

# **Mock Grade 4**

## **Maths**

## **Booklet 4**

Paper 2H  
Calculator

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

**Answer ALL questions.**

**Write your answers in the spaces provided.**

**You must write down all the stages in your working.**

- 1** (a) Write 96 as a product of its prime factors.

.....  
(2)

- (b) Find the lowest common multiple (LCM) of 70 and 96

.....  
(2)

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

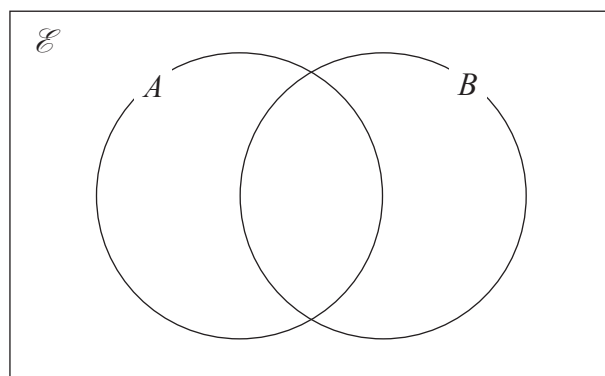
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2  $\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

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

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

(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.

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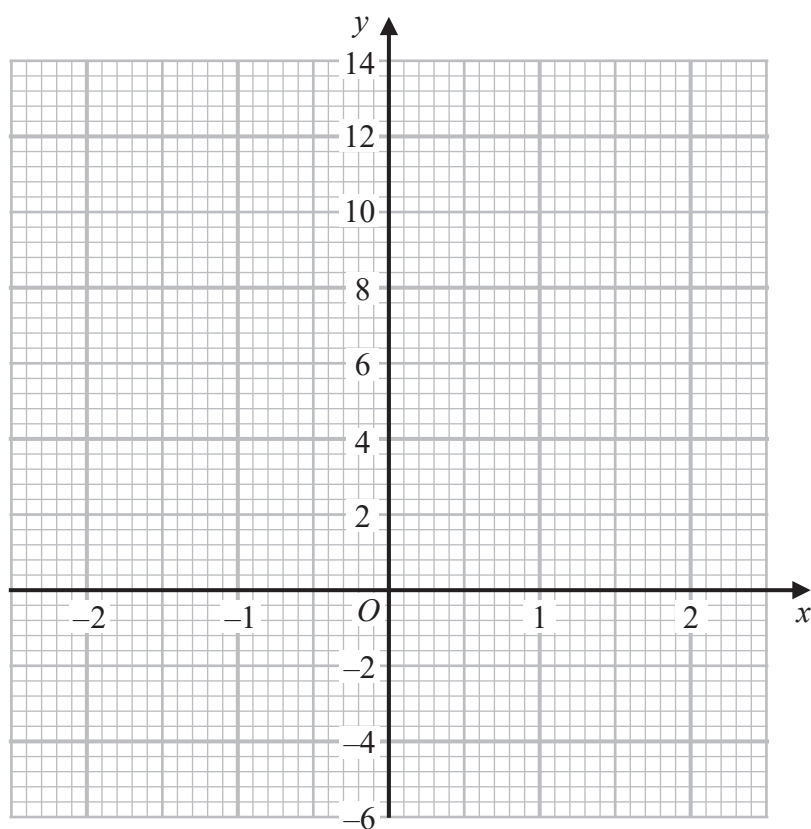
**(Total for Question 3 is 5 marks)**

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

$x$	-2	-1	0	1	2
$y$					

(2)

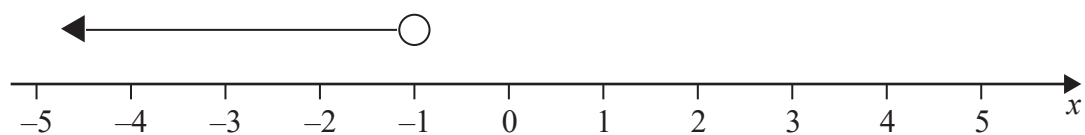
- (b) On the grid below, draw the graph of  $y = 4x - x^2$  for values of  $x$  from -2 to 2



(2)

