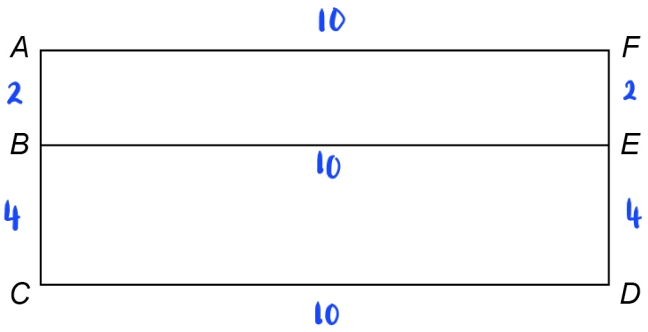
1 *ABEF* and *ACDF* are rectangles.

AF = 10 cm *AB* = 2 cm *BC* = 4 cm



Not drawn accurately

Work out

perimeter *ABEF* : perimeter *ACDF*

Give your answer in its simplest form.

[3 marks]

ABEF : 2 + 2 + 10 + 10 = 24 (1)

ACDF : 6 + 10 + 6 + 10 = 32 (1)

÷8 (24 : 32) ÷8

3 : 4

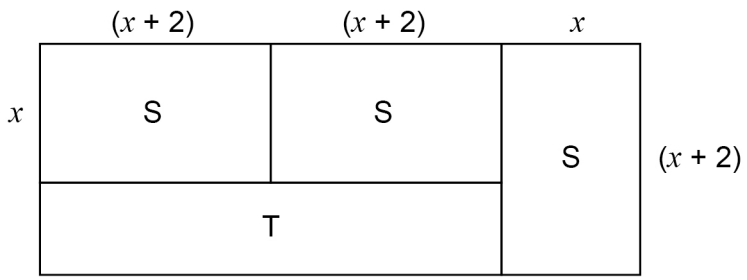
(1)

Answer 3 : 4

2 S and T are rectangles.

S has dimensions $(x + 2)$ and x.

Some of these rectangles make the larger rectangle shown.



Not drawn accurately

Work out an expression for the perimeter of T.

Give your answer in its simplest form.

[3 marks]

Perimeter of T = $2(x+2+x+2) + 2(x+2-x)$

$= 2(2x+4) + 2(2)$

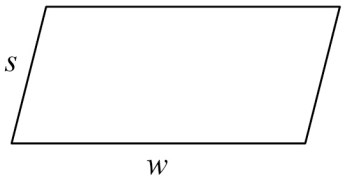
$= 4x + 8 + 4$

$= 4x + 12$

$= 4(x+3)$ (3)

Answer $4(x+3)$

3 Here is a parallelogram.



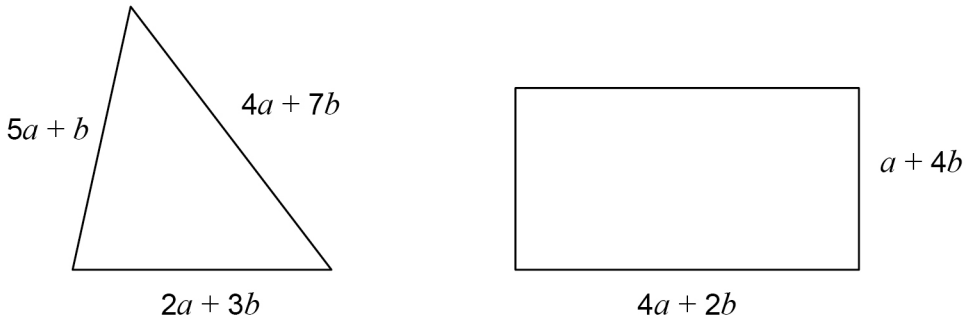
Circle the expression for the **perimeter**.

[1 mark]

$2s + 2w$ $s + w$ sw $2sw$

1

4 Here are a triangle and a rectangle.



Not drawn accurately

a and b are positive numbers.

Which shape has the **larger** perimeter?

You **must** work out expressions for both perimeters.

