Problem: Solve equation $(x + 3) : 8 = 4$

An equation $(x + 3) : 8 = 4$ can be solved as follows:

1. On the left-hand side of the equation the last operation is division. The unknown dividend is $(x + 3)$. To find the unknown dividend, we multiply the divisor by the quotient:

$$(x + 3) = 4 \cdot 8$$

2. Simplify the right-hand side of the equation

$$(x + 3) = 32$$

3. To find the unknown term, subtract the known term from the sum:

$$x = 32 - 3$$
$$x = 29$$

   Check:

$$(29 + 3) : 8 \quad ? \quad 4$$
$$4 \; = \; 4$$

Homework

1. Solve the equations:

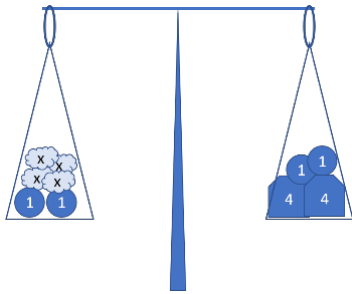   *a.* $5y + 3 = 13$ *b.* $3(2x + 3) = 27$ *c.* $(6x + 12) = 6$
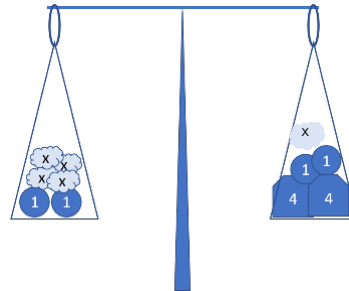
2. The sum of three consecutive numbers is 135. What is the smallest of the three numbers?

3. Create equations for the following diagrams:

a)   b)

4. Find the error in the solution and write the correct solution:

$$(18 + x) \cdot 3 = 21$$
$$x \cdot 3 = 21 - 18$$
$$x \cdot 3 = 3$$
$$x = 3 : 3$$
$$x = 1$$

Check your answer.

5. 1) Write a number which is n times bigger than the sum of b and 6.

   2) Calculate this number if $n = 7, \quad b = 9$

6. Diane has 513 books. Of these, 129 are about sports, and the number of books about art is twice the number of books about sports. The remaining books are about animals. Which books does she have more of? How many more?
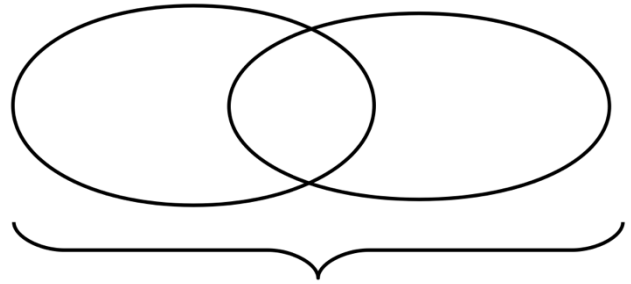
7. Calculate:

$$\frac{1}{8} + \frac{3}{4} =$$

$$\frac{2}{5} + \frac{3}{8} =$$

$$\frac{5}{12} - \frac{1}{4} =$$

$$\frac{3}{5} - \frac{3}{8} =$$

8. There are 80 penguins in a zoo. 3/4 of them love tuna. While 47 penguins love red tuna, only 42 love yellow tuna. How many penguins love both kinds of tuna?

9. * Solve equation

(*hint:* write the order of operations on the left-hand side, and undo the last operation first):

$$(36 + d) : 4 + 8 = 18$$