

1. The ratio of roses and hibiscuses in the garden is 9:11. What is the total number of flower bushes in the garden, if there are 99 rose bushes?
2. Robert has 2 dogs; one weighs 25 kg and another is 35 kg. He bought a bag of dog food and wants to divide the food between dogs with the same ratio as their weights. How many kilograms of dog food each dog will get if the weight of the whole bag of food is 15 kg.
3. In how many different ways the first three places can be awarded, if 15 people participated in the competition? (Order is important).
4. How many different ways are there to create a team of 3 students out of 15 students of math class to take a participation in the math Olympiad.
5. You have 4-digit lock and you forgot your code. You can check 5 possible combinations a minute. How long it will take you to open your locker (assume that the last combination is the wright one)?
6. Check the following equalities:

Example:

$$\left(\frac{2}{5}\right)^{-2} = \frac{1}{\left(\frac{2}{5}\right)^2} = \frac{1}{\frac{2^2}{5^2}} = 1 \cdot \frac{5^2}{2^2} = \left(\frac{5}{2}\right)^2$$

a. $\left(\frac{2}{3}\right)^{-2} = \left(\frac{3}{2}\right)^2$;

b. $\left(\frac{1}{2}\right)^{-3} = \left(\frac{2}{1}\right)^3$;

c. $\left(\frac{7}{8}\right)^{-5} = \left(\frac{8}{7}\right)^5$

7. Draw the picture by coordinates, you don't need to color it, but you can, if you want to!

8. Evaluate (answer is $\frac{6}{11}$):

$$\left(2\frac{3}{16} : 1\frac{3}{4} + \left(10\frac{1}{3} - 4\frac{5}{6}\right) : 2\frac{1}{5}\right) : 6\frac{7}{8}$$