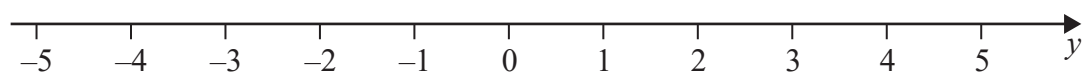
(Total for Question 4 is 4 marks)

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



(1)

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



(2)

(Total for Question 5 is 3 marks)

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

.....  
(2)

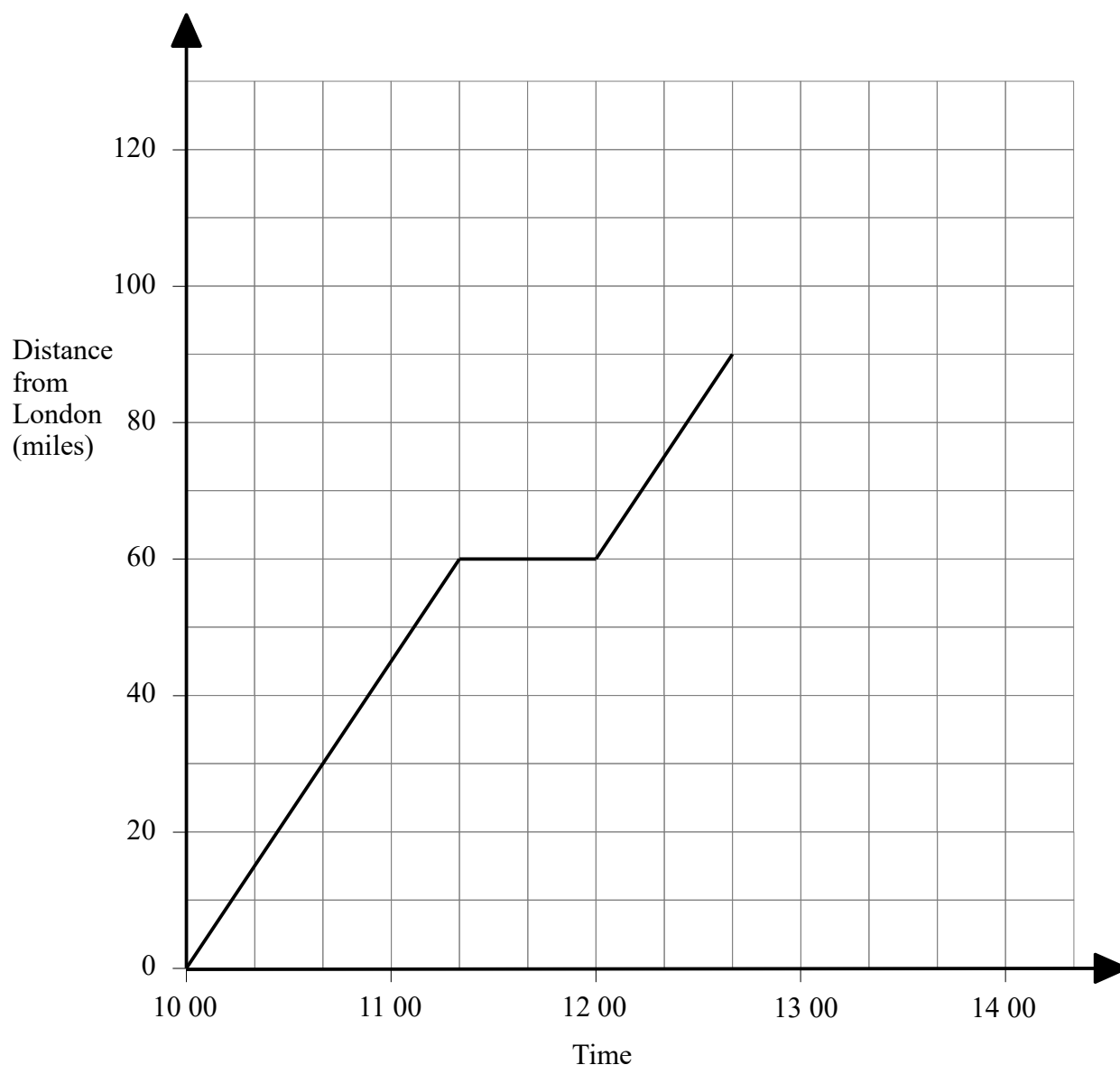
(b) Find the Lowest Common Multiple (LCM) of 48 and 110

.....  
(2)

**(Total for Question 6 is 4 marks)**

7 Dawn drove from London to Birmingham. She made one stop at a service station.

Here is part of Dawn's travel graph.



