GCSE Grade 4

Maths Booklet 4

Paper 2H
Calculator

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Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1   (a) Write 84 as a product of its prime factors.

....

(2)

(b) Find the lowest common multiple (LCM) of 60 and 84

....

(2)

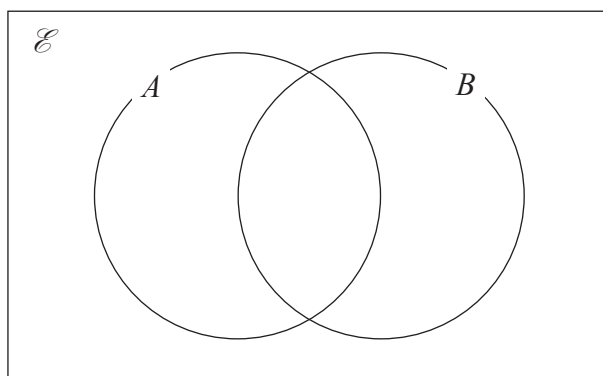**(Total for Question 1 is 4 marks)**

2 $\mathscr{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$
$A = \{\text{even numbers}\}$
$B = \{\text{factors of } 10\}$

(a) Complete the Venn diagram for this information.

(3)

A number is chosen at random from the universal set, $\mathscr{E}$

(b) Find the probability that this number is in the set $A \cap B$

....

(2)

(Total for Question 2 is 5 marks)

3 Carlo puts tins into small boxes and into large boxes.

He puts 6 tins into each small box.
He puts 20 tins into each large box.

Carlo puts a total of 3000 tins into the boxes so that

number of tins in small boxes : number of tins in large boxes $= 2 : 3$

Carlo says that less than 30% of the boxes filled with tins are large boxes.

Is Carlo correct?
You must show all your working.
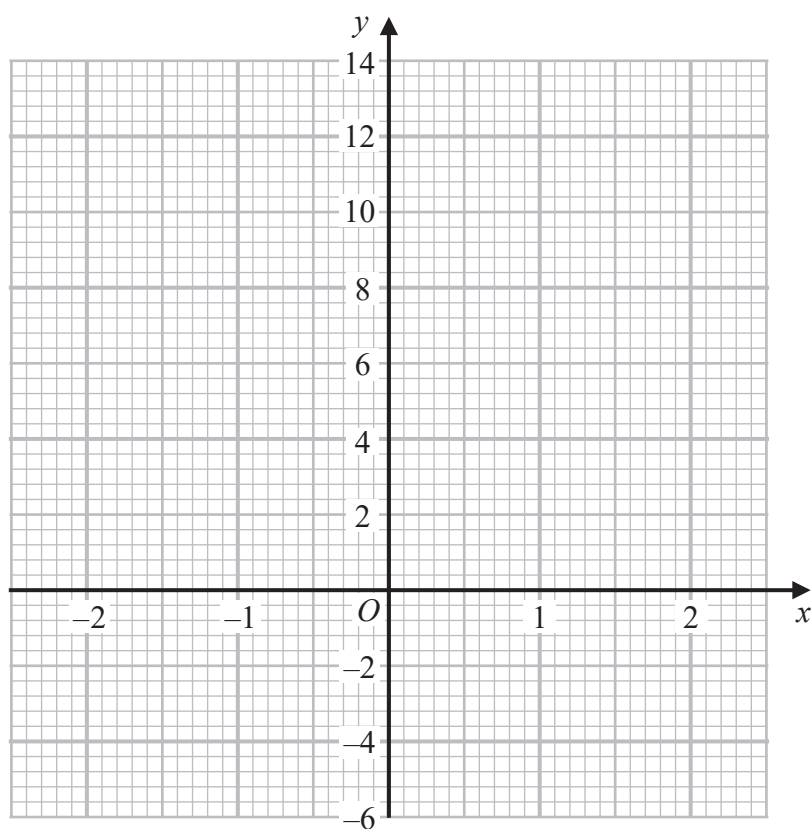
(Total for Question 3 is 5 marks)