[3 marks]

Triangle : $5a + b + 4a + 7b + 2a + 3b$ (1)

$= 11a + 11b$

Rectangle : $2(a + 4b) + 2(4a + 2b)$

$= 2a + 8b + 8a + 4b$

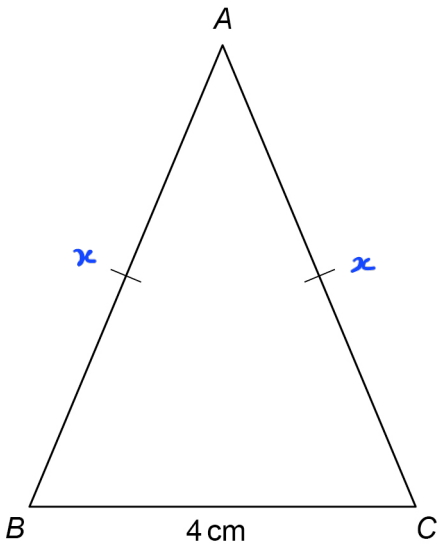
$= 10a + 12b$ (1)

Tick a box.

☐ triangle ☐ rectangle ☑ cannot tell (1)

5 In this isosceles triangle,

$AB = AC$



Not drawn accurately

The perimeter of the triangle is 22 cm

Work out the length of AB.

[3 marks]

$2x + 4 = 22$

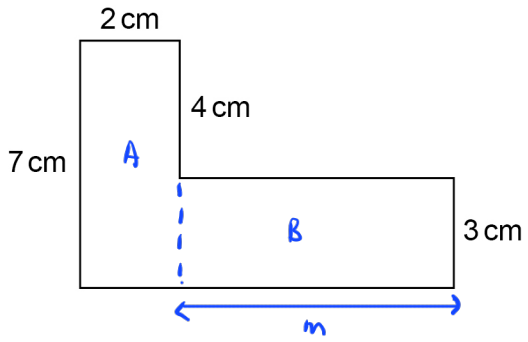
$2x = 18$ (1)

$x = \frac{18}{2}$ (1)

$x = 9$ (1)

Answer 9 cm

6 The L-shape is made from rectangles.



Not drawn accurately

The area is 44 cm^2

Work out the perimeter.

[3 marks]

Area A = $2 \times 7 = 14$ (1)

Area B = $3 \times m = 3m$

$3m + 14 = 44$

$3m = 30$

$m = 10$ (1)

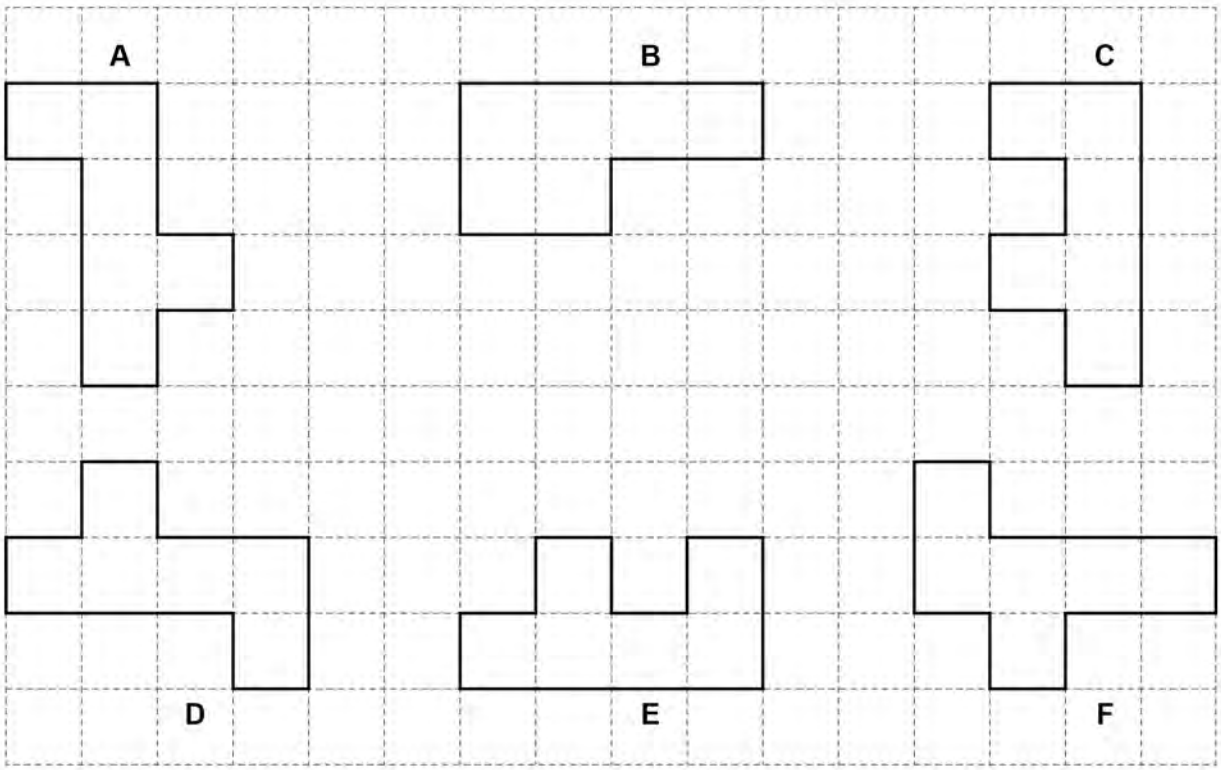
Perimeter = $2 + 4 + 10 + 3 + 10 + 2 + 7$

