

Math 4b. Homework 21.



1. Draw two different rectangles, so that the ratio of the bigger side to the smaller side is 3 to 2.
2. The ratio of the sides of the rectangle is 5 to 3. The length of the longer side is 15. What is the length of the shorter side?
3. To do her homework, Julia solved math problems, wrote an essay, and did a history project. It took her 2 hours and 15 minutes to finish all the assignments. The ratios of the times she spends doing math, writing the essay, and doing history project are 3:2:1. How much time did she spend for each of her subjects?
4. Usually, it takes Peter 1 hour and 20 minutes to drive to work. Yesterday, due to bad weather, Peter slowed down by 10 km/h and took him 1.5 hours to get to work. What is the distance between Peter's house and his work?
5. Evaluate:

$$a. \left(-\frac{1}{2}\right)^2 - \frac{1}{2}; \quad b. \frac{1}{3} - \left(-\frac{1}{3}\right)^2; \quad c. \left(-\frac{1}{3}\right)^3 - \frac{1}{9}; \quad d. \frac{1}{2} - \left(-\frac{1}{2}\right)^3$$

6. Evaluate:

$$\begin{array}{lll} a. 2.1^2 - 2.1; & b. 0.9 - 0.9^2; & c. 2 \cdot 0.8^2; \\ d. (2 \cdot 0.8)^2; & e. 2.5^2 - 0.5^2; & f. (2.5 - 0.5)^2; \\ g. (2.1 + 1.1)^2; & h. 2.1^2 + 1.1^2; & \end{array}$$

7. The number 64 can be represented in different ways as a power:

$$64 = 2^6 = 4^3 = 8^2$$

Write the following numbers in different ways as powers:

$$a. 16, \quad b. 81, \quad c. 256, \quad d. 625, \quad e. 729, \quad f. 1000000$$