4 (a) Complete the table of values for $y = 5 - x^3$

x	-2	-1	0	1	2
y		6			

(2)

(b) On the grid below, draw the graph of $y = 5 - x^3$ for values of x from -2 to 2
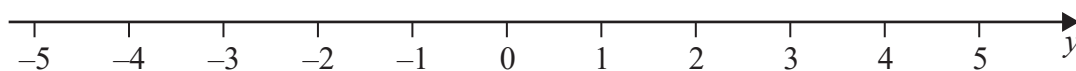
(2)

(Total for Question 4 is 4 marks)

5 (a) Write down the inequality shown on this number line.
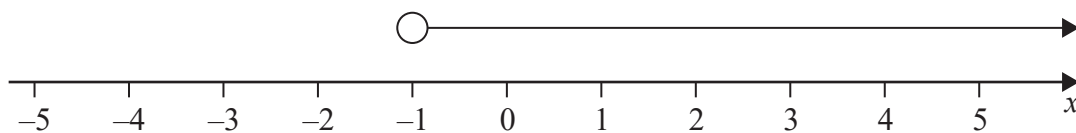
....
(1)

(b) On the number line below, show the inequality $-3 \leqslant y < 4$

(2)

(Total for Question 5 is 3 marks)

6 (a) Find the Highest Common Factor (HCF) of 60 and 84

....
(2)

(b) Find the Lowest Common Multiple (LCM) of 24 and 40

....
(2)

(Total for Question 6 is 4 marks)

7 Sam drives his car on a journey.
Here is the travel graph for the first 15 minutes of his journey.
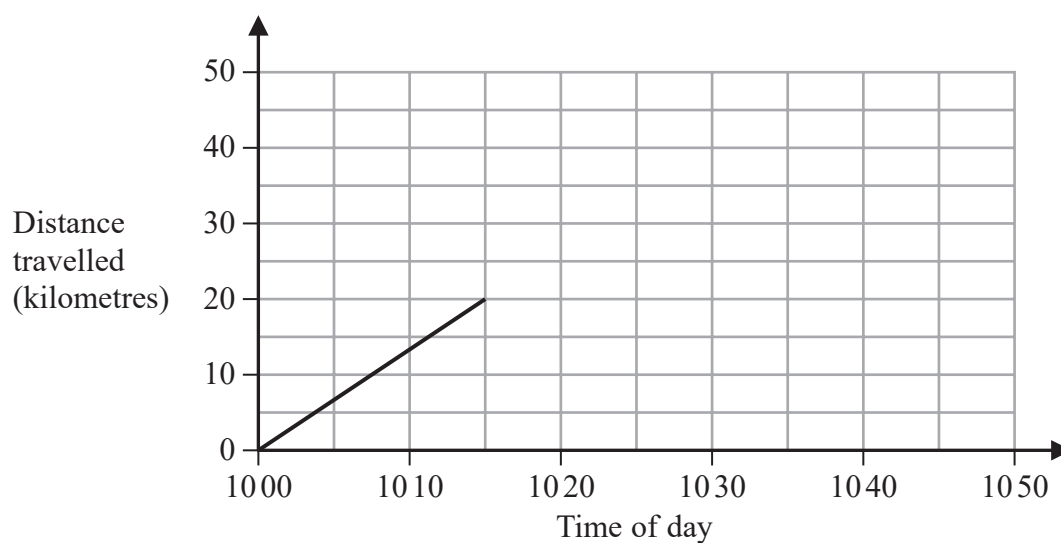
(a) Work out Sam's speed, in km/h, for the first 15 minutes of his journey.

.... km/h

(2)

At 10 15 Sam stops for 10 minutes and then drives for 20 minutes at a speed of 75 km/h.

(b) On the grid, complete the travel graph for Sam's journey.

