

Mock 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 140 as a product of its prime factors.

.....
(2)

(b) Find the lowest common multiple (LCM) of 56 and 96

.....
(2)

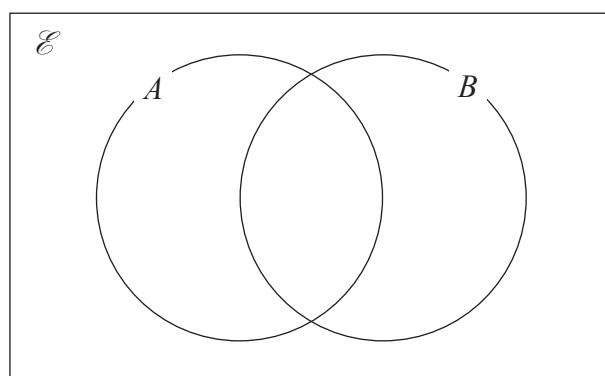
(Total for Question 1 is 4 marks)

2 $\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

$A = \{\text{prime numbers}\}$

$B = \{\text{odd numbers}\}$

(a) Complete the Venn diagram for this information.



(3)

A number is chosen at random from the universal set, \mathcal{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 8 tins into each small box.

He puts 25 tins into each large box.

Carlo puts a total of 4500 tins into the boxes so that

number of tins in small boxes : number of tins in large boxes = 4 : 5

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

Is Carlo correct?

You must show all your working.

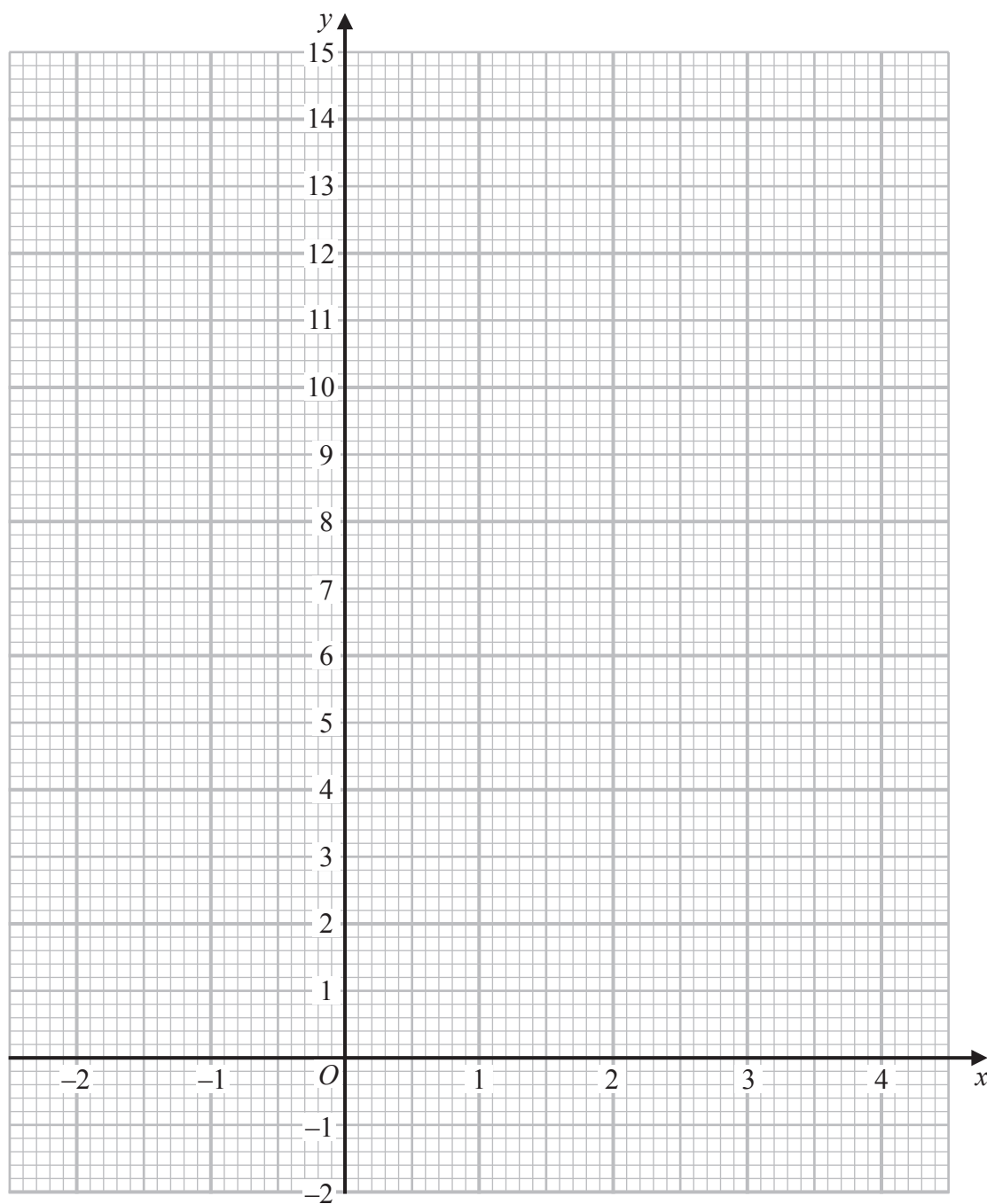
(Total for Question 3 is 5 marks)

