Length and perimeter

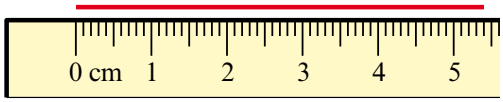
- Measuring to the nearest millimetre
- Converting between millimetres, centimetres and metres
- Calculating the perimeter of a figure

Keywords

You should know

explanation 1 online

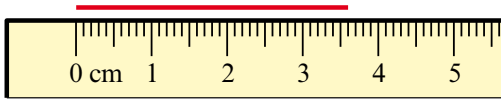
1 The length of this line is 5 cm and 4 mm.



a Write this measurement in millimetres.

b Write this length in centimetres.

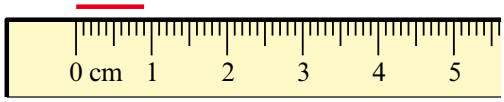
2 The length of this line is 3 cm and 6 mm.



a Write this measurement in millimetres.

b Write this measurement in centimetres.

3 The length of this line is 9 mm.



Write this measurement in centimetres.

4 Measure the length of each line. The first one has been done for you.

a _____ Length = 8 cm 2 mm

b _____

c _____

d _____

e _____

explanation 2

5 Record your results from question **4** in the following table. The first one has been started for you.

	Measurement in cm and mm	Measurement in mm	Measurement in cm
a	8 cm 2 mm	82 mm	
b			
c			
d			
e			

6 Copy and complete the following table.

Measurement in cm and mm	Measurement in cm	Measurement in mm
1 cm 3 mm		
2 cm 5 mm		
5 cm 1 mm		
8 cm 9 mm		
0 cm 7 mm		

7 Copy and complete the following table.

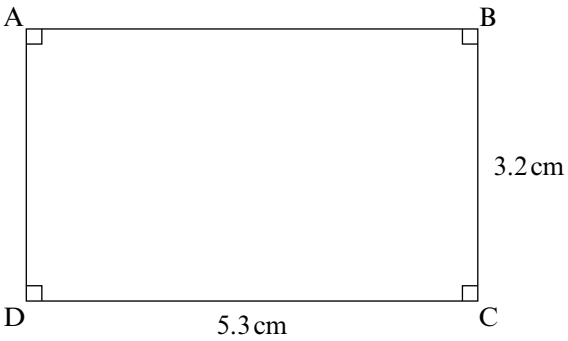
Measurement in cm and mm	Measurement in mm	Measurement in cm
3 cm 5 mm		
	45 mm	
		7.6 cm
	185 mm	
6 cm 2 mm		

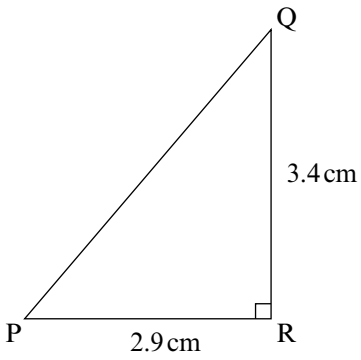
8 Draw these lines to the nearest millimetre.

a 6 cm 5 mm **b** 3 cm 2 mm **c** 4.1 cm

d 6.7 cm **e** 75 mm **f** 58 mm

9 **a** Draw each of the diagrams below as accurately as you can, using the measurements shown.





b On your drawings, measure these distances to the nearest millimetre.

i AC **ii** PQ

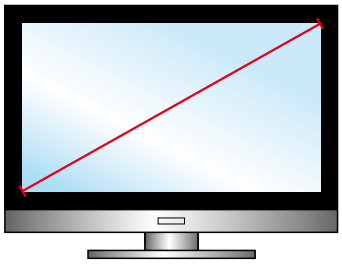
10 Here are pictures of three computer monitors. The screen size is the length of the red line. (Screen sizes are measured along a diagonal of the rectangle containing the picture.)

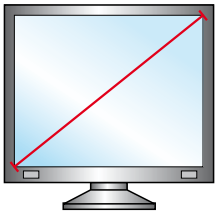
a Measure each screen size on your book page to the nearest millimetre.

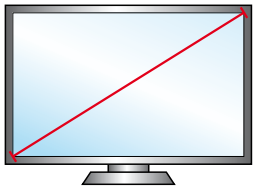
b The real screen sizes are ten times the sizes shown here.

