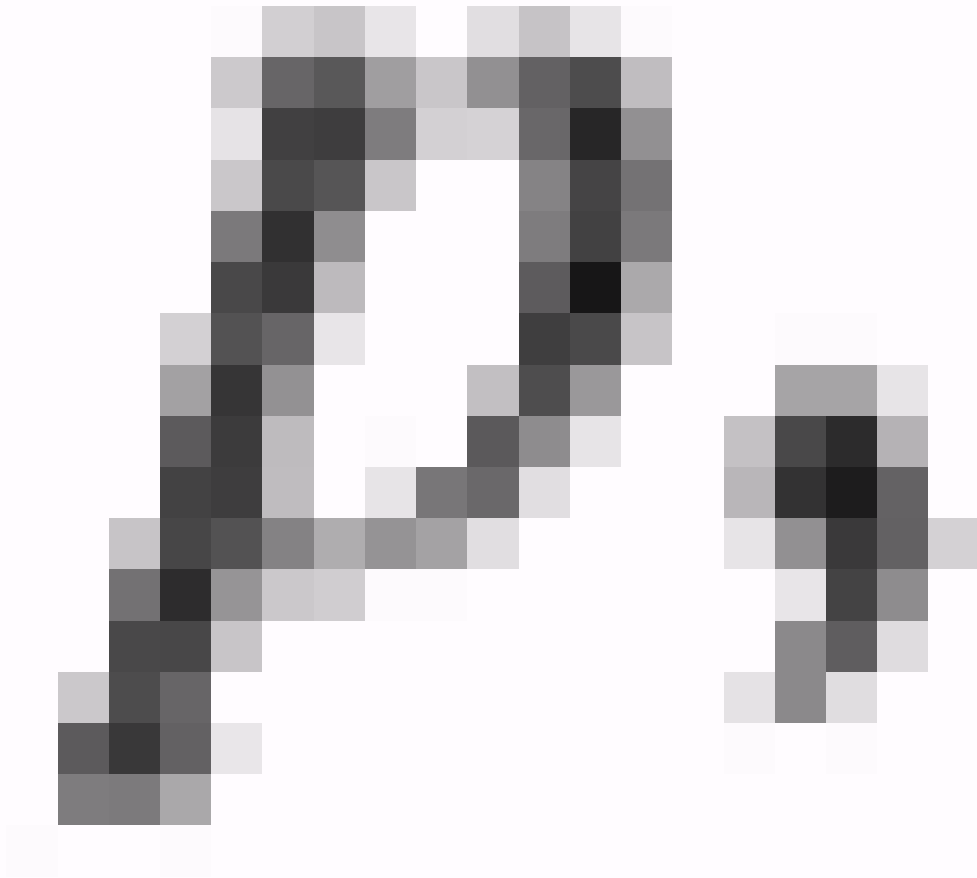




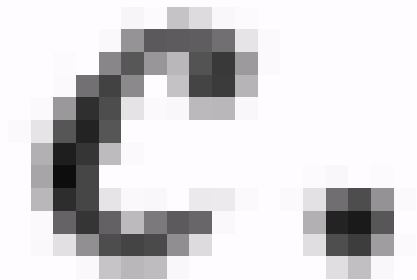
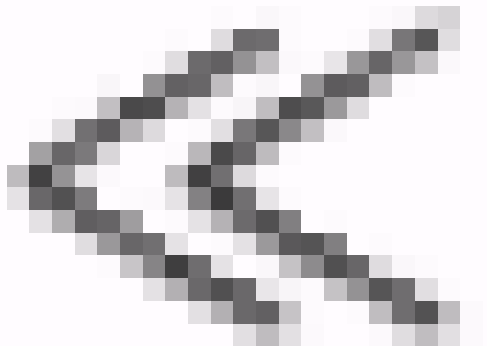
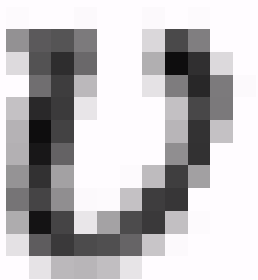
$$\vec{p} = \frac{m\vec{v}}{\sqrt{1 - \frac{v^2}{c^2}}} \quad (54.2).$$

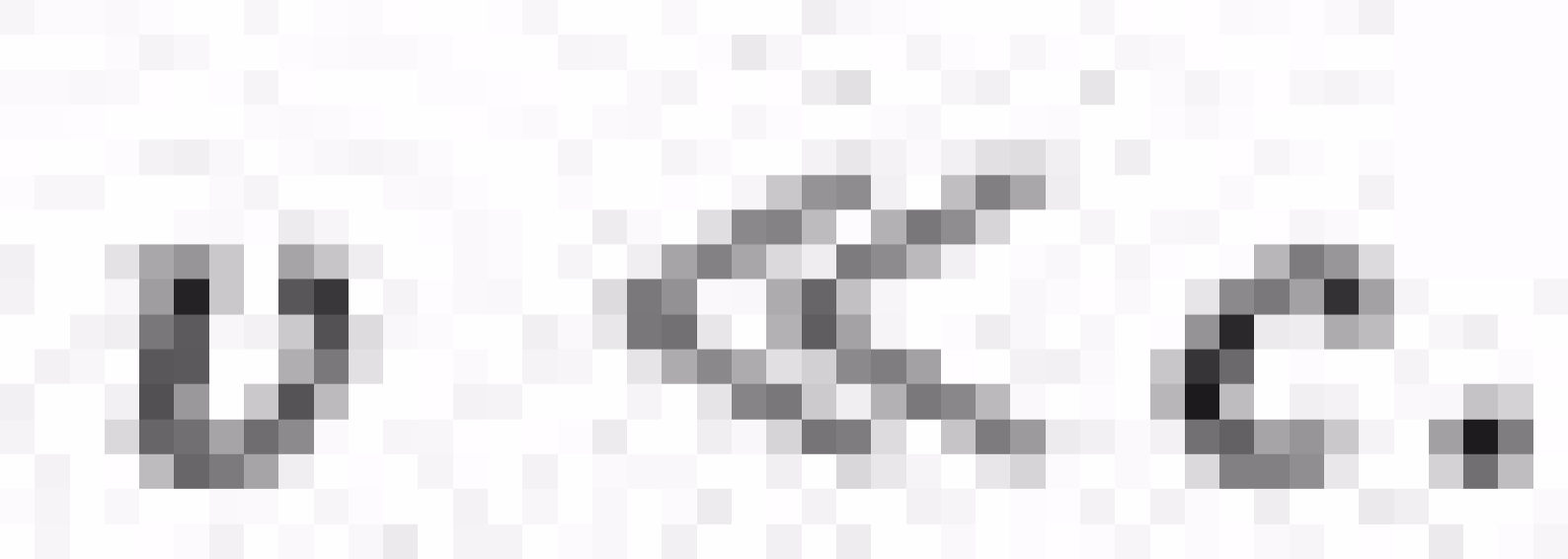
$$\vec{p} = \frac{m\vec{v}}{\sqrt{1 - \frac{v^2}{c^2}}}$$