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

x	-2	-1	0	1	2	3	4
y		8	3			0	

(2)

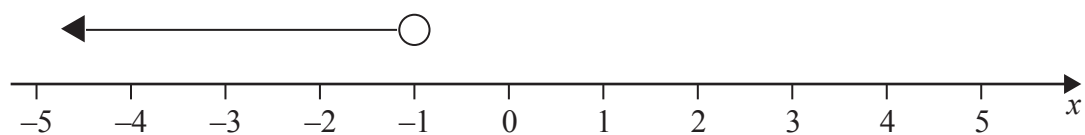
- (b) On the grid, draw the graph of $y = x^2 - 4x + 3$ for values of x from -2 to 4



(2)

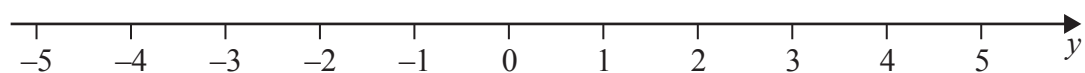
(Total for Question 4 is 4 marks)

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



(1)

- (b) On the number line below, show the inequality $-4 \leq y < 0$



(2)

(Total for Question 5 is 3 marks)

6 (a) Find the Highest Common Factor (HCF) of 120 and 135

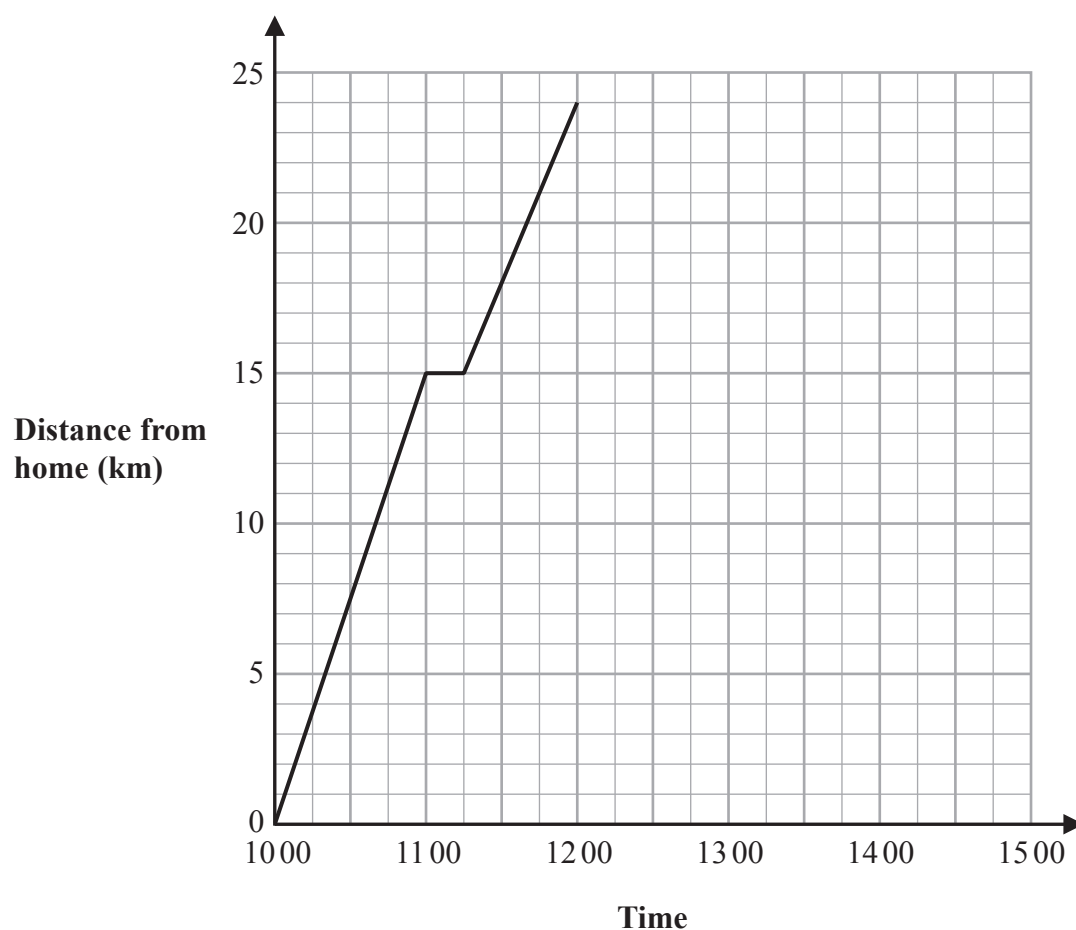
.....
(2)

(b) Find the Lowest Common Multiple (LCM) of 48 and 110

.....
(2)

(Total for Question 6 is 4 marks)

- 7 Jalina left her home at 10 00 to cycle to a park.
On her way to the park, she stopped at a friend's house and then continued her journey to the park.
Here is the distance-time graph for her journey to the park.