(3)

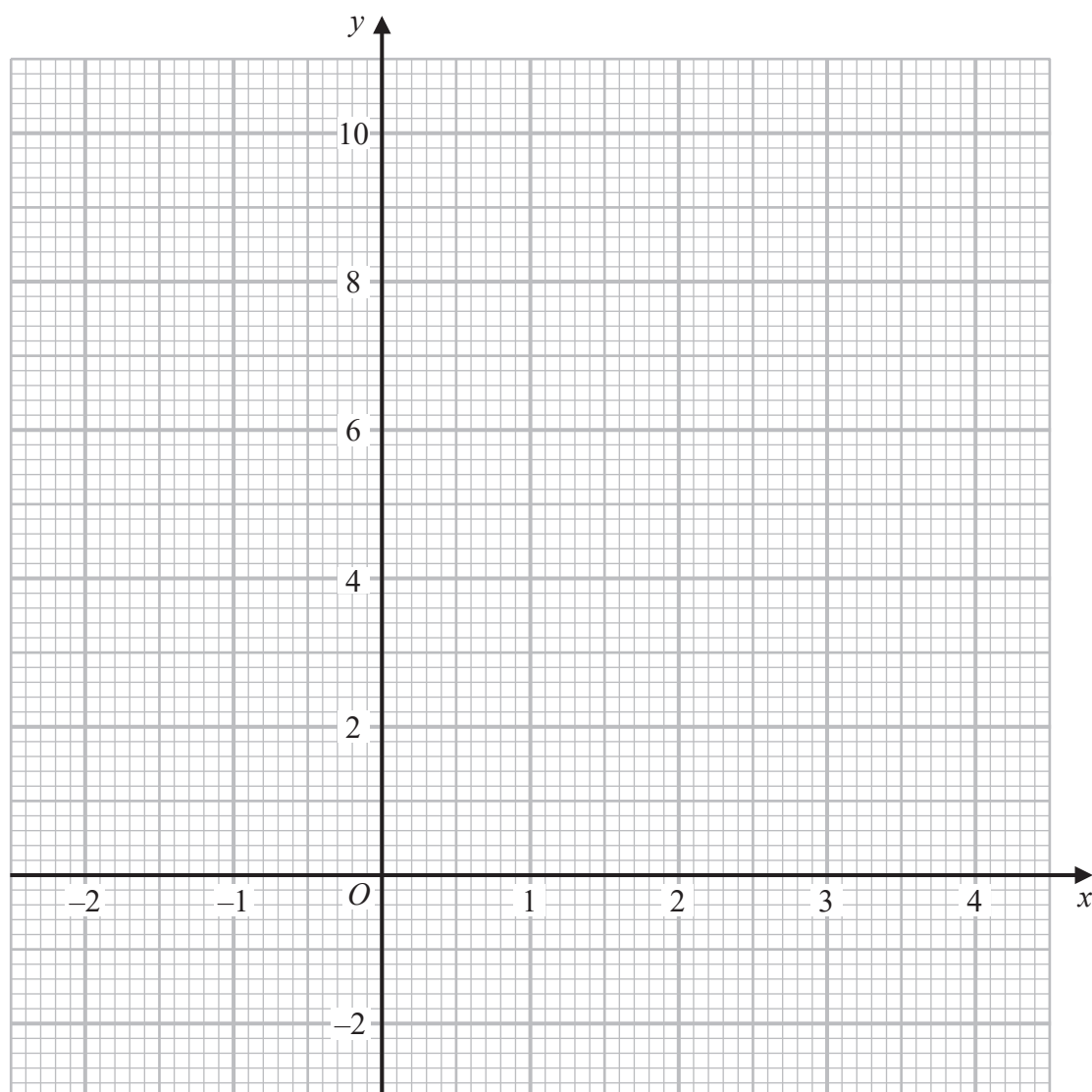**(Total for Question 7 is 5 marks)**

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

x	-2	-1	0	1	2	3	4
y	10		2			5	

(2)

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

(2)

(c) Use your graph to find estimates of the solutions of the equation $x^2 - 2x + 2 = 4$

....

(2)

(Total for Question 8 is 6 marks)