(a) For how many minutes did Dawn stop at the service station?

.....minutes  
(1)

(b) What was Dawn's average speed between London and the service station?

.....miles/hour  
(2)

(c) Birmingham is 120 miles from London.  
Dawn arrived in Birmingham at 14 00.

Complete the graph.

(2)

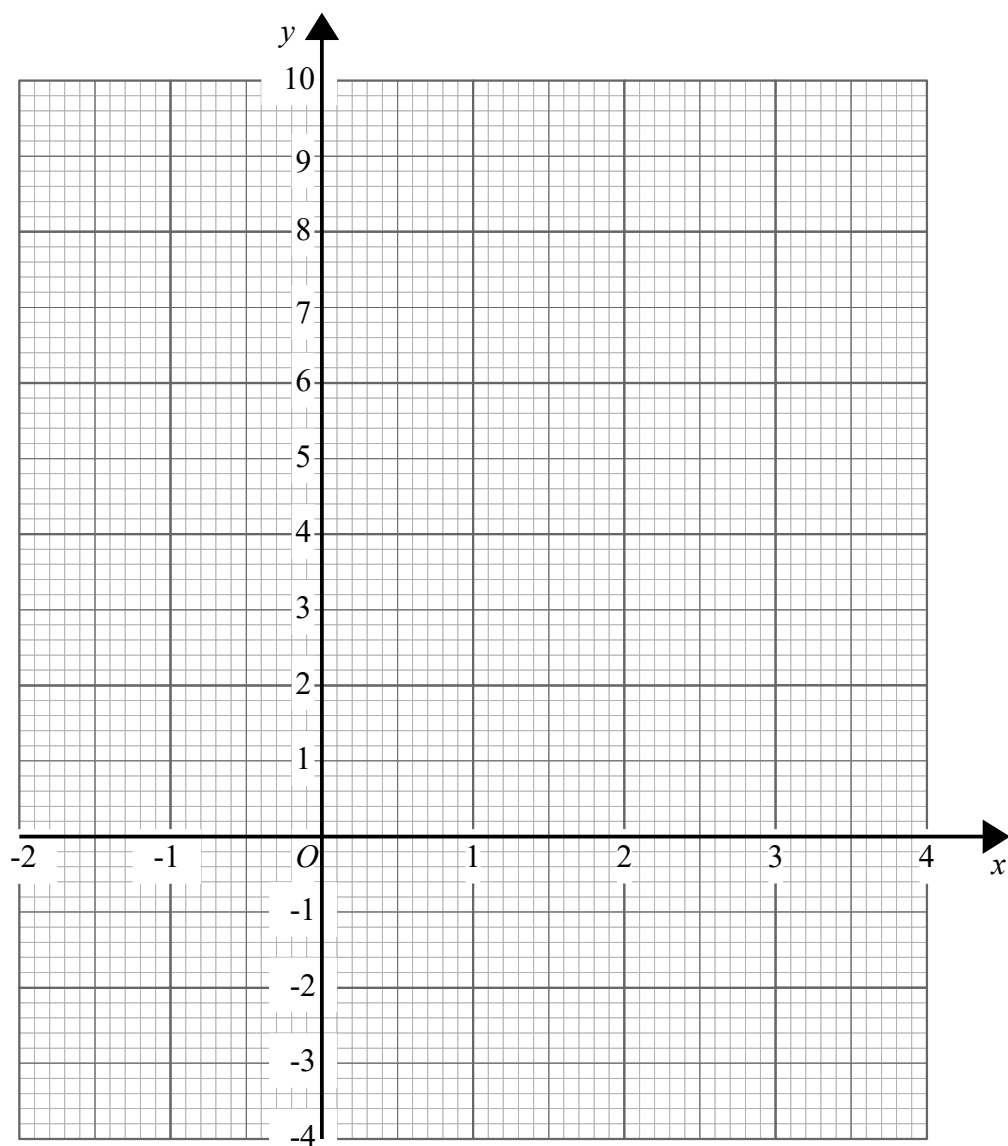
(Total for question 7 is 5 marks)



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)