

### Review of equations:

Equation is an equality with one or more variables.

$$2 + 4x = 10$$

$$y^2 = 9$$

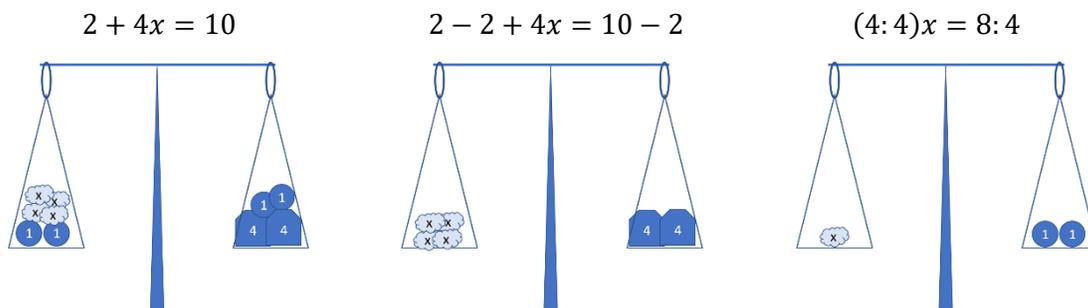
$$x + y + z = 100$$

$$|x| = 10$$

$$z \cdot y = 1$$

$$|x| = -10$$

We can add and subtract the same quantity to (or from) both sides of an equation, the balance will be in place. Also, we can multiply and divide both side by the same amount, keeping the balance.



$$\begin{aligned} 2 + 4x &= 10 \\ 4x &= 10 - 2 = 8 \\ x &= 8 : 4 = 2 \end{aligned}$$

$$\begin{aligned} 3x + 4 &= 13 \\ 3x &= 13 - 4 = 9 \\ x &= 9 : 3 = 3 \end{aligned}$$

$$|x| + 5 = 10$$

- There are 27 pencils in two boxes altogether. There are 5 more pencils in one box than in the other. How many pencils are there in each box?
- There are candies in box. If each kid will take 4 candies, 19 candies will be left in the box. If each kid will take 5 candies, there will be 2 candies short. How many candies are there in the box?
- There were 624 books in two boxes altogether. When  $\frac{1}{3}$  of the books from one box and  $\frac{3}{7}$  of the books from another box were sold to the customers, the number of books in each box became equal. How many books there were in each box at the beginning?
- On the lawn grew 35 yellow and white dandelions. After eight whites flew away, and two yellows turned white, there were twice as many yellow dandelions as white ones. How many whites and how many yellow dandelions grew on the lawn at the beginning?

### **DISTANCE- SPEED- TIME**

A man travels at 3 mph in still water. If the current's velocity is 1 mph, it takes 3 hours to row to a place and come back. How far is the place?

If a person walks at 4 mph, he covers a certain distance. If he walks at 9 mph, he covers 7.5 miles more. How much distance did he cover?