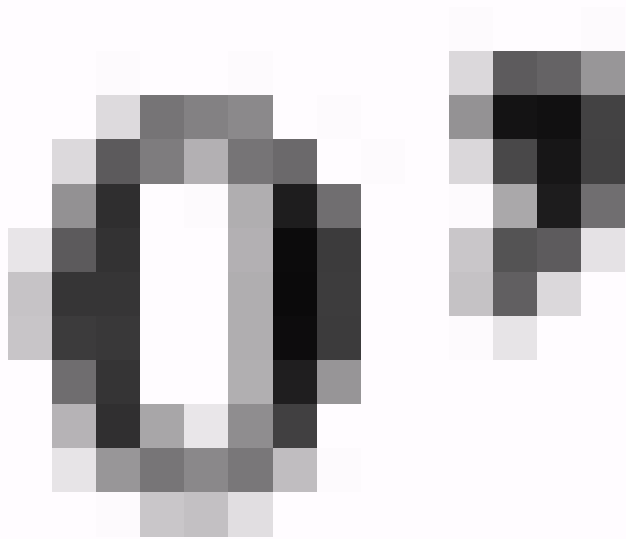
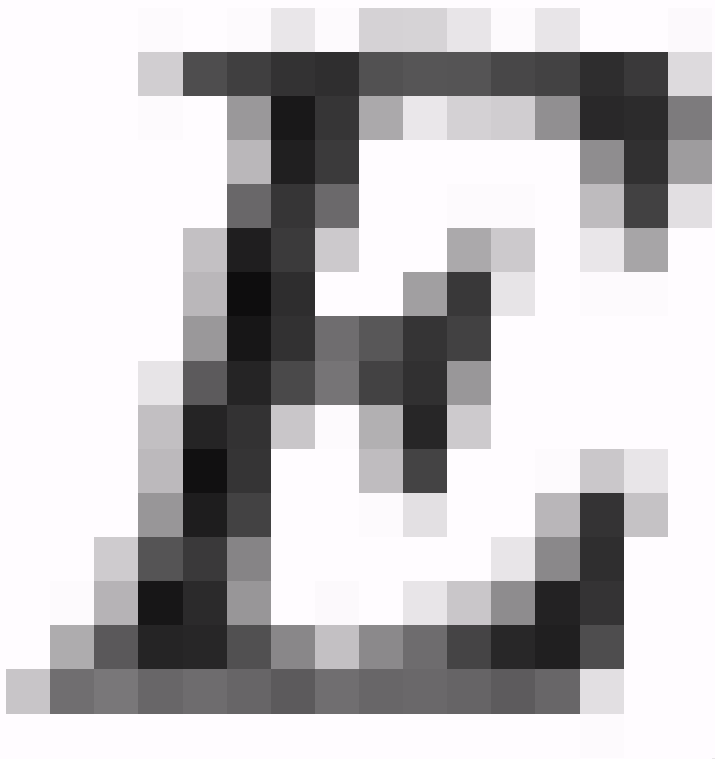
(54.21)

