

# **Mock Grade 5**

## **Maths**

## **Booklet 2**

Paper 1H

Non-Calculator

[www.ggmaths.co.uk](http://www.ggmaths.co.uk)

- 1 (a) Work out an estimate for the value of  $\frac{21.75 + \sqrt{98.1}}{0.192}$

.....  
(2)

$(1.8)^8 = 110$  correct to 3 significant figures.

- (b) Find the value of  $(0.18)^8$  correct to 3 significant figures.

.....  
(1)

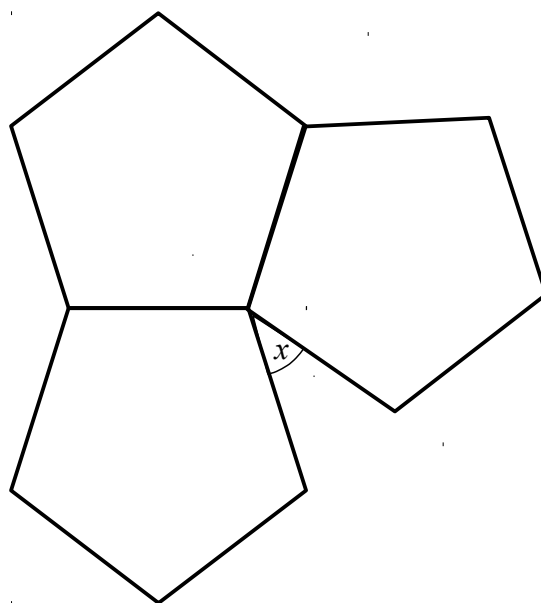
- (c) Find the value of  $4^{-3}$

.....  
(1)

**(Total for Question 1 is 4 marks)**

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- 2 The diagram shows three regular pentagons meeting at a point.



Work out the size of the angle marked  $x$ .  
You must show all your working.

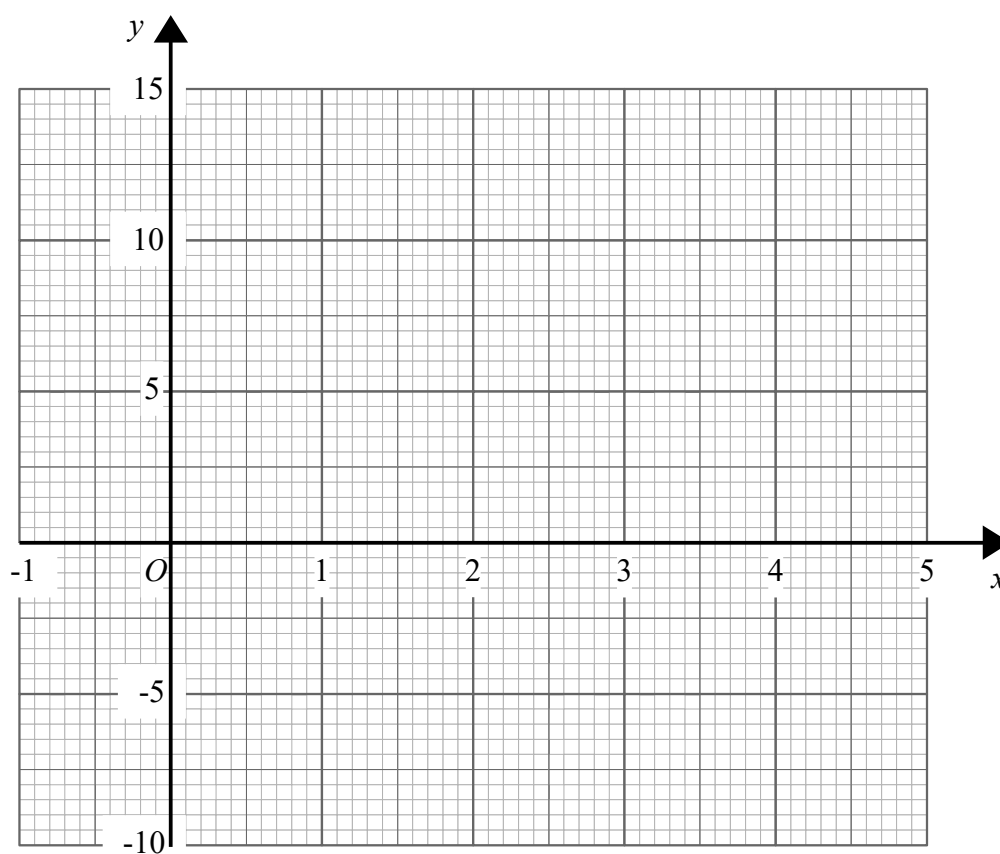
(Total for Question 2 is 3 marks)

