

# Solve simple one-step equations



- 1 Write an equation for each part-whole model.  
Work out the value of the multilink cube in each equation.

a)

$3x = 6$

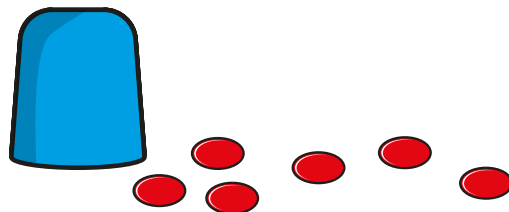
= 2

b)

$x + 4 = 18$

= 14

- 2 There are some counters under the cup.



There are 10 counters in total.

- a) If  $c$  is the number of counters under the cup, explain why

$$c + 6 = 10$$

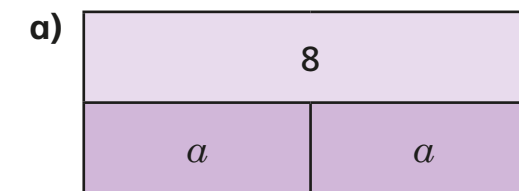
- b) Work out the value of  $c$ .

$$c = \text{4}$$

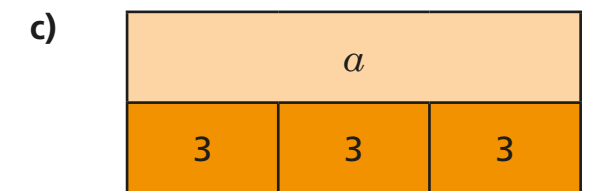
- c) How many counters are under the cup?

$$\text{4}$$

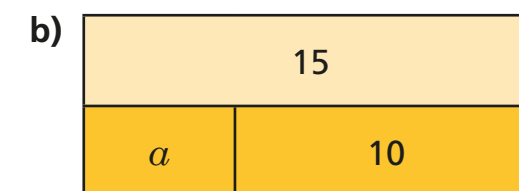
- 3 Write algebraic equations to represent the bar models.  
Find the value of  $a$  in each one.



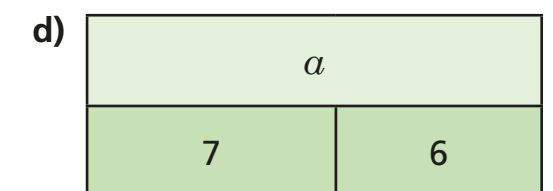
$$a = \text{4}$$



$$a = \text{9}$$



$$a = \text{5}$$



$$a = \text{13}$$

- 4 Nijah is solving the equation  $x - 8 = 20$

$$\begin{aligned} x - 8 &= 20 \\ x &= 20 - 8 \\ x &= 12 \end{aligned}$$

What mistake has Nijah made?

She should have added 8 to 20

$$\underline{x = 28}$$

5 Solve the equations.

a)  $x + 7 = 20$

$x = \boxed{13}$

d)  $g - 3 = 15$

$g = \boxed{18}$

b)  $10y = 80$

$y = \boxed{8}$

e)  $32 = t - 5$

$t = \boxed{37}$

c)  $4m = 22$

$m = \boxed{5.5}$

f)  $\frac{u}{6} = 3$

$u = \boxed{18}$

6 Filip thinks of a number.  
He subtracts 5 from his number.  
He ends up with 10

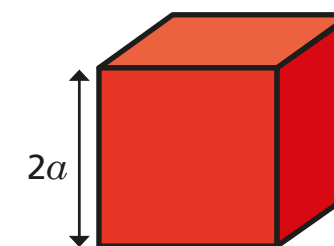
Write an algebraic equation to represent Filip's problem.

$x - 5 = 10$

Solve the equation to work out his number.

$\boxed{15}$

7 Dexter builds a tower.  
Each block is  $2a$  high.  
He uses 7 blocks.



The total height of his tower is 42 cm.

Write an equation to represent the height of Dexter's tower and find the value of  $a$ .

$14a = 42$

$a = \boxed{3}$  cm

8 Work out the value of each shape.  
Write the equations that you solved to find the value of each shape.

|   |   |   |   |      |
|---|---|---|---|------|
| ★ | ♥ | ★ | ♥ |      |
| ★ | ▲ | ★ | ★ |      |
| ♥ | ♥ | ♥ | ♥ | = 40 |
| ▲ | ★ | ♥ | ▲ | = 20 |
|   |   |   |   |      |
|   |   |   |   | 32   |

♥ =  $\boxed{10}$

★ =  $\boxed{6}$

▲ =  $\boxed{2}$

Work out the missing total of each row and column.

Compare answers with a partner.