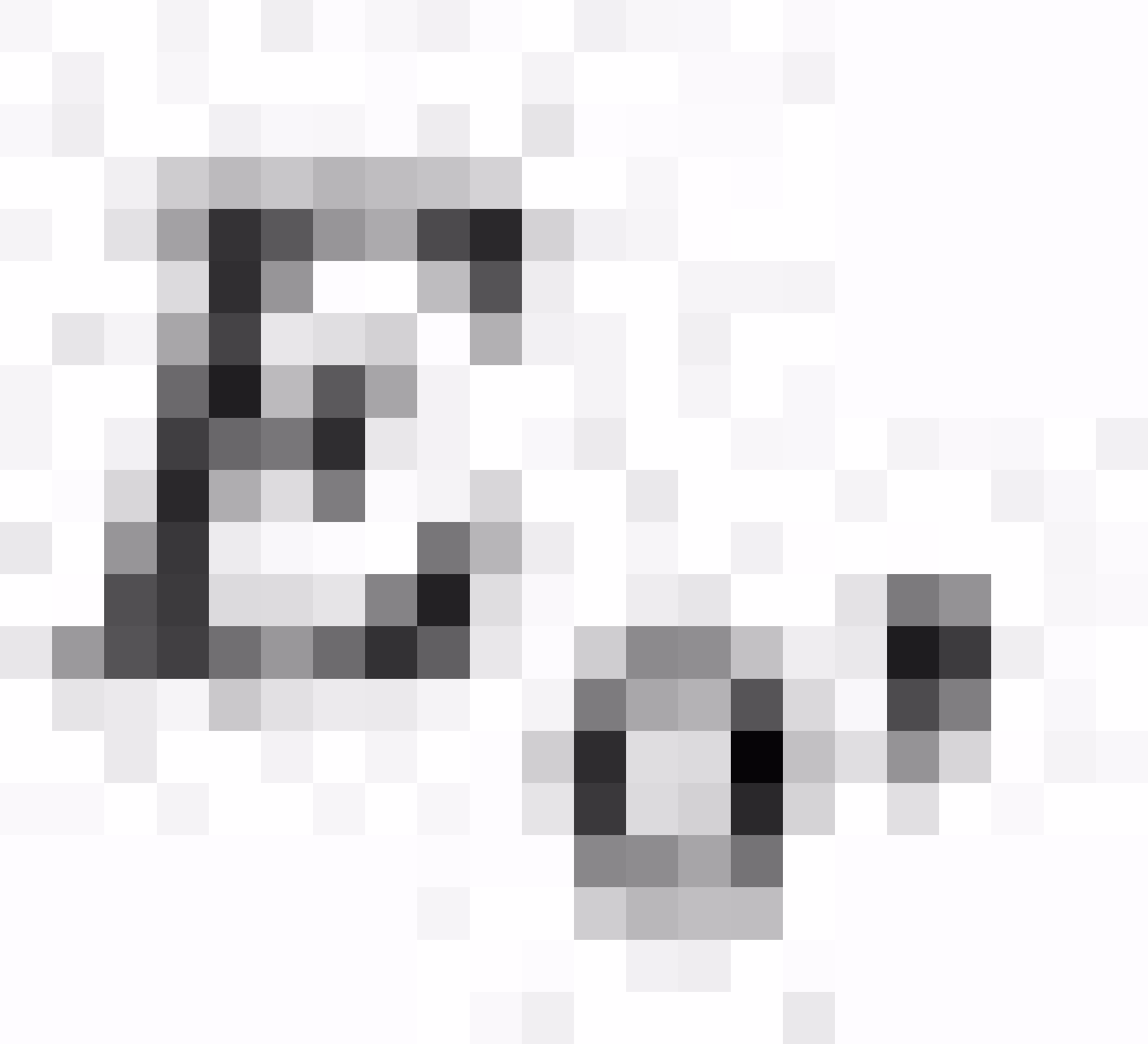












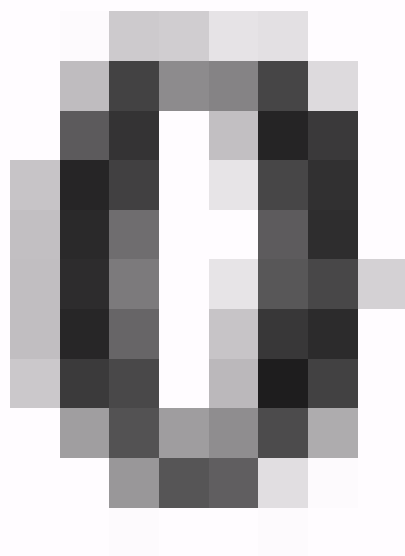
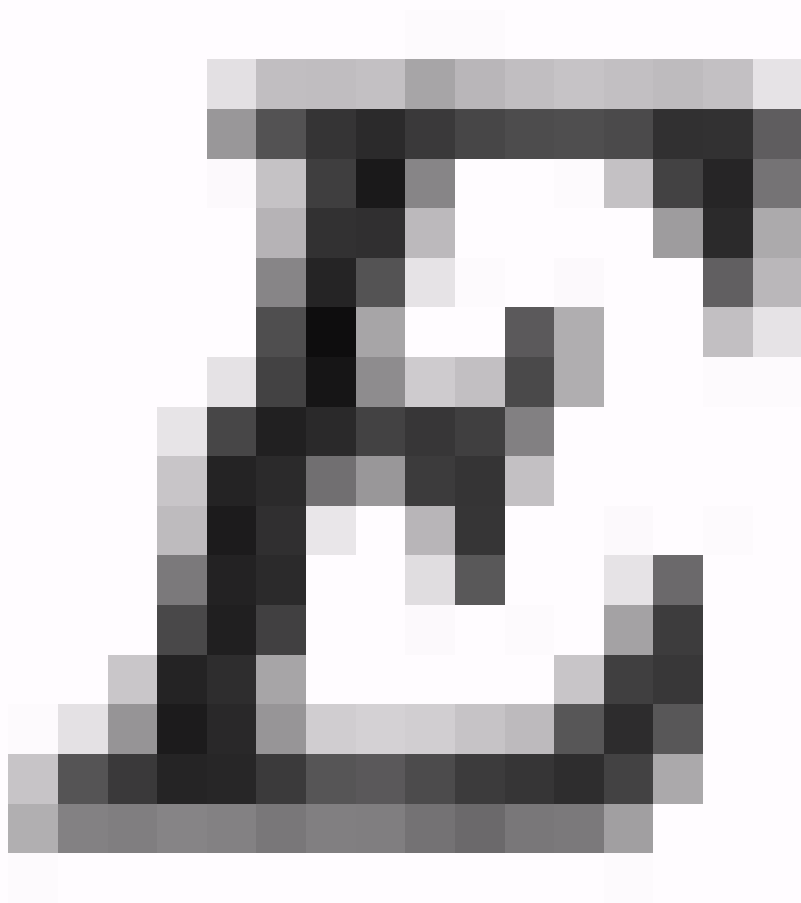
$$E_n = mc^2 (54.9)$$

