



# EXAM PAPERS PRACTICE

GCSE OCR Math J560

Area - Triangles &  
Quadrilaterals

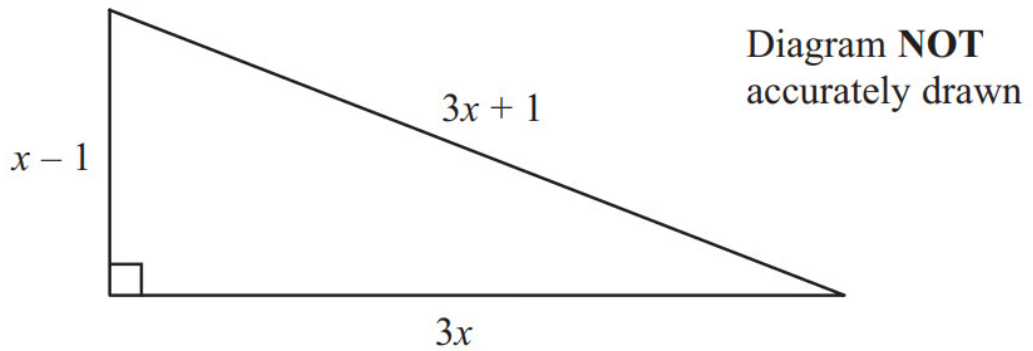
Question Paper

*"We will help you to  
achieve A Star "*



**Question 1**

The diagram shows a triangle.



In the diagram, all the measurements are in metres.

The perimeter of the triangle is 56 m.

The area of the triangle is  $A \text{ m}^2$ .

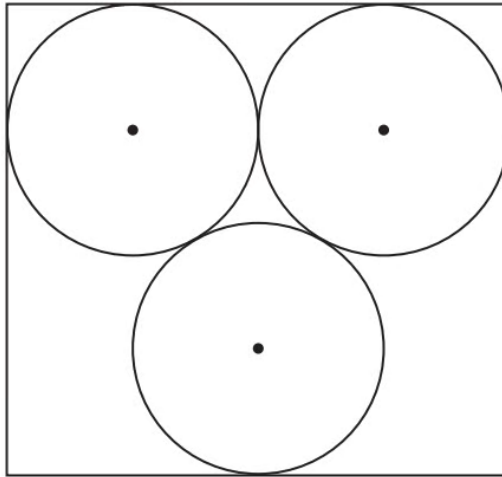
Work out the value of  $A$ .

[4 marks]



**Question 2**

The diagram shows 3 identical circles inside a rectangle.  
Each circle touches the other two circles and the sides of the rectangle, as shown in the diagram.



The radius of each circle is 24 mm.

Work out the area of the rectangle.

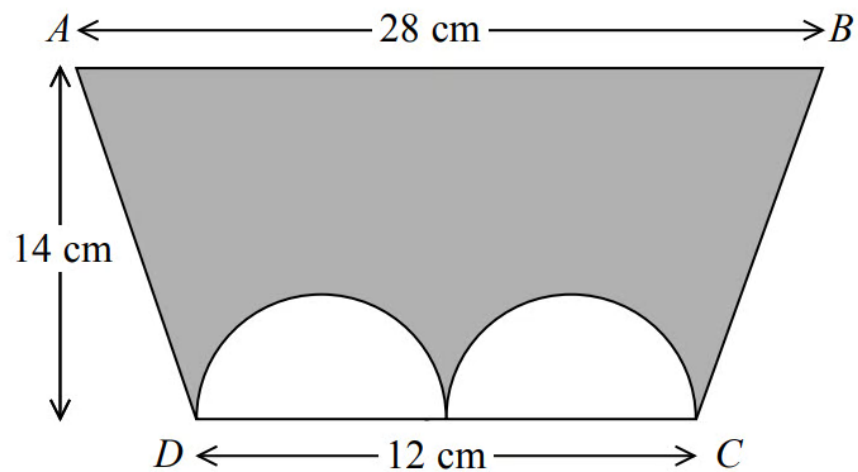
Give your answer correct to 3 significant figures.

[4 marks]



**Question 3**

The diagram shows a trapezium  $ABCD$  and two identical semicircles.



The centre of each semicircle is on  $DC$ .

