1. Write the numbers, written in the binary system in decimal system:
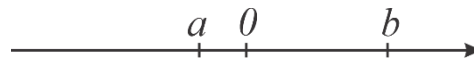
$$a.\ 1110011_2; \qquad b.\ 1110000_2, \qquad c.\ 11011_2$$

2. Write the numbers 167 and 99 in binary system.

3. There is a bag of sugar, a scale and a weight of 1 g. Is it possible to measure 1 kg of sugar in 10 weights?

4. Points a and b are marked on a coordinate line. Compare:

   a. $a + b$ ... 0;   b. $a - b$ ... 0;   c. ab ... 0;   d. $\dfrac{b}{a}$ 1

5. A teacher gave a very difficult problem for the test. Having checked all works, he discovered that the number of girls who solved the problem is equal to the number of boys who didn't. What is greater, the number of students who solved the problem or the number of boys?

6. Can you find out which numbers are multiplied?

$$
\begin{array}{r}
* \ * \\
\times\ * \ * \\
\hline
* \ * \\
+\ \ * \ 7 \\
\hline
* \ * \ * \ *
\end{array}
$$

7. Both sides of the rectangle are increased by 10%. By what percent did its area increase?

8. Without doing calculation prove that

   a. $\dfrac{1}{3} + \dfrac{1}{4} > \dfrac{1}{2}$;   b. $\dfrac{1}{5} + \dfrac{1}{6} + \dfrac{1}{7} + \dfrac{1}{8} > \dfrac{1}{2}$

9. Evaluate:

   a. $5 \cdot (-3)^3 + 7$ b. $-2 \cdot (-1.1)^2 + 15$ c. $10 - 7 \cdot (-2)^7$

   d. $-20 - 10 \cdot (-0.1)^2$;   e. $7 \cdot (-1)^3 - 4 \cdot (-1)^2 - 8$;   f. $-10 \cdot (-0.3)^2 - 5 \cdot (-0.3) + 1$;