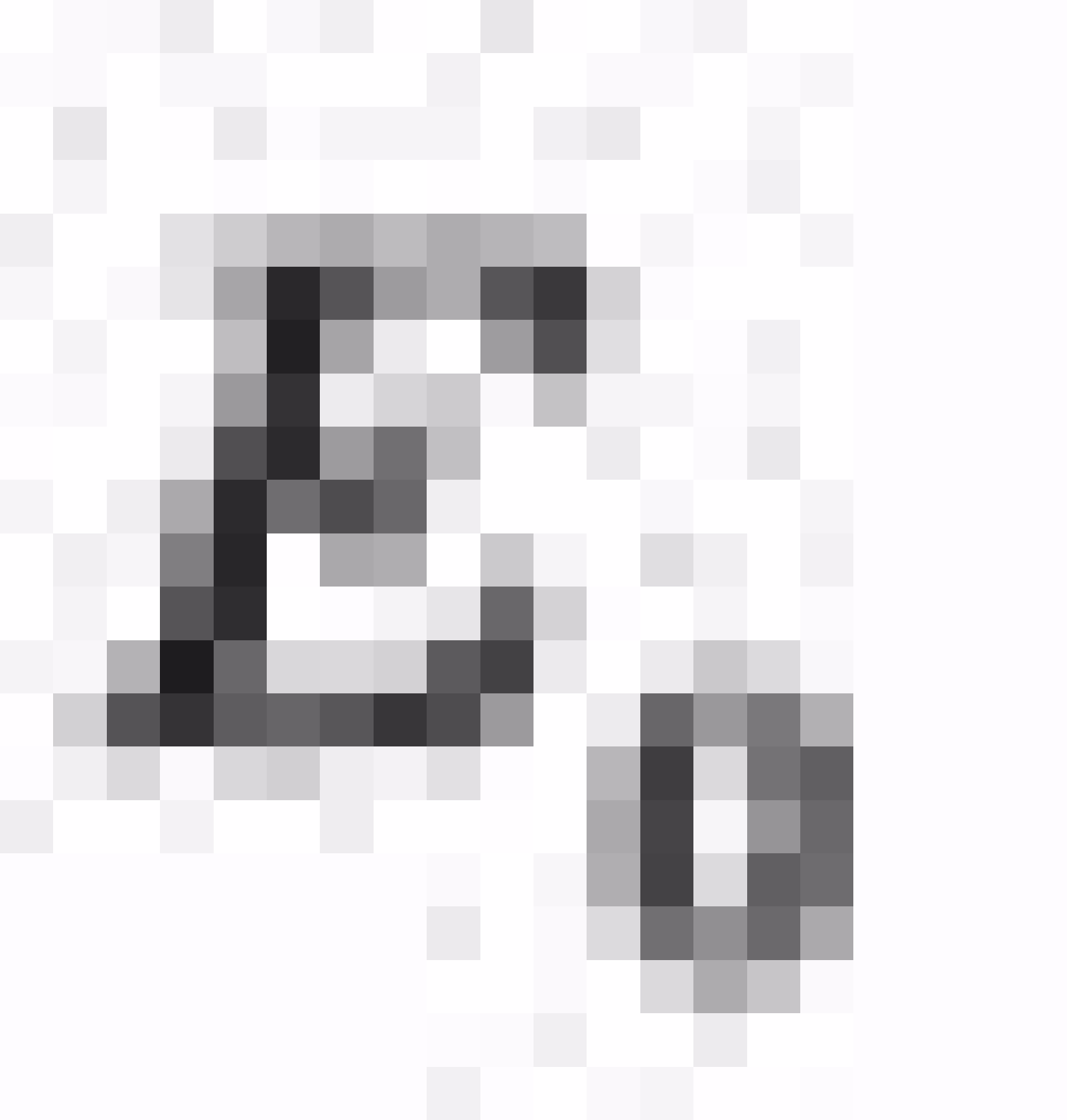


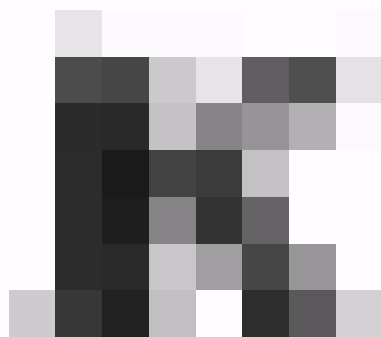
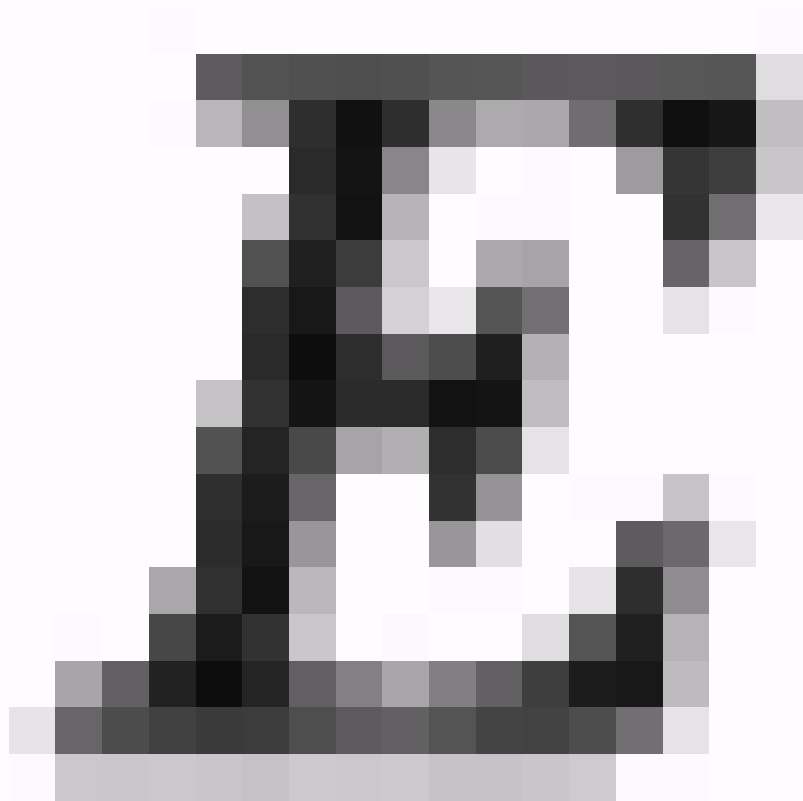
$$E = \frac{mc^2}{\sqrt{1 - \frac{v^2}{c^2}}} \quad (54.4).$$

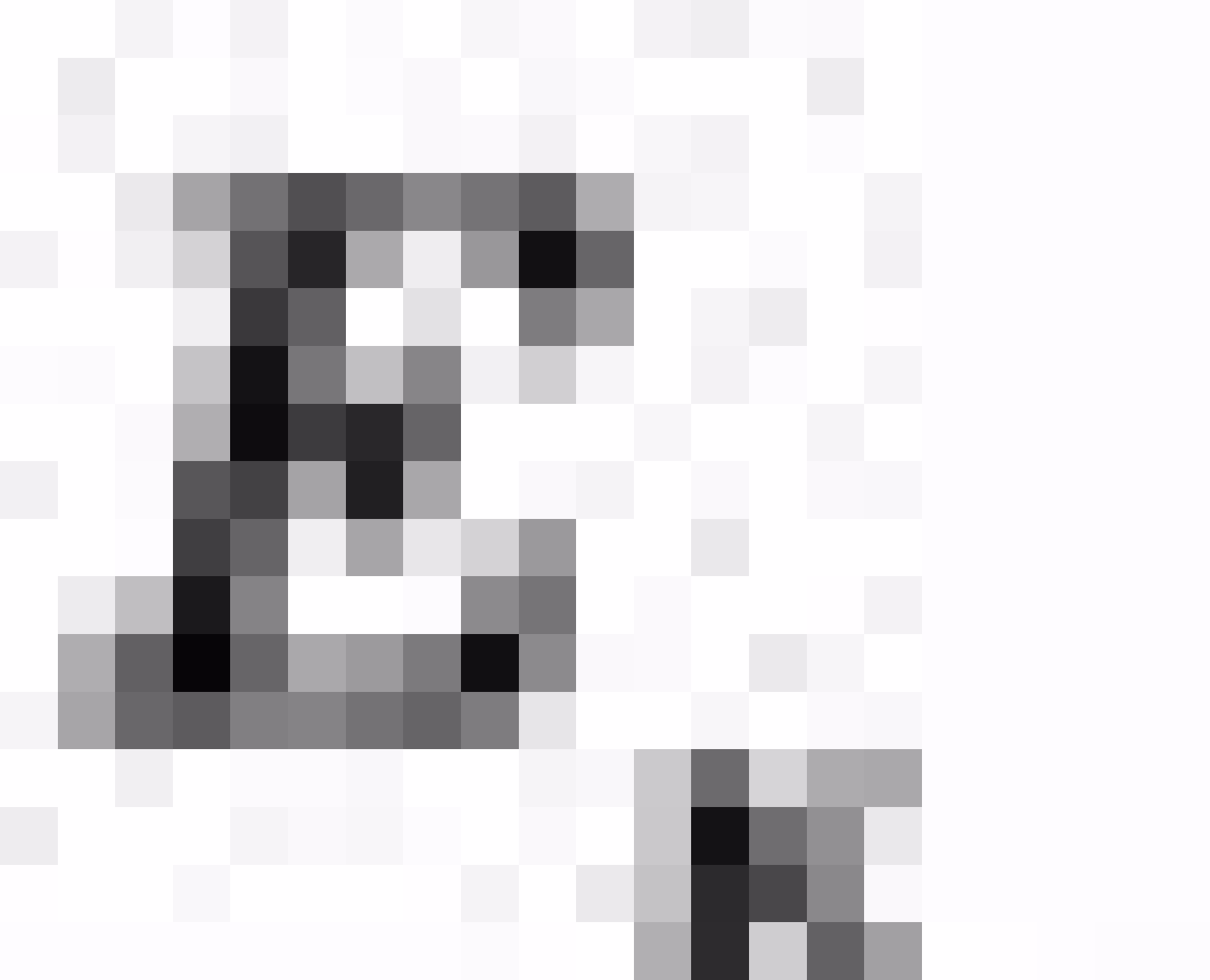
$$E = \frac{mc^2}{\sqrt{1 - \frac{v^2}{c^2}}}$$

(54.4).





