

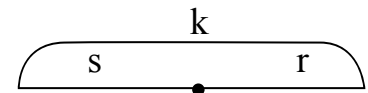
Lesson 1

Addition and Subtraction: The Whole and Its Parts

1 Complete all four possible equalities with each pair of numbers:

$28 + 14 = \square$
 $14 + 28 = \square$
 $42 - 14 = \square$
 $42 - \square = \square$

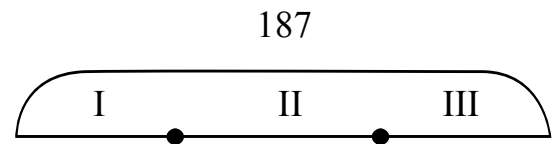
$11 + \square = 40$
 $\square + \square = \square$
 $\square - \square = \square$
 $\square - \square = \square$



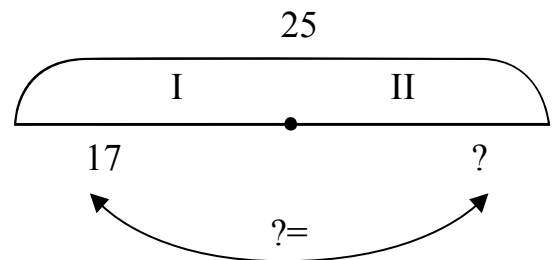
$k = \square + \square$
 $k = \square + \square$
 $s = \square - \square$
 $r = \square - \square$

2 Solve the problems by filling in the diagrams:

- a) A book store has sold 187 books in 3 days. On the first day it sold 25 books. On the second day it sold 20 more books than on the first day. How many books did it sell on the third day?

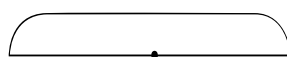


- b) There are 25 books on two shelves. On the first shelf there are 17 books. How many more books are on the first shelf than on the second?

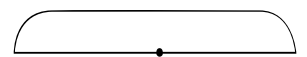


3 Complete the diagrams to solve the equations

$x + 5 = 25$



$x - 5 = 25$



Operations, Expressions, and Programs

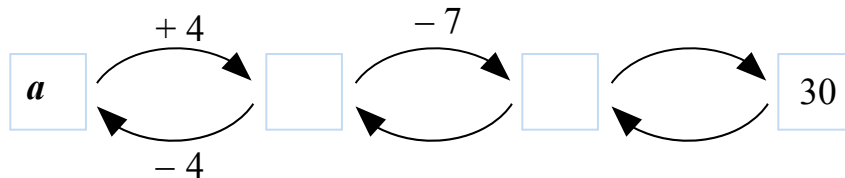
4 Write the expressions to solve the following problems:



- a) A factory makes m buses a day. Another factory makes k buses a day. How many buses do both factories produce every day?
- b) A factory makes x buses a day. Another factory makes y buses more every day than the first one. How many buses do both factories produce every day?
- c) Together, two factories make q buses a day. One of them makes r buses a day. How many buses does the other factory make, per day?

5 Complete the diagram and solve the riddle:

I thought of a number, then I added 4 to this number. Next I subtracted 7 from the result. Finally, I added 25 and obtained 30 as a result. Which number did I think of?

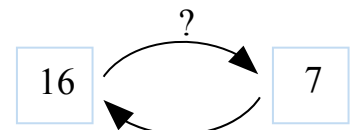
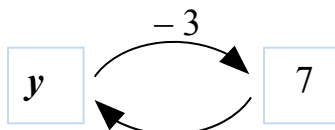
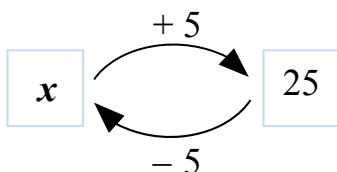


