

Solve one- and two-step equations and inequalities with brackets



1 Jack and Whitney are solving the equation $4(x - 7) = 32$
Jack says, "I am going to expand the brackets first."
Whitney says, "I am going to divide both sides by 4 first."

a) Show that both methods give the same answer.

$$4(x - 7) = 32$$

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$$x = \boxed{}$$

b) Solve the equations.

$$3(x + 5) = 27$$

$$4(2x - 3) = 10$$

$$x = \boxed{}$$

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2 Rearrange the cards into the correct order to solve the equation $-2(3 - 4x) = 16$

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$$8x = 22$$

$$x = 2.75$$

$$-6 + 8x = 16$$

$$x = 22 \div 8$$

Can you solve the equation in a different way? Discuss with a partner.



3 Solve the equations.

a) $3(f - 2) = 3$

$$f = \boxed{}$$

b) $5(4 - 2g) = 40$

$$g = \boxed{}$$

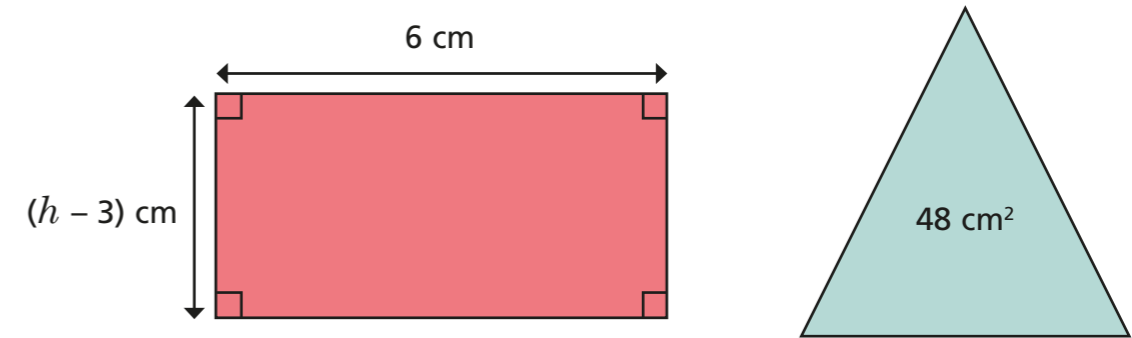
c) $-8 = -2(t - 4)$

$$t = \boxed{}$$

d) $3(c + 2) - 5 = 9$

$$c = \boxed{}$$

4 The rectangle has the same area as the triangle.



a) Form an equation and find the value of h .

$$h = \boxed{}$$

b) Work out the perimeter of the rectangle.

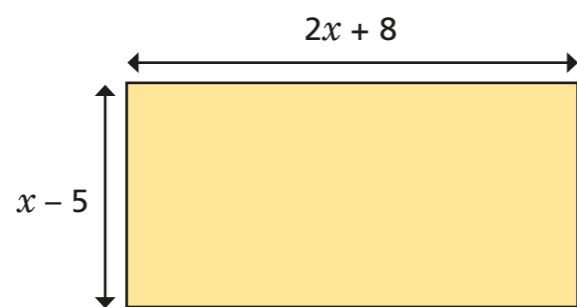
$$\boxed{}$$

- 5 Large chocolate bars are 20p more expensive than small chocolate bars.
- a) Dexter buys 3 small and 3 large chocolate bars for a total cost of £5.40
Form and solve an equation to find the cost of each bar.

small bar = large bar =

- b) How many different ways can Dexter spend exactly £5 on chocolate bars? Explain your answer.

- 6 The perimeter of this rectangle is 51 cm.



Work out the area of the rectangle.

area =

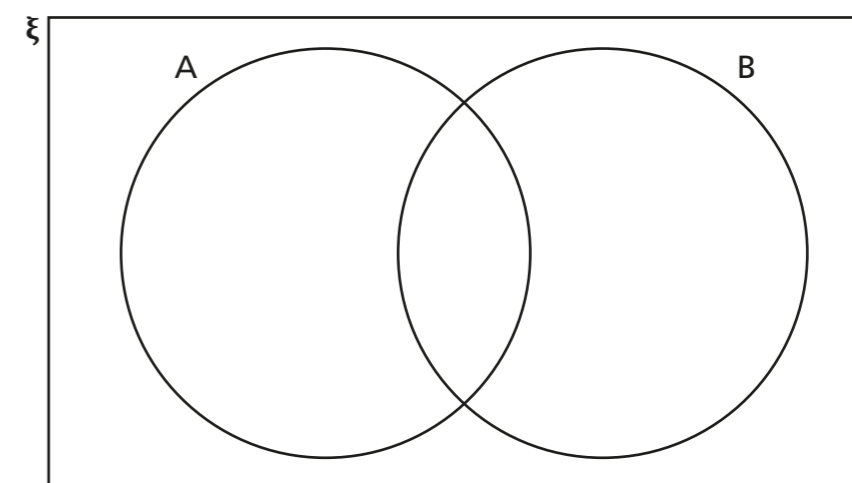
- 7 Solve the inequality $-6(5 - 2t) \geq -18$

- 8 Solve the inequalities and fill in the Venn diagram.

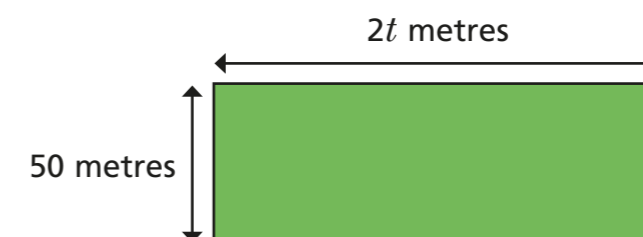
$$\xi = \{x \text{ integer}; -5 \leq x \leq 5\}$$

$$A = \{4(x + 2) < 12\}$$

$$B = \{-3 \leq 2x + 1\}$$



- 9 A rectangular field has these measurements.



Kim walks around the edge of the field. She walks less than 1 km.

- a) Form and solve an inequality to find the possible values of t .

- b) What is the smallest value that t can be?