Work out the area of the shaded region.

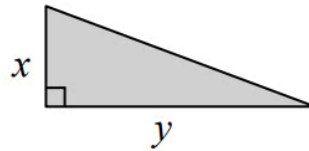
Give your answer correct to 3 significant figures.

[4 marks]

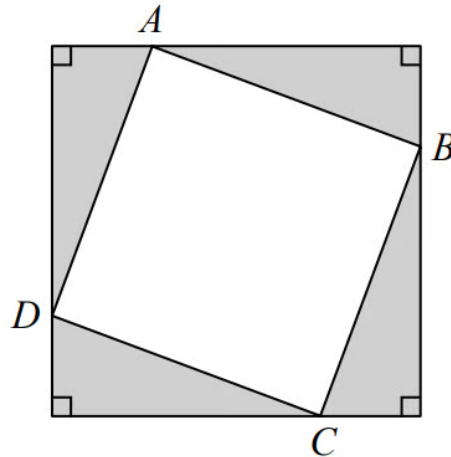


**Question 4**

Here is a right-angled triangle.



Four of these triangles are joined to enclose the square  $ABCD$  as shown below.



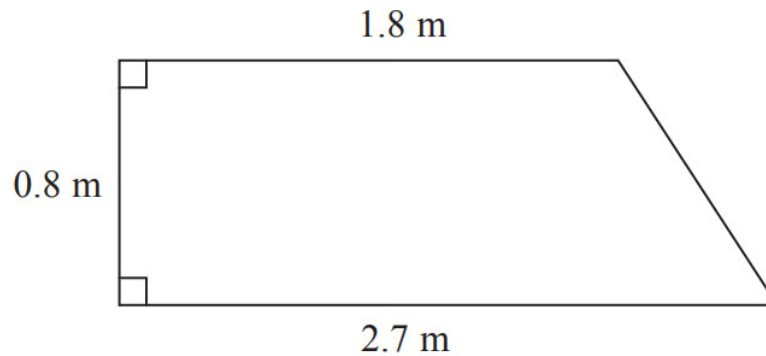
Show that the area of the square  $ABCD$  is  $x^2 + y^2$

[3 marks]



**Question 5**

The diagram shows a wall in the shape of a trapezium.



Karen is going to cover this part of the wall with tiles.  
Each tile is rectangular, 15 cm by 7.5 cm

Tiles are sold in packs.  
There are 9 tiles in each pack.

Karen divides the area of this wall by the area of a tile to work out an estimate for the number of tiles she needs to buy.

- (a) Use Karen's method to work out the estimate for the number of packs of tiles she needs to buy.

**[5 marks]**



**Question 6**

Karen is advised to buy 10% more tiles than she estimated.  
Buying 10% more tiles will affect the number of the tiles Karen needs to buy.

She assumes she will need to buy 10% more packs of tiles.

