

Math 4d. Homework 15.



1. Represent as a fraction:

Examples:

$$3^{-2} = \frac{1}{3^2} = \frac{1}{9}; \quad 2^{-3} = \frac{1}{2^3} = \frac{1}{8}$$

a. 4^{-2} ; b. 3^{-3} ; c. 2^{-5} ; d. 5^{-2}

2. What should be the exponent for the equation to hold?

a. $8^* = 512$; b. $2^* = 64$; c. $3^* = 81$; d. $7^* = 343$

3. Find x so that the expressions below are true.

a. $2^x \cdot 2^x = 64$

b. $3^x \cdot 9 = 81$

4. A boy had a bag of apples. He gave $\frac{1}{2}$ of them to his parents, $\frac{1}{5}$ to his brother, $\frac{1}{4}$ to his sister and the last apple he ate himself. How many apples did he originally have?

5. Three children - Linda, Richard and Bella - were fishing. Richard and Linda caught 11 fish, Bella and Richard 15, Linda and Bella 14. How many fish did all three catch together?

6. Come up with the problem about the distance between two objects, that can be solved by the formula, and solve it.

Example: $d = 500 - 2.5(70 + 30)$

Problem: Two cities are 500 miles apart. A bus and a car started moving toward each other. Speed of the car is 70 m/h, speed of the bus is 30 m/h. What would be the distance between them in 2.5 hours?

$$d = 500 - 2.5(70 + 30) = 500 - 2.5 \cdot 100 = 250 \text{ miles}$$

a. $d = 18 + (16 + 4) \cdot 3$

b. $d = 96 - 4 \cdot (56 - 40)$

c. $d = 4 + 2 \cdot (12 - 7)$

7. Evaluate (answer is 2.5):

$$\frac{21.75 - 18\frac{3}{8}}{1.8 : 0.4 \cdot 0.3}$$