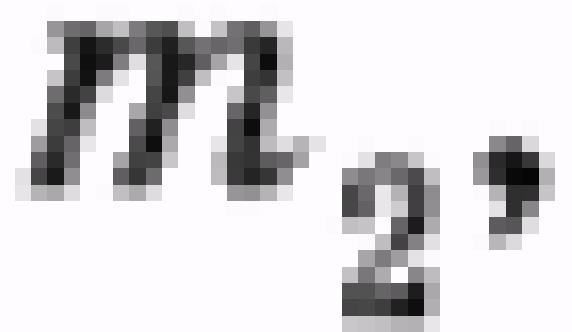
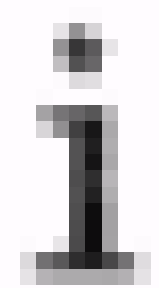
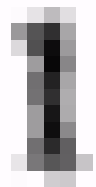
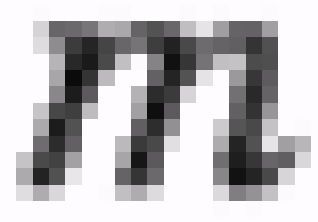




$E = E - E_0$

(54.5)





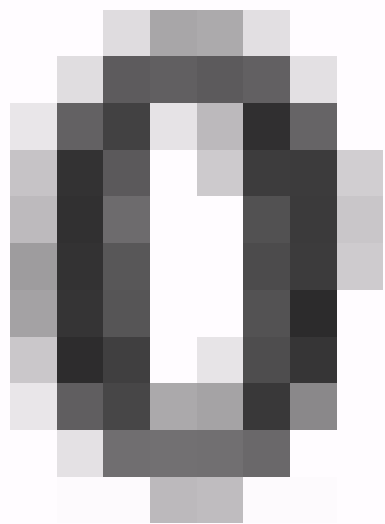
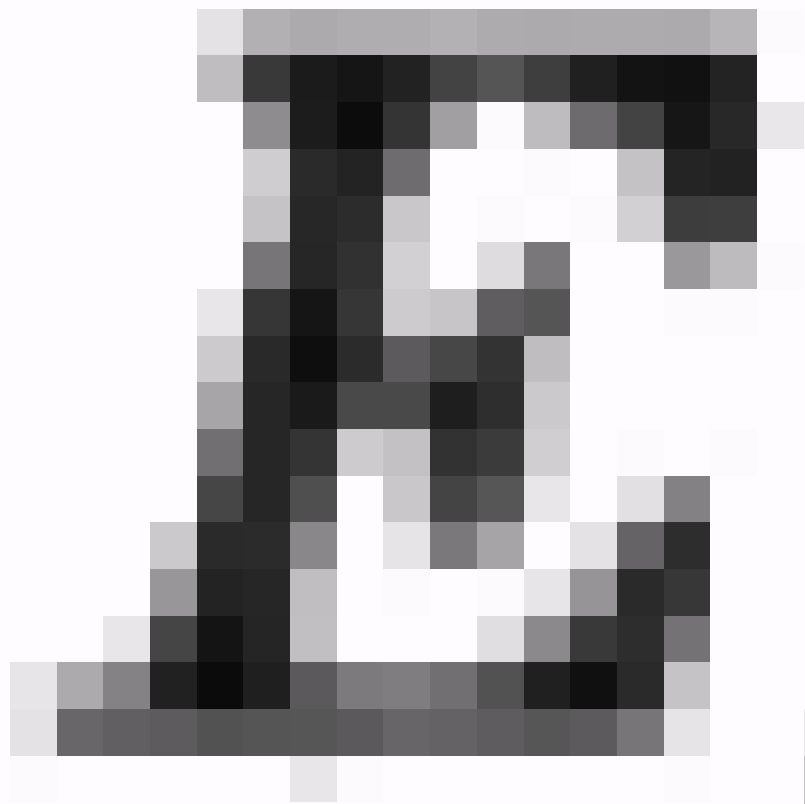


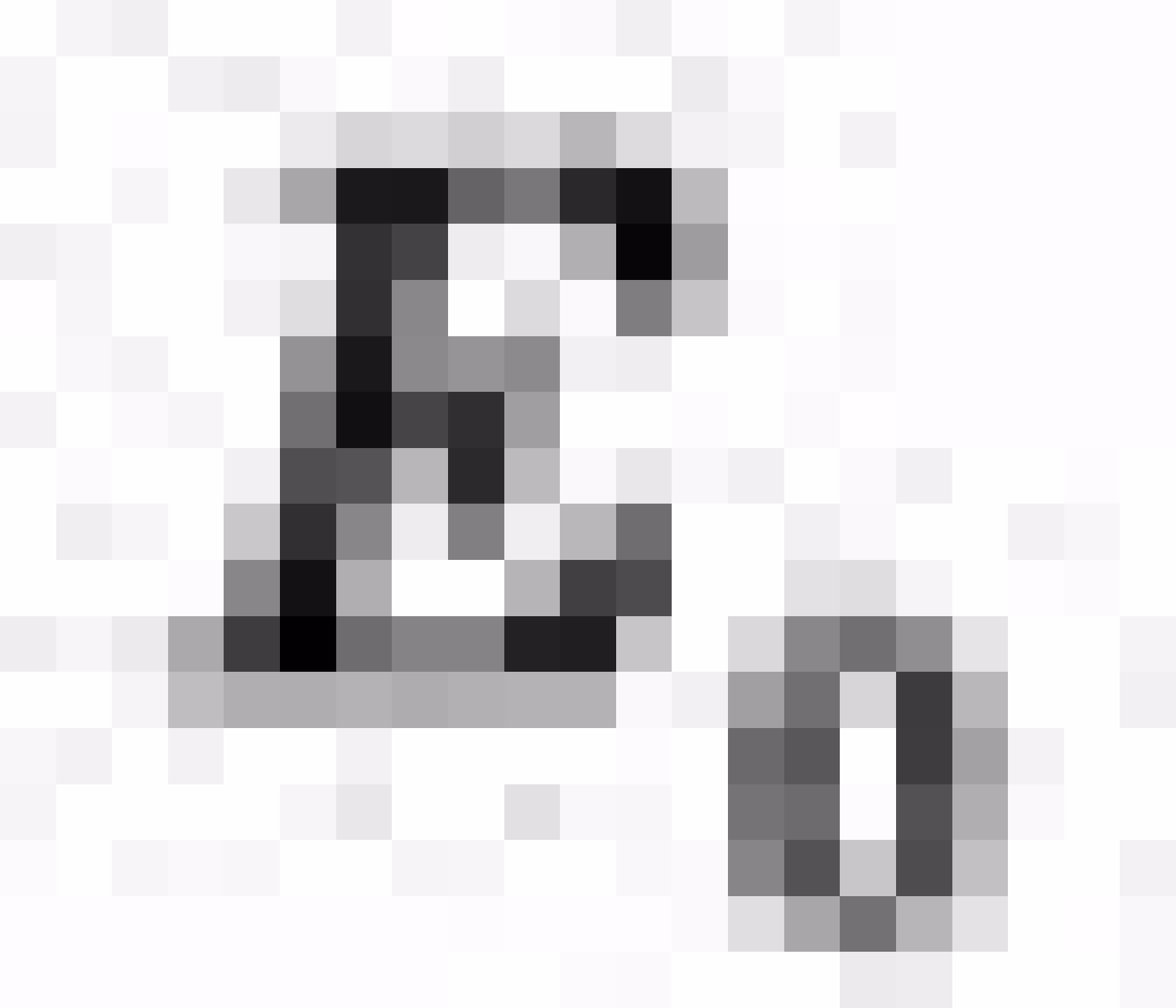
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$$E_0 = E_{0_1} + E_{0_2} + W \quad (54.6)$$