6 Solve the equations with help of the diagrams below:

$$x + 5 = 25$$

$$y - 3 = 7$$

$$16 - q = 7$$

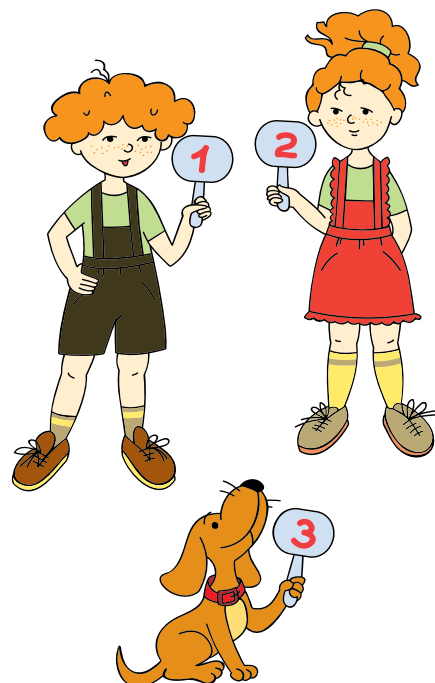


7 In which order should the operations in the expressions below be performed?

a) $26 + (32 - 16)$

d) $a + b - c + d$

b) $(247 - 123) + (384 - 164)$ e) $(a + b) - (c + d)$



8 Insert parentheses into the expressions according to the order of operations and evaluate the expressions.

a) $3 + 8 - 2 =$

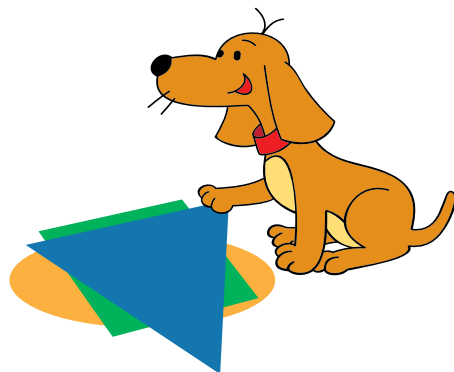
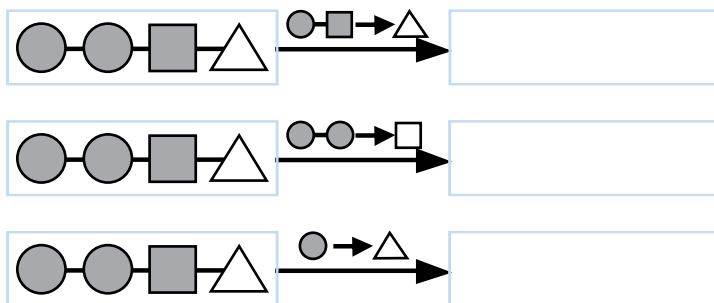
d) $4 + 7 + 2 - 5 =$

b) $9 - 3 - 5 =$

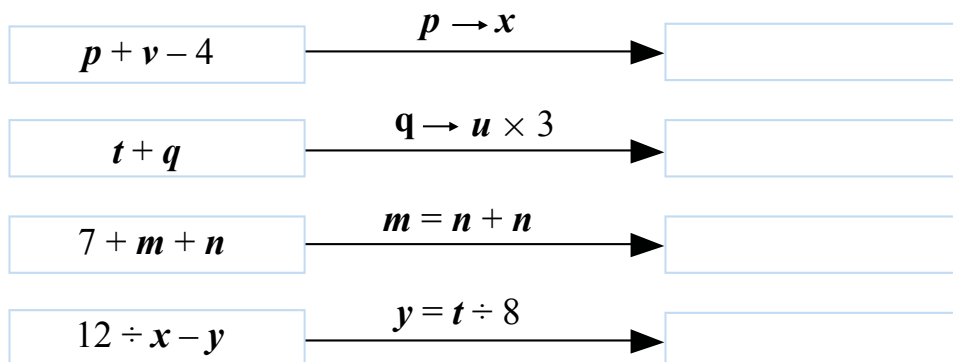
e) $6 + 1 - 5 - 3 =$

Replacements

9 Replace according to the instructions:



10 Replace according to the instructions:

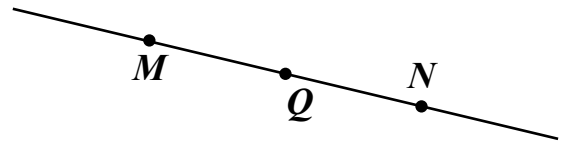


Points and Lines

A **point** represents an exact location, but has no size. To see a point, it has to be labeled with a visible mark.

- 11 a) How many points are labeled on the drawing? _____
- b) How big are these points? _____
- c) What is the difference between a point and its label? _____

All lines are made of points.
Lines may be curved or straight.



There is **only one straight line** that goes through any two points. Therefore, straight lines are often named using a pair of points.

- 12 a) What is the difference between the straight lines **MN** and **QN** above? _____
- b) What are some of the other names you can give to the straight line **MN**? _____

A straight line goes on indefinitely in both directions just like the line **MN** above.

- 13 a) Show that all three straight lines on the drawing cross.
- b) Label the points where these lines intersect. Name these points.

