

## More versus times more

1 In your notebook solve the equations.

$$351 + x = 625$$

$$x = \underline{\hspace{2cm}}$$

$$y - 119 = 333$$

$$y = \underline{\hspace{2cm}}$$

$$z + 124 = 172$$

$$z = \underline{\hspace{2cm}}$$

2 Open up the parentheses:

$$(s + 3) + (4 + a) =$$

$$(n + b - d) + 14 =$$

$$(d + 8) + (7 - a) =$$

$$(f + 4) - (g + 64) =$$

$$(20 - t) - (w + v) =$$

$$(20 - z) - (7 - a) =$$

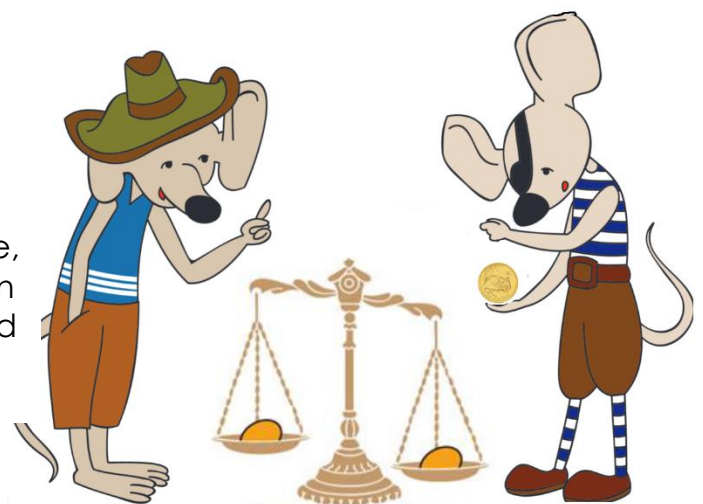
3 Mouse brothers found some buried treasure of ancient mouse civilization. There were many gold mouse coins. They all look exactly the same but some of them are fake. Jack the Mouse knows how to make out the real coins and wants to show his brother the trick.

Here we have three coins. One of them is fake and it is lighter than the real one. How many weighings do we need to find the fake one?

\_\_\_\_\_

Here we have three coins. One of them is fake, but we don't know if it is lighter or heavier than the real one. How many weighings do we need to find out which one is fake, and whether it is heavier or lighter?

\_\_\_\_\_



One of the nine identically looking coins is fake. It is known that the fake coin is heavier than the other eight. How can you determine, in two weighings on a balance scale, which coin is fake?

\_\_\_\_\_

4 Write all possible equalities below.

$3 \times 4 = 12$

$9 \times 4 = 36$

$\square \times \square = \square$

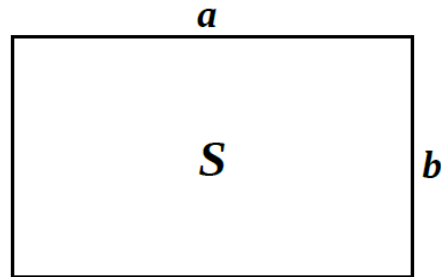
$\square \times \square = \square$

$\square : \square = \square$

$\square : \square = \square$

$\square : \square = \square$

$\square : \square = \square$



$a \times b = S$

$\square \times \square = \square$

$S : \square = \square$

$\square : \square = \square$

The area of a rectangle equals the product of its sides:

$S = a \times b$

To find the unknown length of side of a rectangle, divide its area by the known side:

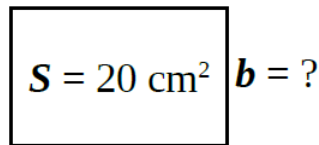
$a = S : b$

$b = S : a$

**Example:**

A rectangle is 5 cm long. How wide is the rectangle if its area is 20 cm<sup>2</sup>?

$a = 5 \text{ cm}$



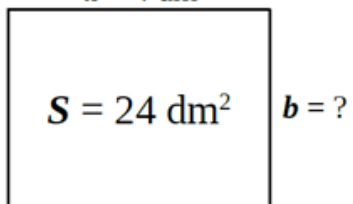
**Solution:**

$b = 20 \text{ cm}^2 : 5 \text{ cm}$

$b = 4 \text{ cm}$

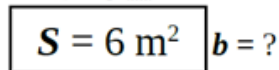
5 Find the unknown sides of the rectangles.

