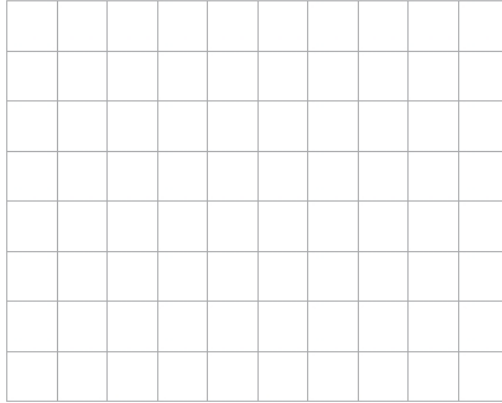## G053 Area and perimeter

Q1.

The length of a rectangle is twice as long as the width of the rectangle.
The area of the rectangle is 32 cm².
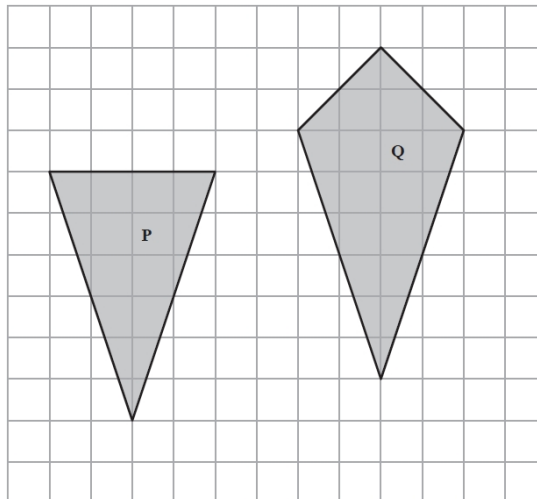
Draw the rectangle on the centimetre grid.

(Total for question = 2 marks)

Q2.

The diagram shows two shapes drawn on a centimetre grid.
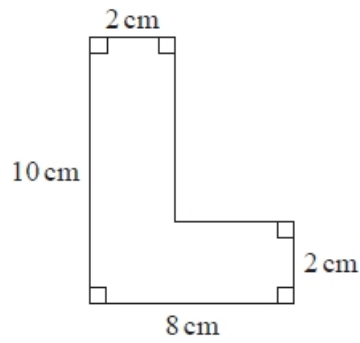
(a) Find the area of shape **P**.

....

(2)

(b) Write down the mathematical name of quadrilateral **Q**.

....

(1)

(Total for question = 3 marks)

Q3.

2 cm

10 cm

2 cm

8 cm

Work out the area of the shape.

.... cm^2

(Total for question is 2 marks)

Q4.

Here is a shape made from a rectangle and a triangle.

← 7 cm →

22 cm

9 cm

← 15 cm →
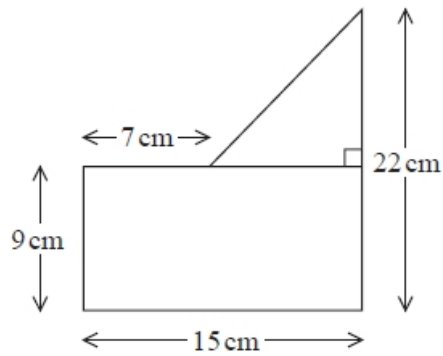
Work out the total area of the shape.

.... cm^2

(Total for question = 3 marks)

Q5.

This shape is made from two rectangles.
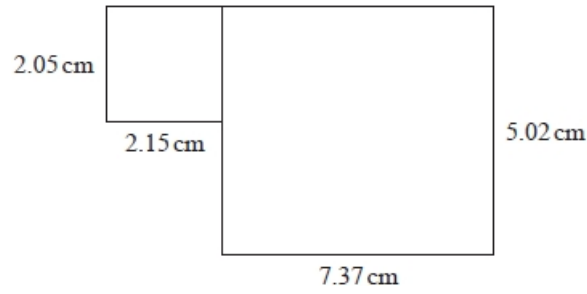
(a) Work out an estimate for the total area of the shape.