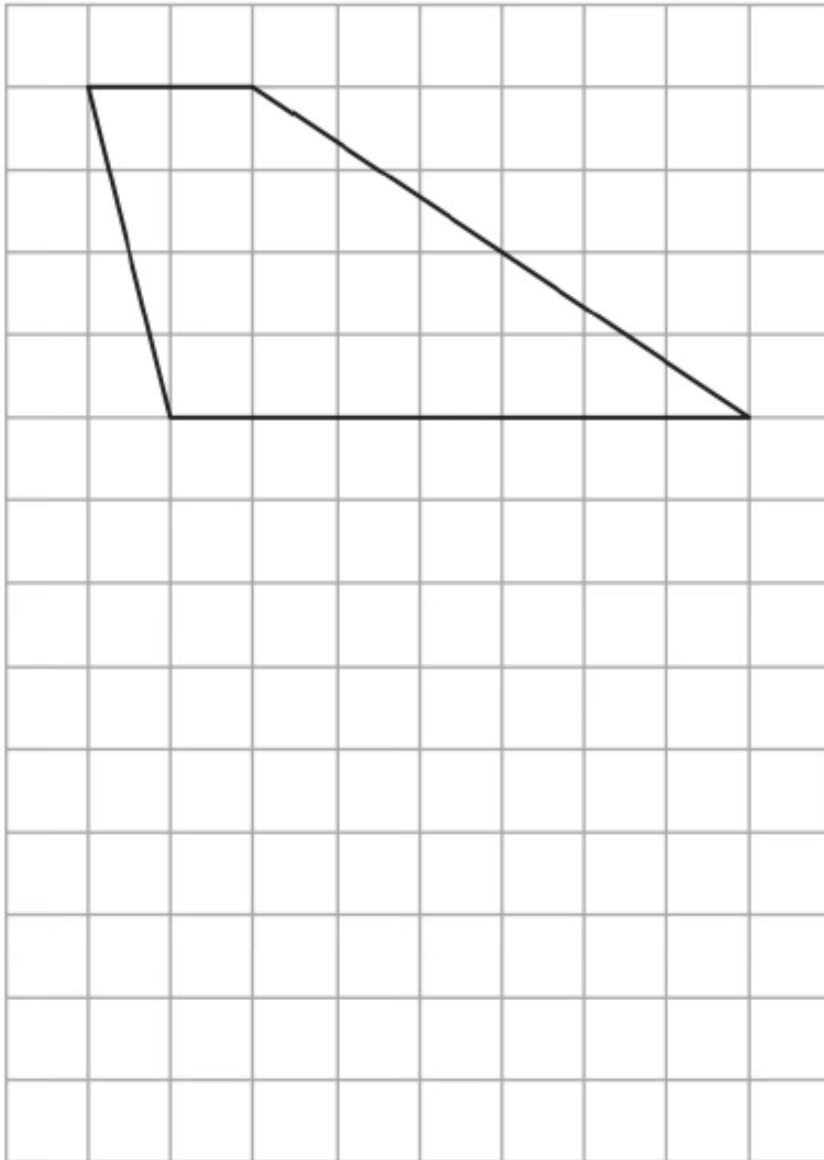
- (b) Is Karen's assumption correct?  
You must show your working.

**[2 marks]**



**Question 7**

Here is a trapezium drawn on a centimetre grid.



On the grid, draw a triangle equal in area to this trapezium.

**[2 marks]**





**Question 8**

The diagram shows the plan of a small field.

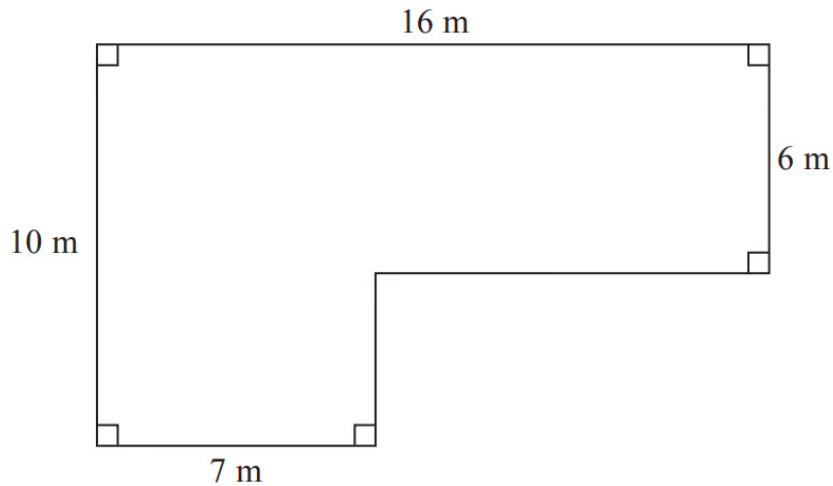


Diagram **NOT**  
accurately drawn

Kevin is going to keep some pigs in the field.  
Each pig needs an area of 36 square metres.

Work out the greatest number of pigs Kevin can keep in the field.

**[4 marks]**

**Question 9**

Here is a diagram of Jim's garden.