Write down the three real screen sizes.

i **ii** **iii**







11 32 cm 4 mm 3.5 m 430 mm 0.2 m 85 mm

a Change these measurements so they are all in centimetres.

b Use your answer to part **a** to put the original lengths in order of size starting with the smallest.

explanation 3a explanation 3b

12 Two pupils are measuring different lengths in their classroom.

a They measure the height of a door as 2 m and 6 cm. Write this measurement in

i centimetres **ii** millimetres

b They measure the width of a door as 84 cm. Write this measurement in

i millimetres **ii** metres

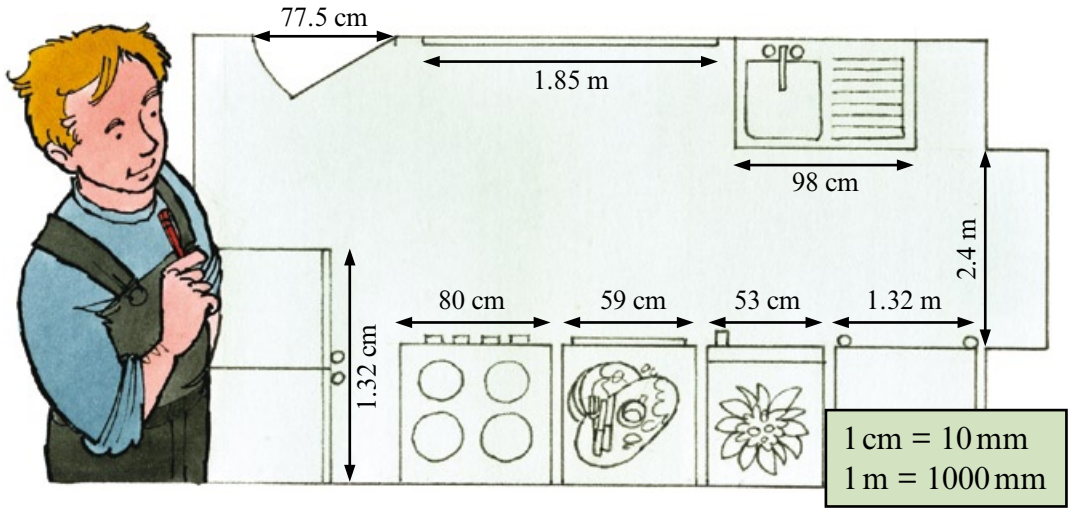
13 Copy and complete.

a 3 cm = ☐ mm **b** 25 mm = ☐ cm **c** 7.5 cm = ☐ mm

d 4.3 cm = ☐ mm **e** 420 mm = ☐ cm **f** 6 mm = ☐ cm

g 127 cm = ☐ m **h** 3.2 m = ☐ cm **i** 1230 mm = ☐ m

14 Bob is fitting a new kitchen. He wants all of the measurements to be in millimetres.



Write each of the labelled measurements in millimetres.

15 Work out which measurement is bigger. Give a reason for each answer.

a 27 mm, 2.5 cm **b** 8.9 cm, 91 mm **c** 240 cm, 0.25 m

d 0.8 m, 760 mm **e** 58.2 cm, 590 mm **f** 3020 mm, 3.1 m

16 Put these lengths in order of size starting with the smallest.

a 2.6 m 204 cm 35 mm 4 cm

b 86 cm 112 mm 1.2 m 43 cm

c 125 cm 78 mm 1.2 m 0.3 m 350 mm 7 cm 2 mm

d 450 mm 0.4 m 48 cm 49 mm 0.04 m 46 cm 8 mm

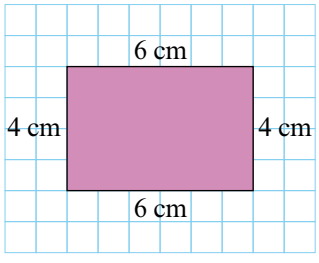
17 Work out the total of 8.5 cm, 3.2 cm and 75 mm. Give your answer in centimetres.

18 Rashid is repairing some fencing. He needs one piece of wood 1.2 m long and two pieces 85 cm long. Can he cut these pieces from a plank of wood 3 m long?