- (a) On her journey to the park, did Jalina cycle at a faster speed before or after she stopped at her friend's house?
Give a reason for your answer.

Jalina stayed at the park for 45 minutes.

She then cycled, without stopping, at a constant speed of 16 km/h from the park back to her home.

(b) Show all this information on the distance-time graph.

(2)

(c) Work out Jalina's average cycling speed, in kilometres per hour, for the complete journey to the park and back.

Do **not** include the times when she was not cycling in your calculation.

Give your answer correct to 1 decimal place.

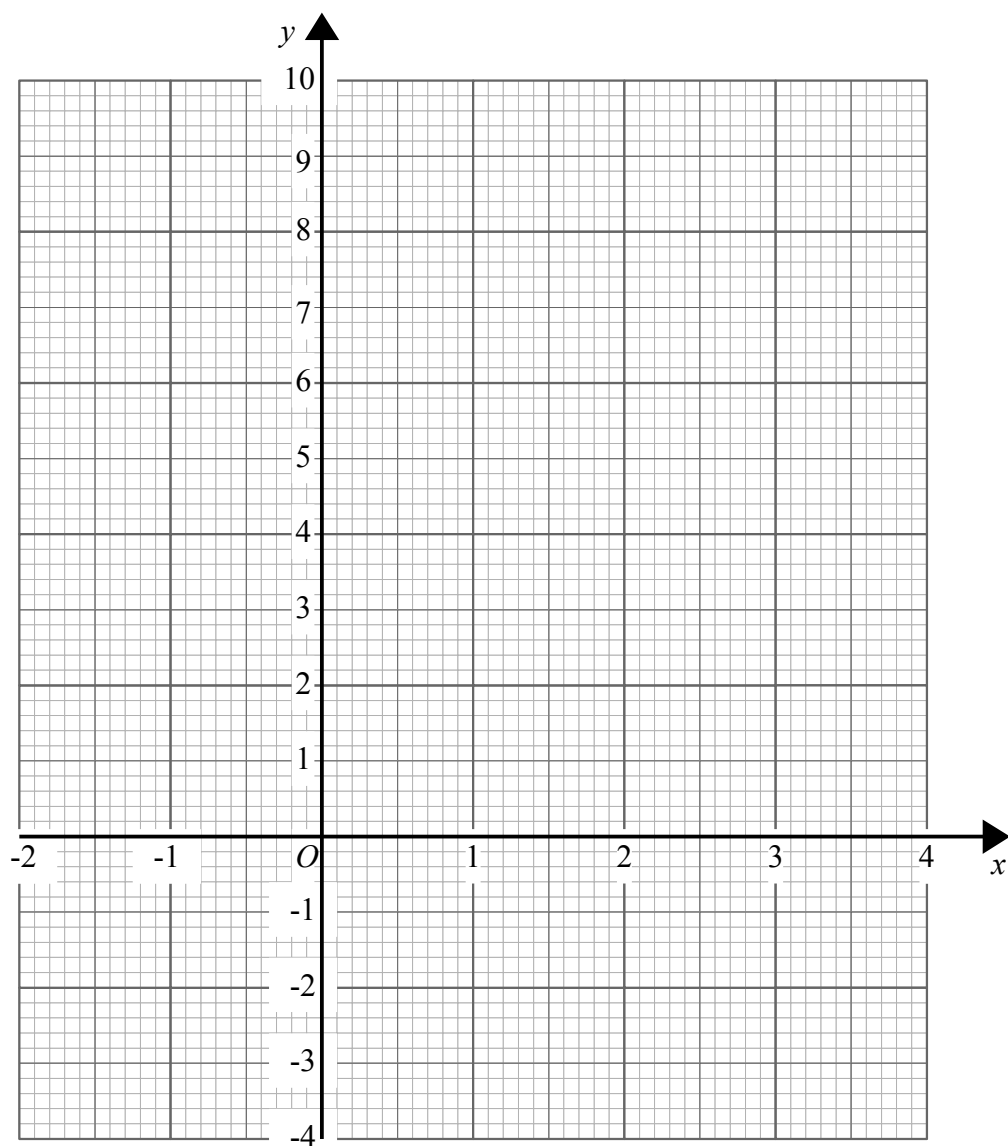
..... km/h
(3)

(Total for Question 7 is 6 marks)

8

Complete the table of values for $y = x^2 - 3x - 1$

x	-2	-1	0	1	2	3	4
y							



(2)

(a) On the grid draw the graph of $y = x^2 - 3x - 1$ for values of x from -2 to 4

(2)

(b) Use the graph to find an estimate of the turning point of the graph $y = x^2 - 3x - 1$

(2)

(Total for question 8 is 6 marks)