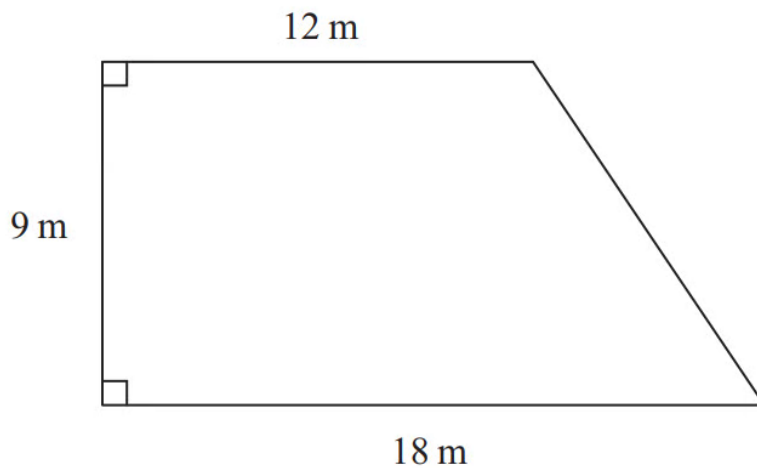


Diagram **NOT**  
accurately drawn

Jim wants to cover his garden with grass seed to make a lawn.

Grass seed is sold in bags.

There is enough grass seed in each bag to cover  $20 \text{ m}^2$  of garden.

Each bag of grass seed costs £4.99

Work out the least cost of putting grass seed on Jim's garden.

**[4 marks]**



**Question 10**

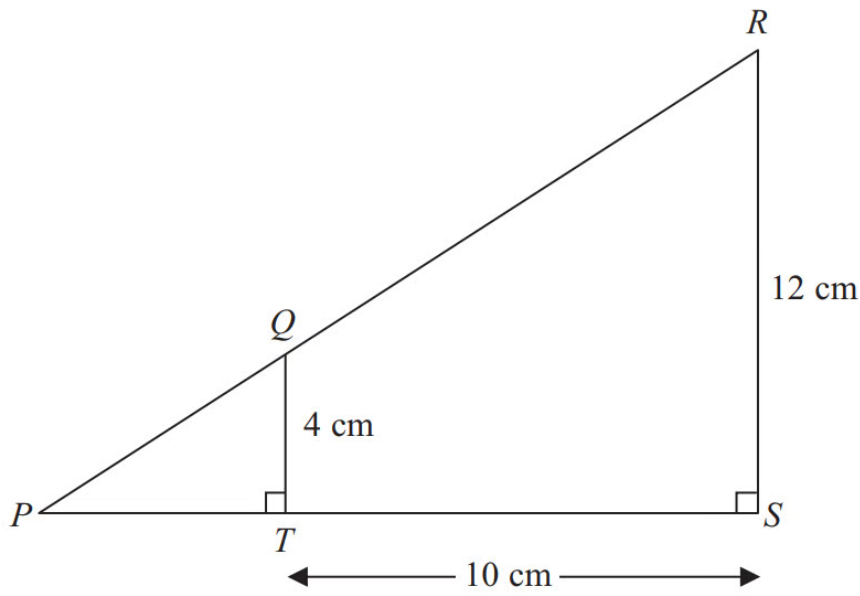


Diagram **NOT**  
accurately drawn

$PQR$  and  $PTS$  are straight lines.

Angle  $PTQ = \text{Angle } PSR = 90^\circ$

$QT = 4 \text{ cm}$

$RS = 12 \text{ cm}$

$TS = 10 \text{ cm}$

(a) Work out the area of the trapezium  $QRST$ .

[2 marks]



**Question 11**

Here is a parallelogram.

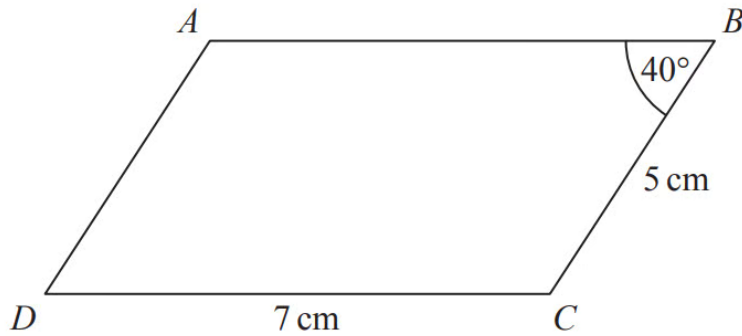


Diagram **NOT**  
accurately drawn

$$DC = 7 \text{ cm}$$

$$CB = 5 \text{ cm}$$

Angle  $ABC$  is  $40^\circ$

Work out the area of the parallelogram.