$= 38$ (1)

Answer 38 cm

7 Here are some shapes.

Each shape has an area of six square centimetres.



7 (a) Which has the bigger perimeter, shape **A** or shape **B**?

You **must** show the lengths of both perimeters.

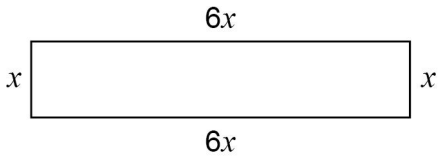
[2 marks]

A = 14, B = 12

(1)

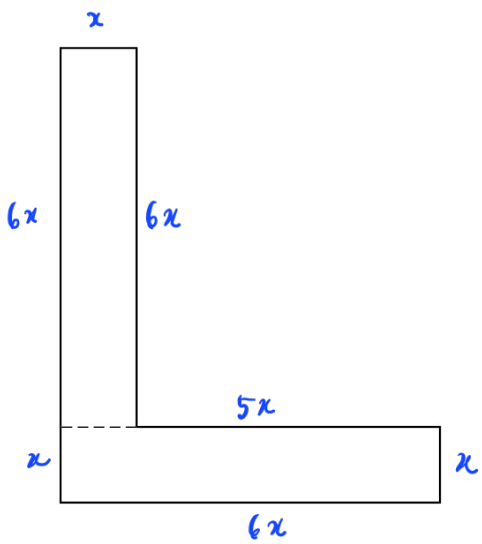
Answer A (1)

8 The length of this rectangle is 6 times the width.



Not drawn accurately

Two of these rectangles are joined, with no overlap, to make this L-shape.



Not drawn accurately

The perimeter of the L-shape is 98.8 cm

Work out the value of the perimeter of **one** of the rectangles.

[4 marks]

$6x + x + 6x + 5x + x + 6x + x = 98.8$

$26x = 98.8$ (1)

$x = 98.8 \div 26$ (1)

$= 3.8$

Perimeter of one rectangle : $x + x + 6x + 6x$

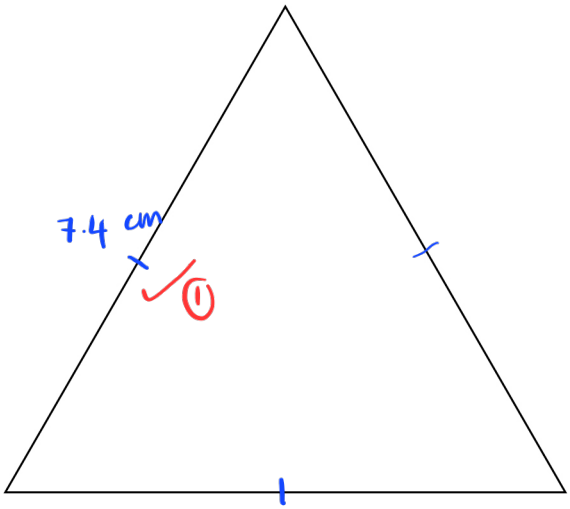
$= 14x = 14(3.8)$ (1)

$= 53.2$ (1)

Answer 53.2 cm

9 Use a ruler for this question.

Here is an **accurate** drawing of an equilateral triangle.



By measuring, work out the perimeter of the triangle.

State the units of your answer.

[3 marks]

7.4 cm x 3 = 22.2 cm

✓1 ✓1

Answer 22.2 cm