.... cm^2

(3)

(b) Is your answer to (a) an overestimate or an underestimate?

Give a reason for your answer.

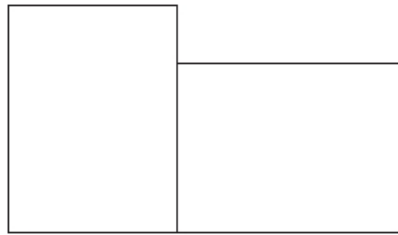...

....

(1)

(Total for question = 4 marks)

Q6.

Here is a rectangle.

4 cm

6 cm   6 cm

4 cm
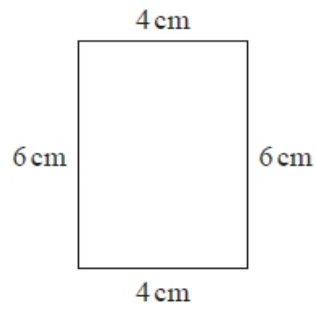
The 6-sided shape below is made from two of these rectangles.

Work out the perimeter of this 6-sided shape.

.... cm

(Total for question = 3 marks)

Q7.

The diagram shows a floor in the shape of a trapezium.
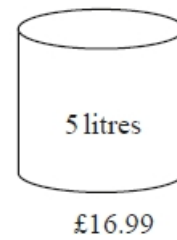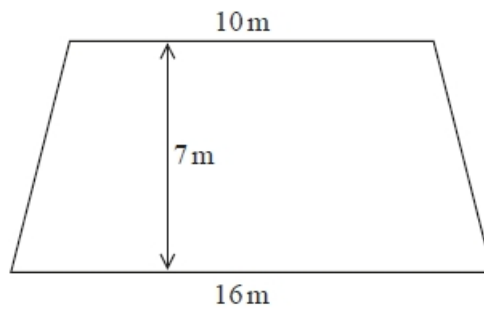
John is going to paint the floor.

Each 5 litre tin of paint costs £16.99
1 litre of paint covers an area of 2 m^2
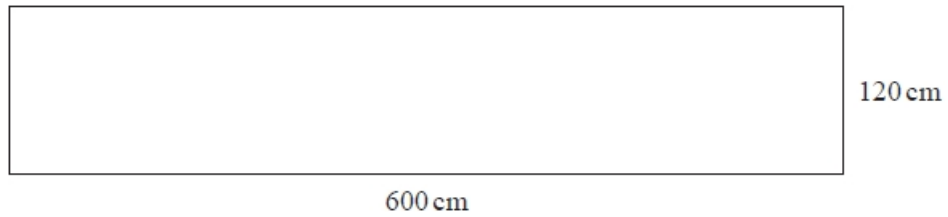
John has £160 to spend on paint.

Has John got enough money to buy all the paint he needs?
You must show how you get your answer.

(Total for question = 5 marks)

Q8.

The diagram shows a rectangular garden path.

120 cm

600 cm

Wasim is going to cover the path with paving stones.
Each paving stone is a square of side 30 cm.
Each paving stone costs £2.50
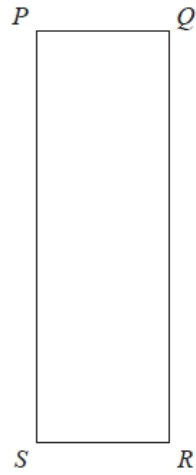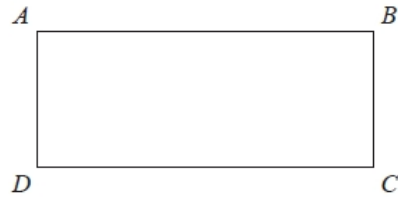
Wasim has £220 to spend on paving stones.

Show that he has enough money to buy all the paving stones he needs.

(Total for question = 4 marks)

Q9.

Here are two rectangles.