1917

1918

1919

1920

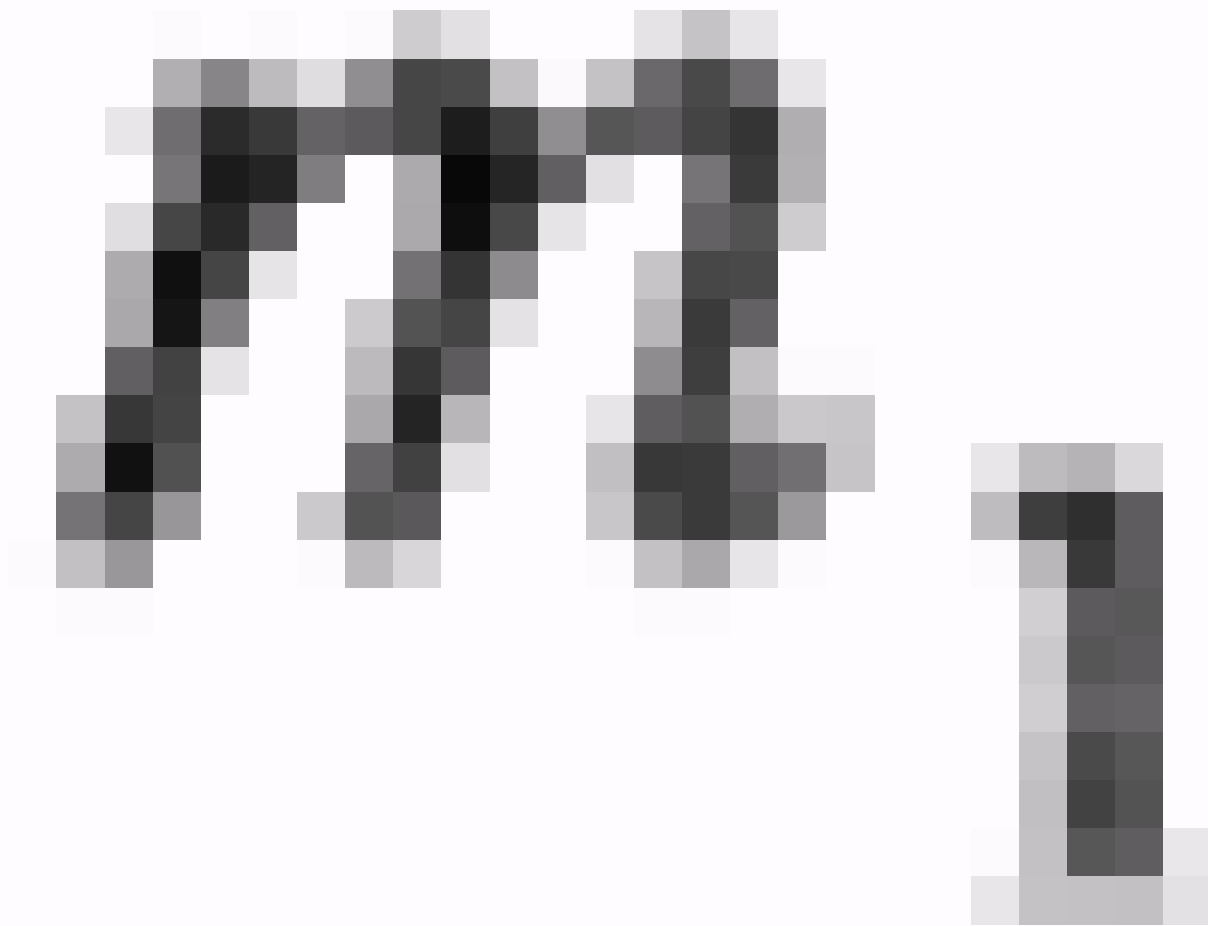
1921

$$\frac{E_0}{c^2} = \frac{E_{0_1}}{c^2} + \frac{E_{0_2}}{c^2} + \frac{W}{c^2} \quad (54.7),$$

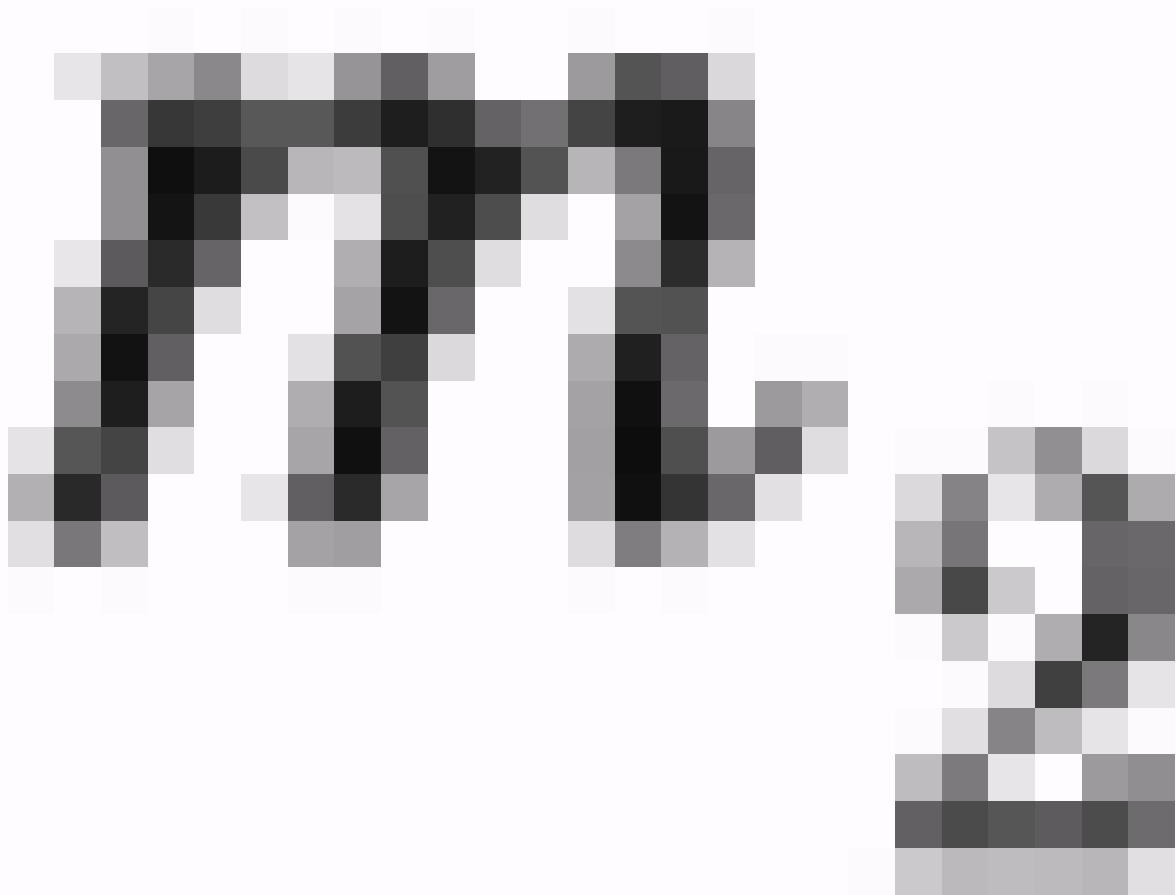
$$M = m_1 + m_2 + \frac{W}{c^2} \quad (54.8).$$