$a = 4 \text{ dm}$



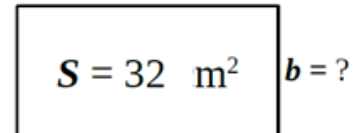
$b = \square \square \square \square \square \square \square \square$

$a = 3 \text{ m}$



$b = \square \square \square \square \square \square \square \square$

$a = 8 \text{ m}$



$b = \square \square \square \square \square \square \square \square$

6 The area of a rectangle is 14 cm<sup>2</sup> and its length is 7 cm.

What is the width of the rectangle? \_\_\_\_\_

What is the perimeter of the rectangle? \_\_\_\_\_

|       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| $b =$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $P =$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

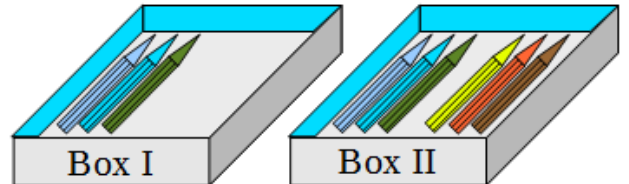
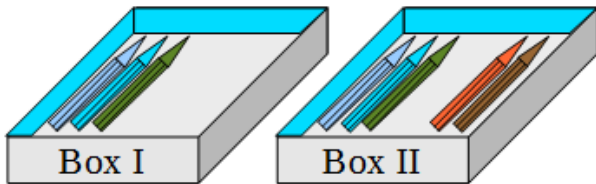


## More versus times more

7 Compare the two problems.

**i)** There are 3 pencils in the first box. In the second box, there are **two more** pencils than in the first box. How many pencils are in the second box?

**ii)** There are 3 pencils in the first box. In the second box, there are **two times more** pencils than in the first box. How many pencils are in the second box?



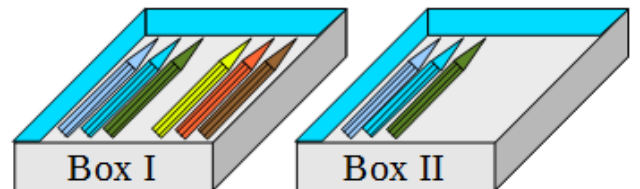
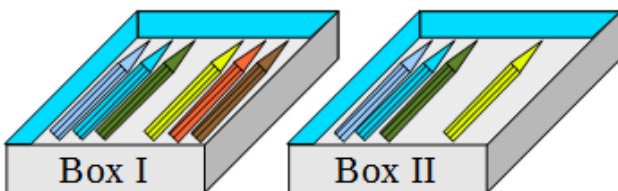
What makes them similar?

What makes them different?

Compare the two problems.

**iii)** There are 6 pencils in the first box. In the second box, there are **two pencils less** than in the first box. How many pencils are in the second box?

**iv)** There are 6 pencils in the first box. In the second box, there are **two times less pencils** than in the first box. How many pencils are in the second box?



Solve two problems below:

Foxy Tail has 5 golden mouse coins; Little Joe has 3 mouse coins more than Foxy Tail. How many mouse coins do they have together?

Foxy Tail has 5 golden coins; Little Joe has 3 times more coins than Foxy Tail. How many coins do they have together?

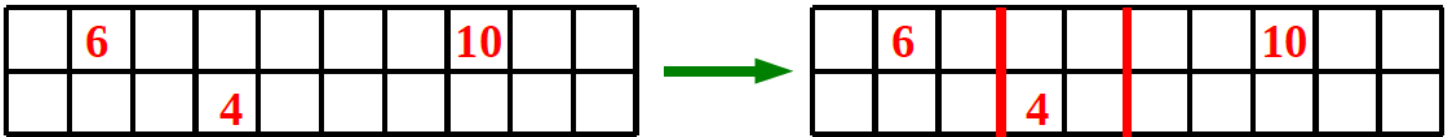
8

Once a year our mice are waiting for a very important guest: The Grand-Grand Mother. They know The Grand-Grand Mother likes when all floor in the mouse hole is covered with nice beautiful rugs. Rugs are different in size, but The Grand-Grand-Ma requested that:

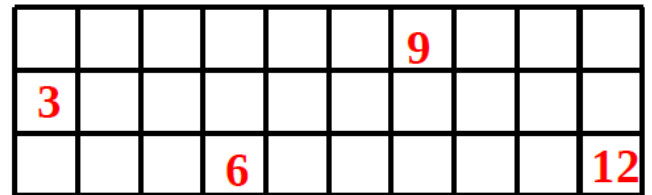
- 1) all rugs should be rectangular,
- 2) they cannot overlap with each other, and
- 3) all floor surface should be covered with the rugs.

After her visit mice took rugs out and keep them in the dry cold place, where they are waiting for the next Grand-Grand-Ma's visit. Each year it takes a lot of time to cover the floor with the rugs, so last year LJ came up with the idea – to write the size (area) of each rug on the floor. So next year it will be easier to put them back again. But when mice started to prepare for Grand-Grand-Ma next visit, they have realized that it is not as easy to put rugs back on their original places. Foxy Tail and Little Joe have been responsible for rugs this year.

Their job was easy in the first narrow corridor:



and not too hard in the second one:



But when they started to put rugs in the bedrooms, this task appeared to be more complicated....

Do you remember the rules?

Can you help Little Joe and Foxy Tail in this room?

And in those two rooms?

