



# r/IGCSE Resources

Topical Worksheets for Cambridge IGCSE™  
Mathematics (0580/0980)

**Practice paper (40 marks)**

1<sup>st</sup> edition, for examination until 2025

**1** Line  $L$  passes through the points  $(0, -3)$  and  $(6, 9)$ .

(a) Find the equation of line  $L$ .

..... [3]

(b) Find the equation of the line that is perpendicular to line  $L$  and passes through the point  $(0, 2)$ .

..... [2]

[Total: 5]

**2**  $A$  is the point  $(7, 12)$  and  $B$  is the point  $(2, -1)$ .

Find the length of  $AB$ .

..... [3]

[Total: 3]

**3** A straight line joins the points  $A(-2, -3)$  and  $C(1, 9)$ .

- (a) Find the equation of the line  $AC$  in the form  $y = mx + c$ .

$y = \dots\dots\dots$  [3]

- (b) Calculate the acute angle between  $AC$  and the  $x$ -axis.

$\dots\dots\dots$  [2]

- (c)  $ABCD$  is a kite, where  $AC$  is the longer diagonal of the kite.  
 $B$  is the point  $(3.5, 2)$ .

- (i) Find the equation of the line  $BD$  in the form  $y = mx + c$ .

$y = \dots\dots\dots$  [3]

- (ii) The diagonals  $AC$  and  $BD$  intersect at  $(-0.5, 3)$ .

Work out the co-ordinates of  $D$ .

$( \dots\dots\dots , \dots\dots\dots )$  [2]

[Total: 10]

- 4 The scale of a map is 1 : 10 000 000.  
On the map, the area of Slovakia is  $4.9 \text{ cm}^2$ .

Calculate the actual area of Slovakia.  
Give your answer in square kilometres.

.....  $\text{km}^2$  [3]

[Total: 3]

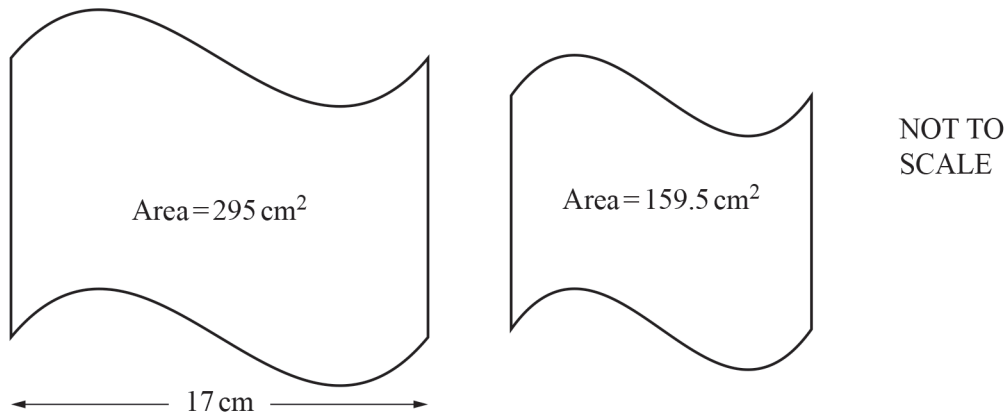
- 5 A model of a car has a scale 1 : 20.  
The volume of the actual car is  $12 \text{ m}^3$ .

Find the volume of the model.  
Give your answer in cubic centimetres.

.....  $\text{cm}^3$  [3]

[Total: 3]

6



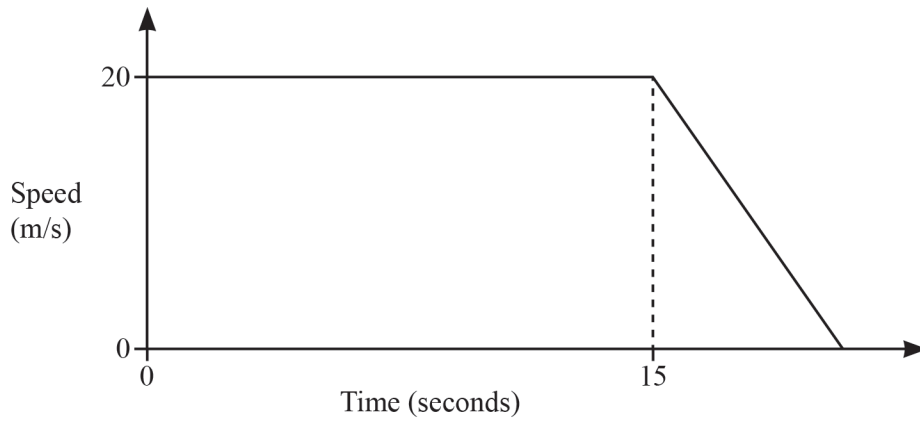
The diagram shows two mathematically similar shapes with areas  $295 \text{ cm}^2$  and  $159.5 \text{ cm}^2$ .  
The width of the larger shape is 17 cm.

Calculate the width of the smaller shape.

..... cm [3]

[Total: 3]

7

NOT TO  
SCALE

A car travels at 20 m/s for 15 seconds before it comes to rest by decelerating at  $2.5 \text{ m/s}^2$ .

Find the total distance travelled.

..... m [5]

[Total: 5]

8  $P = 2r + \pi r$

Rearrange the formula to write  $r$  in terms of  $P$  and  $\pi$ .

$r =$  ..... [2]

[Total: 2]

**9**      $f(x) = 3x - 5$     $g(x) = 2^x$

**(a)** Find  $fg(3)$ .

..... [2]

**(b)** Find  $f^{-1}(x)$ .

$f^{-1}(x) = \dots\dots\dots$  [2]

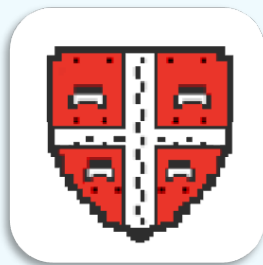
[Total: 4]

**10**      $f(x) = 2x + 3$

Find  $f(1 - x)$  in its simplest form.

..... [2]

[Total: 2]



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## Acknowledgements and Information:

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