

# Solve two-step equations

**1** Use the bar models to help you solve the equations.

a) 

20			
$y$	$y$	$y$	8

 $3y + 8 = 20$

$y =$

b) 

2			
$y$	$y$	$y$	8

 $3y + 8 = 2$

$y =$

Which bar model do you prefer? Talk about it with a partner.

**2** Dexter is solving an equation.

$2n + 9 = 5$   
 $2n = 9 - 5$   
 $2n = 4$   
 $n = 2$



What mistake has Dexter made?

Write the correct solution next to Dexter's workings.

**3** Solve the equations.

a)  $4a + 20 = 8$

$a =$

b)  $3c + 23 = 8$

$c =$

c)  $9y + 10 = -8$

$y =$

d)  $15 + 7b = 8$

$b =$

e)  $0 = 8 + 2d$

$d =$

f)  $2h + 12 = -5$

$h =$

**4** Solve the equations.

a)  $2y - 4 = 6$

$y =$

b)  $2y - 4 = -6$

$y =$

c)  $2y - 6 = 4$

$y =$

d)  $2y - 6 = -4$

$y =$

Discuss your answers with a partner.

5 Solve the equations.

a)  $-5m + 40 = 10$

$m = \boxed{-6}$

c)  $3 = 15 - 10k$

$k = \boxed{1.2}$

b)  $1 - 3g = 10$

$g = \boxed{-3}$

d)  $13 = 7 - 4p$

$p = \boxed{-1.5}$

6 Solve the equations.

a)  $\frac{g}{2} + 7 = 12$

$g = \boxed{10}$

d)  $12 = \frac{g}{2} - 7$

$g = \boxed{38}$

b)  $\frac{10g}{2} + 12 = 7$

$g = \boxed{-10}$

e)  $7 = \frac{10g}{2} - 12$

$g = \boxed{38}$

c)  $12 + \frac{g}{2} = 7$

$g = \boxed{-10}$

f)  $12 - \frac{g}{2} = 7$

$g = \boxed{10}$

7 Solve the equations.

a)  $\frac{x}{5} + 1 = 3$

$x = \boxed{10}$

b)  $\frac{x+1}{5} = 3$

$x = \boxed{14}$

What is the same and what is different about the two equations?

8 The value of  $x$  in this equation is 7

Work out possible missing numbers for each equation.

e.g.  $\boxed{-2}x + \boxed{15} = 1$

$\boxed{2}x - \boxed{13} = 1$

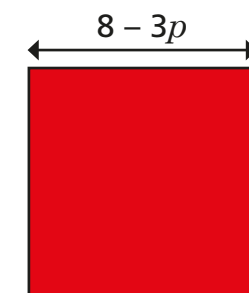
How many different answers can you find?

Various answers.

9 The diagram shows a square with sides  $8 - 3p$  cm.

The perimeter of the square is 74 cm.

Calculate the value of  $p$ .



$p = \boxed{-3.5}$