3 (a) Complete the table of values for  $y = 4x - x^2$

$x$	-1	0	1	2	3	4
$y$						

(2)

(b) On the grid, draw the graph of  $y = 4x - x^2$  for values of  $x$  from -1 to 4



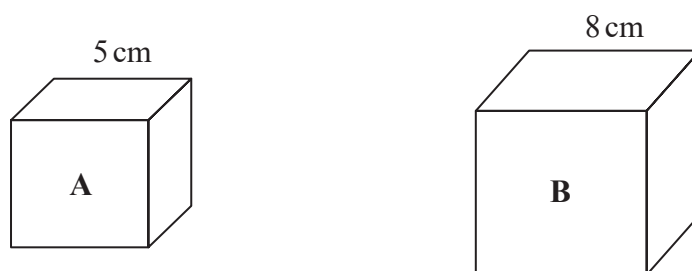
(2)

(c) Using your graph, find estimates for the solutions of the equation  $4x - x^2 = 3$

(2)

(Total for Question 3 is 6 marks)

4 Here are two cubes, **A** and **B**.



Cube **A** has a mass of 500 g.

Cube **B** has a mass of 256 g.

Work out

the density of cube **A** : the density of cube **B**

Give your answer in the form  $a : b$ , where  $a$  and  $b$  are integers.

.....  
(Total for Question 4 is 3 marks)

5 The table shows the amount of snow, in cm, that fell each day for 30 days.

Amount of snow ( $s$ cm)	Frequency
$0 \leq s < 10$	12
$10 \leq s < 20$	7
$20 \leq s < 30$	6
$30 \leq s < 40$	3
$40 \leq s < 50$	2

Work out an estimate for the mean amount of snow per day.

..... cm

(Total for Question 5 is 3 marks)

**6** Solve the simultaneous equations

$$4x + 2y = 8$$

$$3x - 5y = 19$$

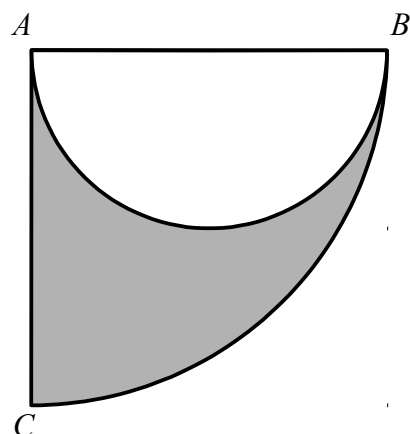
$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

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**(Total for Question 6 is 3 marks)**

- 7 The diagram shows a semi circle inside a sector of a circle, AB.



$AB$  is the diameter of the semicircle.

Angle  $BAC = 90^\circ$

$AB = 12$  cm

Show that  $\frac{\text{area of shaded region}}{\text{area of sector}} = \frac{1}{2}$

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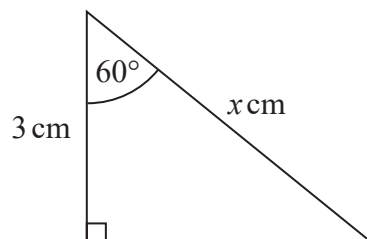
(Total for Question 7 is 4 marks)



- 8 (a) Write down the exact value of  $\sin 45^\circ$

.....  
(1)

Here is a right-angled triangle.



$\sin 30^\circ = 0.5$

- (b) Work out the value of  $x$ .

.....  
(2)

(Total for Question 8 is 3 marks)

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