$$\frac{E_0}{c^2} = \frac{E_{01}}{c^2} + \frac{E_{02}}{c^2} + \frac{W}{c^2} \quad (54.7).$$

$$M = m_1 + m_2 + \frac{W}{c^2} \quad (54.8).$$

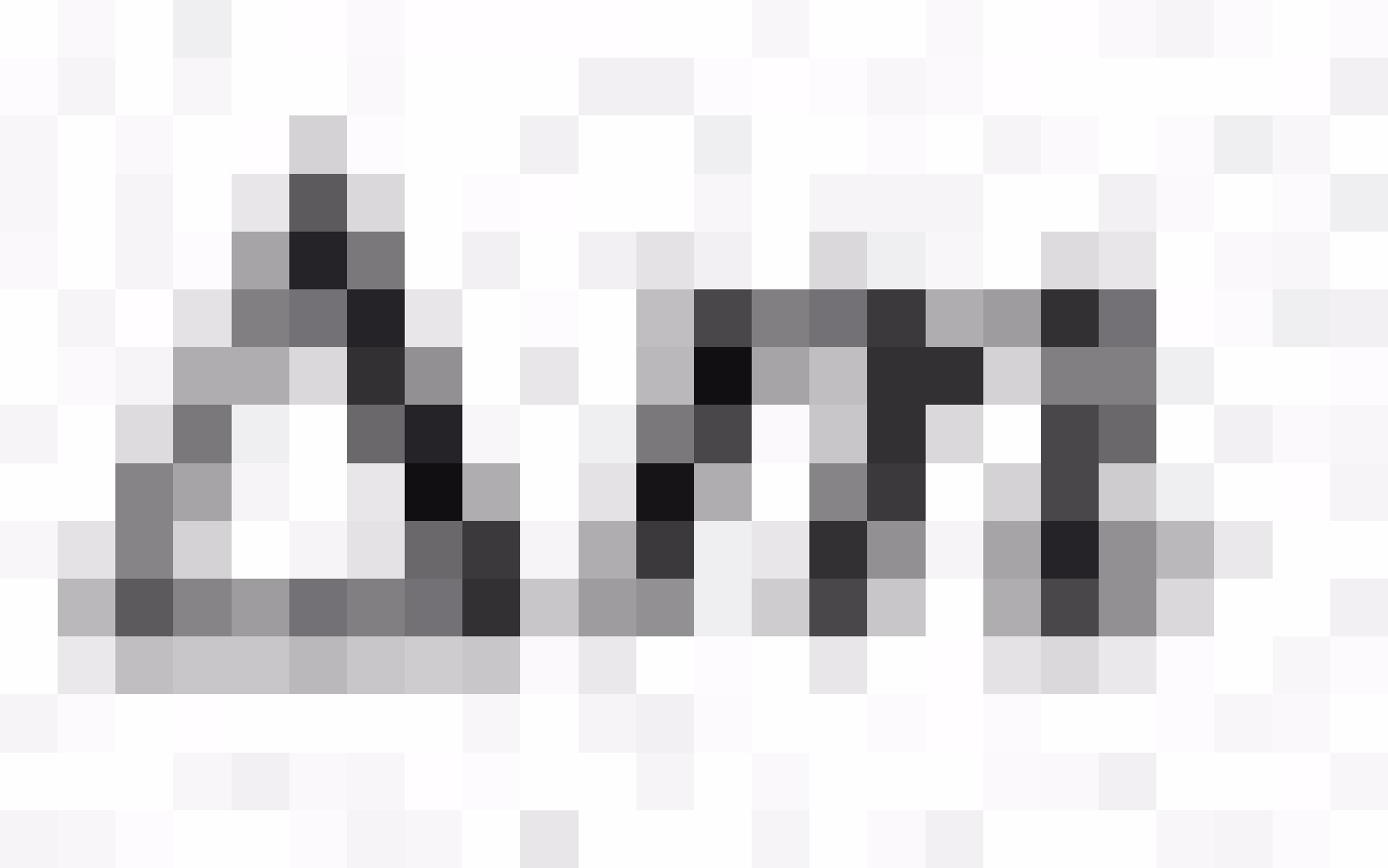






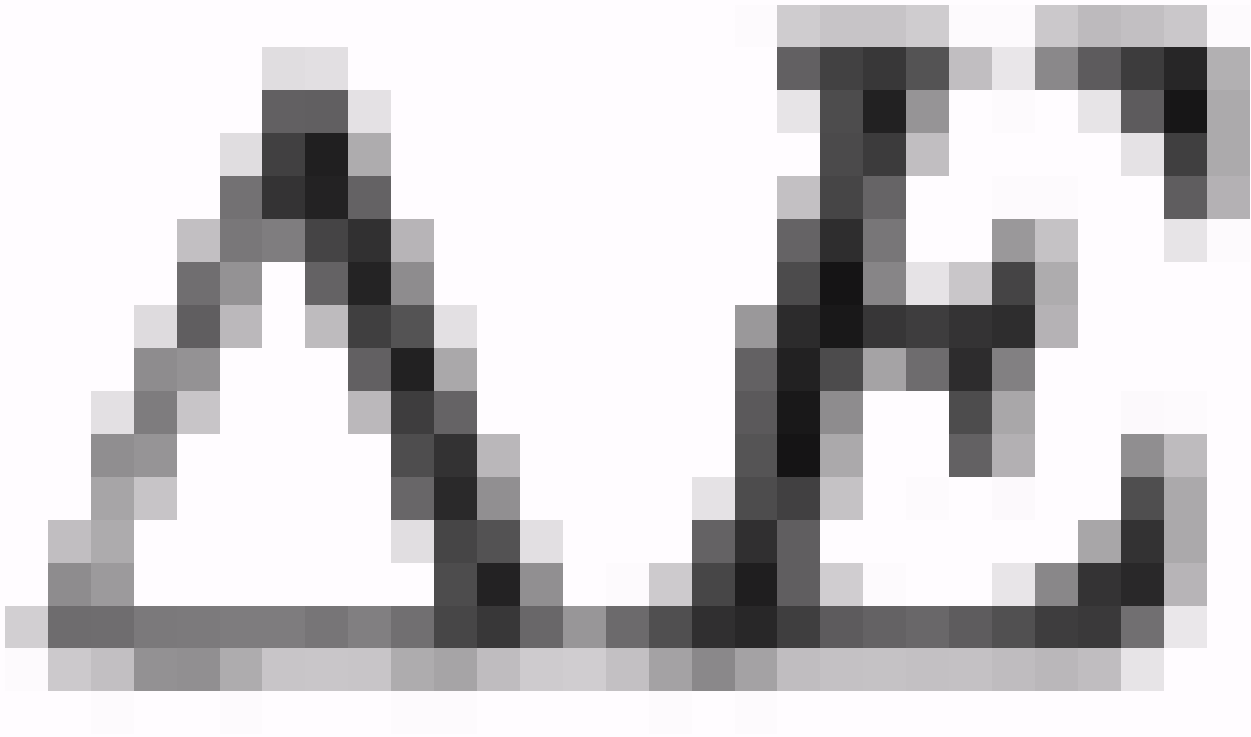