Give your answer correct to 1 decimal place.

**[3 marks]**



**Question 12**

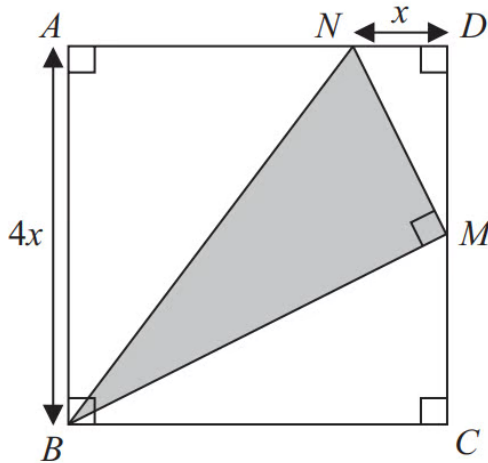


Diagram **NOT**  
accurately drawn

$ABCD$  is a square with a side length of  $4x$

$M$  is the midpoint of  $DC$ .

$N$  is the point on  $AD$  where  $ND = x$

$BMN$  is a right-angled triangle.

Find an expression, in terms of  $x$ , for the area of triangle  $BMN$ .

Give your expression in its simplest form.

[4 marks]



**Question 13**

The diagram shows a triangle  $DEF$  inside a rectangle  $ABCD$ .

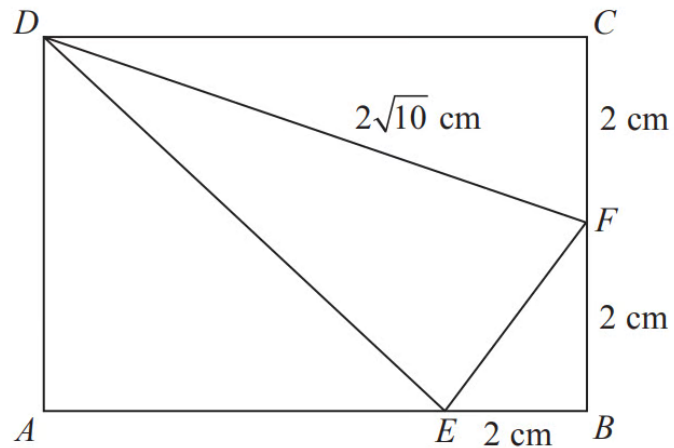


Diagram **NOT** accurately drawn

Show that the area of triangle  $DEF$  is  $8 \text{ cm}^2$ .  
You must show all your working.

[4 marks]



**Question 14**

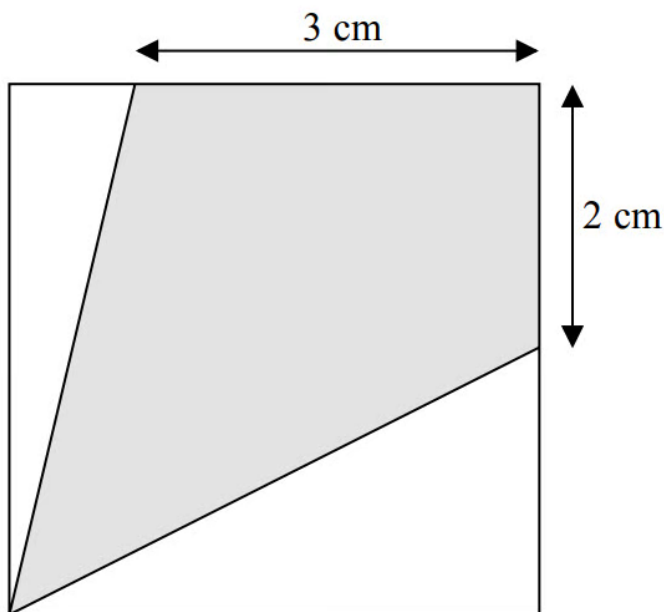
The perimeter of a right-angled triangle is 72 cm.  
The lengths of its sides are in the ratio 3 : 4 : 5

Work out the area of the triangle.

[4 marks]

**Question 15**

The diagram shows a square with perimeter 16 cm.



Work out the proportion of the area inside the square that is shaded.

[5 marks]