QR = 10 cm
BC = PQ

The perimeter of $ABCD$ is 26 cm
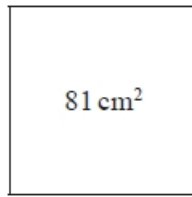The area of $PQRS$ is 45 cm^2

Find the length of AB.

.... cm

(Total for question = 4 marks)

Q10.

A square has an area of 81 cm²

$$81\,cm^2$$

(a) Find the perimeter of the square.

.... cm

(2)

The diagram shows a right-angled triangle and a parallelogram.

16 cm

9 cm

h cm

30 cm
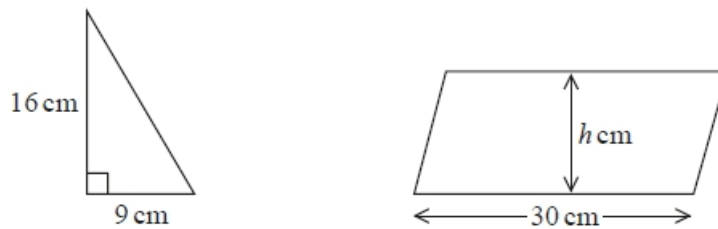
The area of the parallelogram is 5 times the area of the triangle.
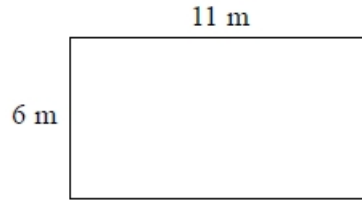The perpendicular height of the parallelogram is h cm.

(b) Find the value of h.

h = ...

(3)

(Total for question = 5 marks)

Q11.

A tin of varnish costs £15

A rectangular floor has dimensions 6 m by 11 m.
The floor is going to be covered in varnish.

11 m

6 m

Helen assumes that each tin of this varnish covers an area of 12 m^2.

(a) Using Helen's assumption, work out the cost of buying the varnish for this floor.

£ ....

(4)

Helen finds that each tin of varnish covers less than 12 m^2.

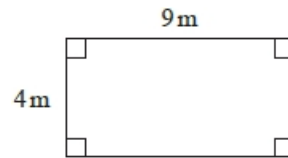(b) Explain how this might affect the number of tins she needs to buy.

....

....

(1)

(Total for question = 5 marks)

Q12.

Shirley has a garage.

Here is a plan of her garage floor.

9 m

4 m

Shirley wants to buy enough paint to cover the garage floor as cheaply as possible.
She can buy her paint from Decor U or from Paint Store.
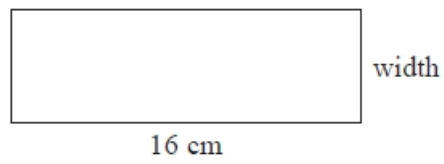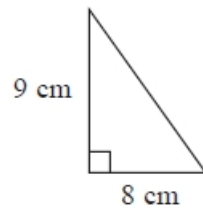
Decor U Floor paint	Paint Store Floor paint
£3.70 each tin 1 tin covers $12\,m^2$	£3.00 each tin 1 tin covers $10\,m^2$

From which of these two shops should Shirley buy her paint?
You must show all your working.

(Total for question = 4 marks)

Q13.

Here are a triangle and a rectangle.

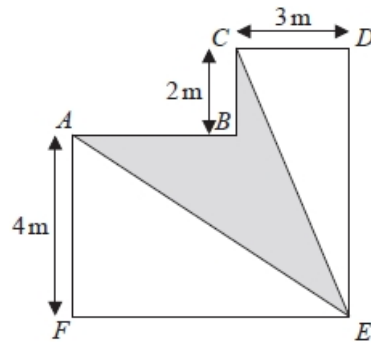The area of the rectangle is 6 times the area of the triangle.

Work out the width of the rectangle.

.... cm

(Total for question = 4 marks)

Q14.

The diagram shows a shape *ABCDEF*.

All the corners of the shape are right angles.
The perimeter of the shape is 28 m.

Work out the area of *ABCE* shown shaded on the diagram.

....

(Total for question = 5 marks)