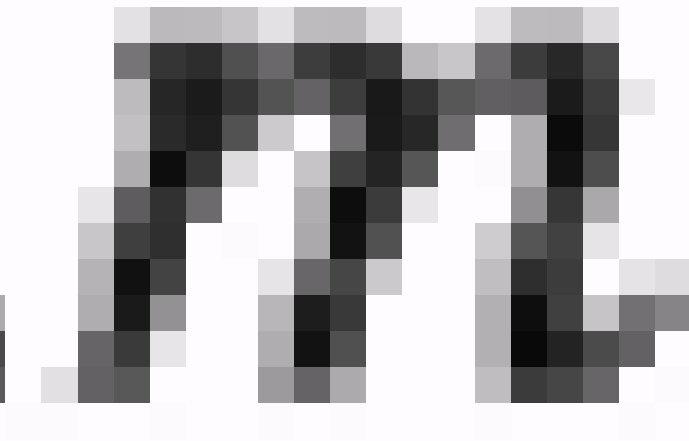
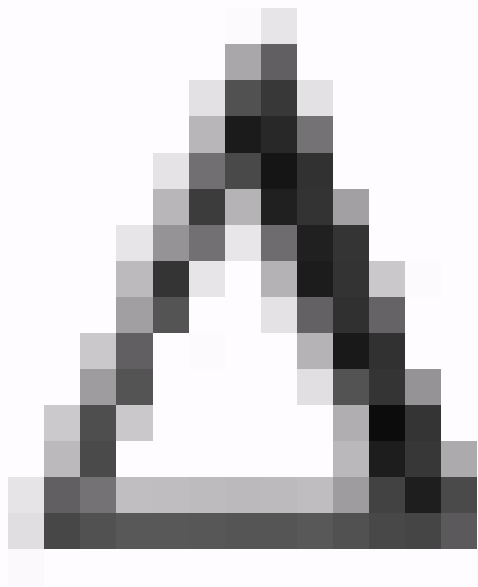


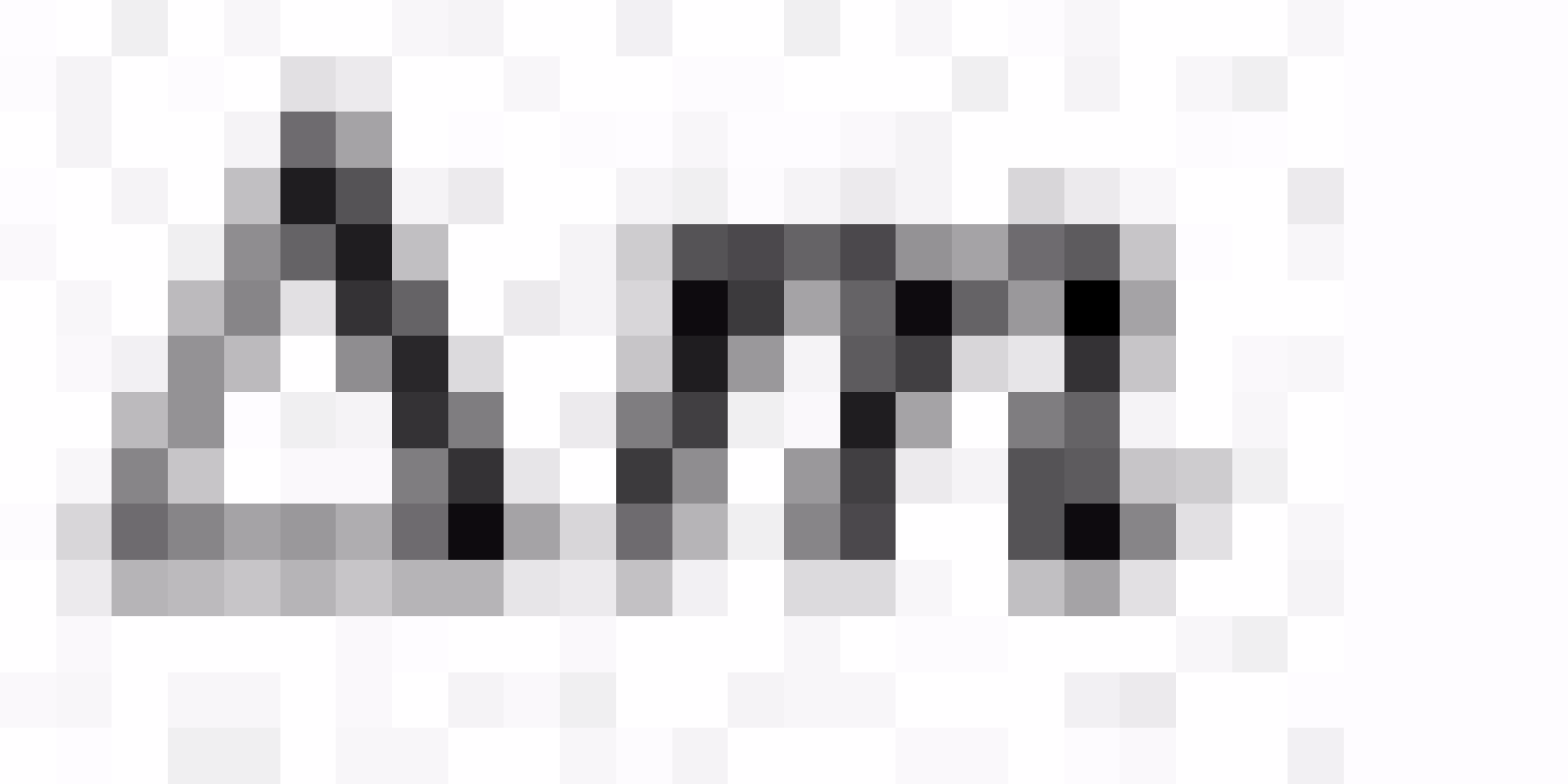
$$\Delta m = m_1 + m_2 - M = -\frac{W}{c^2} \quad (54.9).$$











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154.10

(54.10)