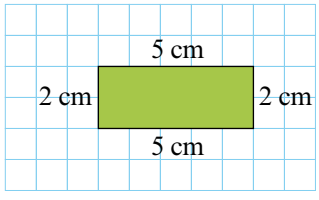
explanation 4

19 Work out the perimeter of each rectangle.

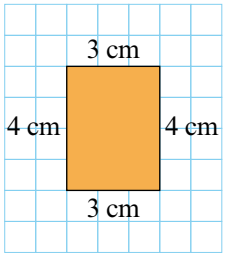
a



b

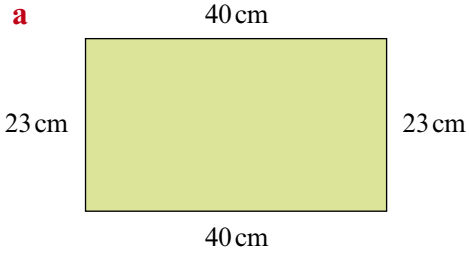


c

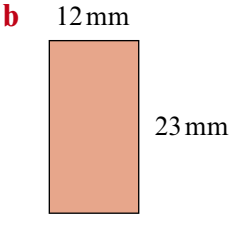


20 Work out the perimeter of each rectangle.

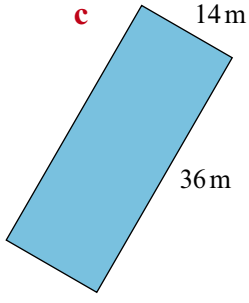
a



b

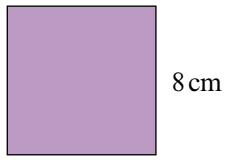


c

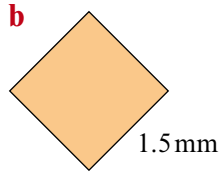


21 Work out the perimeter of each square.

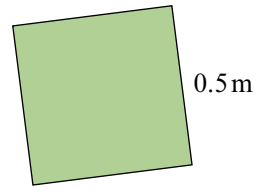
a



b



c

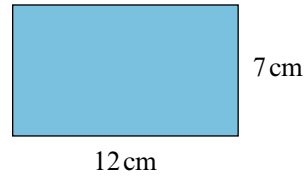


22 **a** A square has side length 25 cm. What is the perimeter of the square?

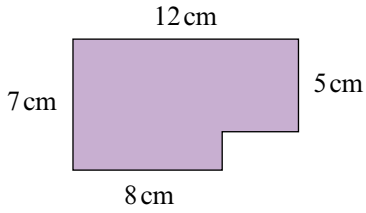
b The perimeter of a square is 84 cm. What is the length of each side?

explanation 5 — online

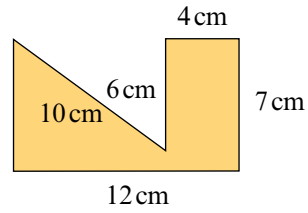
23 Which of the shapes below have the same perimeter as this blue rectangle?



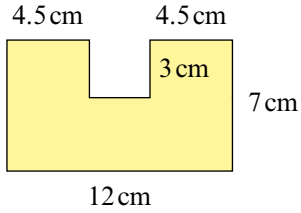
a



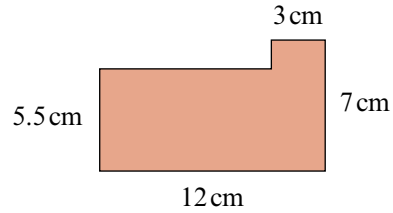
b



c

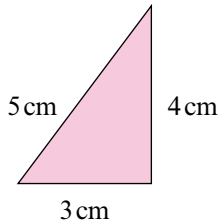


d

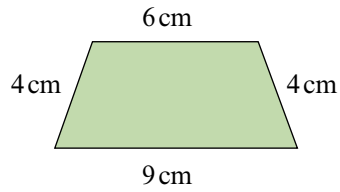


24 Find the perimeter of each shape.

a

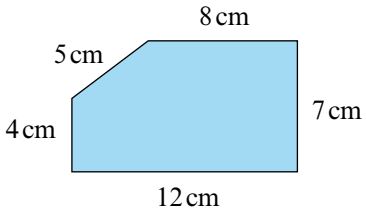


b

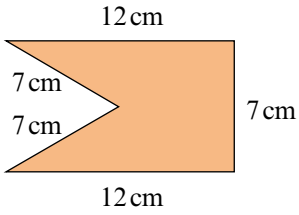


25 Find the perimeter of these shapes.

a

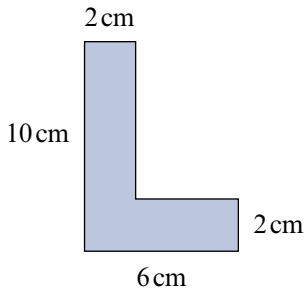


b

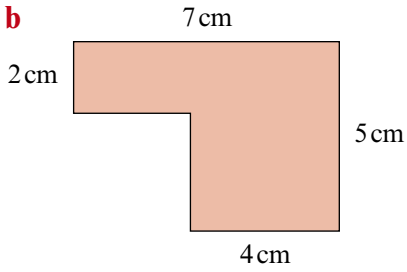


26 Find the perimeter of each shape.

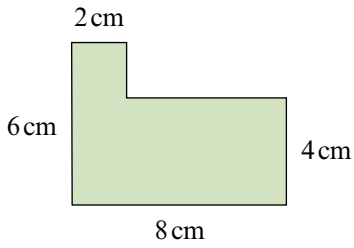
a



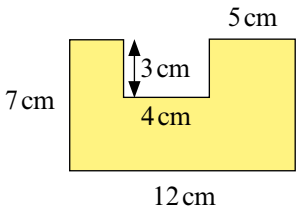
b



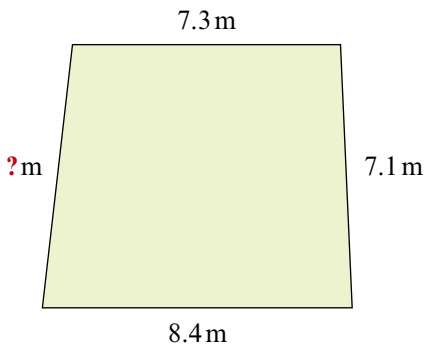
c



d



27 The perimeter of the trapezium is 30 m.
Find the missing length.



28 The perimeter of the rectangle is 20 m.
The base of the rectangle is 6.5 m long.
What is its height?