Name ..... Class .....

Non-Calculator Crossover Paper 7

GCSE Mathematics · Foundation and Higher

40 marks · 45 minutes · Non-Calculator

1 Ravi is choosing a starter and a main course from this menu.

Starter	Main course
Soup (S)	Curry (C)
Melon (M)	Pasta (P)
Garlic bread (G)	Fish (F)

He chooses one starter and one main course.

List all the possible combinations Ravi can choose.

You may use the letters to help you.

.....

..... **(2)**

[Question 1: 2 marks]

2 $P = 3a^2 - 2b$

Work out the value of P when $a = -4$ and $b = 5$

$P =$ ..... **(2)**

[Question 2: 2 marks]

3 A school has 84 teachers.

The ratio of male teachers to female teachers is 2 : 5

How many female teachers are there?

..... **(2)**

[Question 3: 2 marks]

4 Hot dogs are sold in packs of 12.

Bread rolls are sold in packs of 20.

Kerry wants to buy exactly the same number of hot dogs and bread rolls.

What is the least number of packs of hot dogs she needs to buy?

..... **(3)**

[Question 4: 3 marks]

5 Rosa earns £1600 each month.

Each month she spends 35% of her earnings on rent

and $\frac{1}{4}$ of her earnings on food.

How much of her earnings does Rosa have left each month?

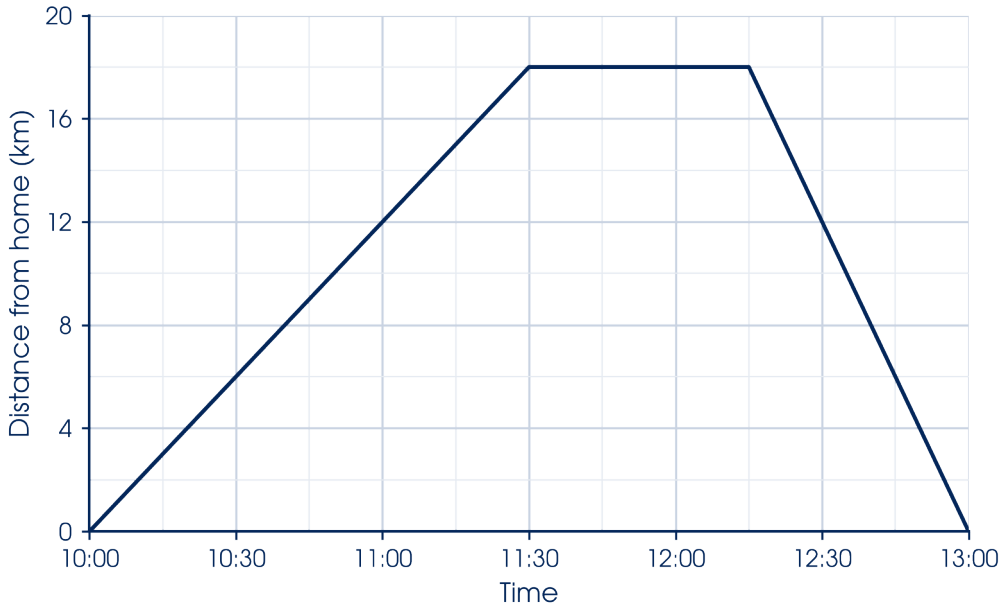
£..... **(3)**

[Question 5: 3 marks]

6 Sam cycled from his home to a lake.

He stayed at the lake for a while and then cycled home.

The distance–time graph shows Sam's journey.



(a) How long did Sam stay at the lake?

..... minutes **(1)**

(b) Work out Sam's average speed on his journey home.

Give your answer in kilometres per hour.

..... km/h **(2)**

[Question 6: 3 marks]

7 (a) Write 3.08×10^{-3} as an ordinary number.

..... **(1)**

(b) Work out $(4.5 \times 10^{6}) + (3 \times 10^{5})$

Give your answer in standard form.

..... **(2)**

[Question 7: 3 marks]

8 (a) Factorise $15x - 20$

..... **(1)**

(b) Factorise $x^2 - 7x + 12$

..... **(2)**

[Question 8: 3 marks]

9 Lily took four spelling tests.

Her mean score for the four tests was 15

Lily then took a fifth spelling test.

Her mean score for all five tests was 16

Work out Lily's score in the fifth test.

..... **(3)**

[Question 9: 3 marks]

10 The diagram shows the plan of the floor of a room.

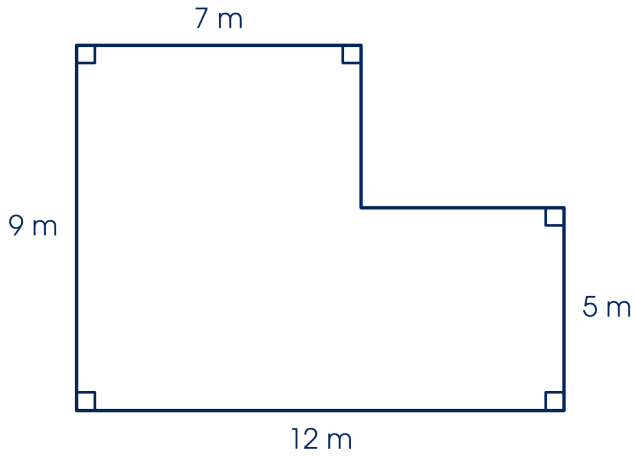


Diagram NOT accurately drawn

All the corners are right angles.

Carpet costs £8 per square metre.

Work out the cost of carpet needed to cover the whole floor.

£..... **(4)**

[Question 10: 4 marks]

11 Each interior angle of a regular polygon is 160°.

How many sides does the polygon have?

..... **(2)**

[Question 11: 2 marks]

12 Solve $3(x - 2) \leq x + 8$

..... **(2)**

[Question 12: 2 marks]

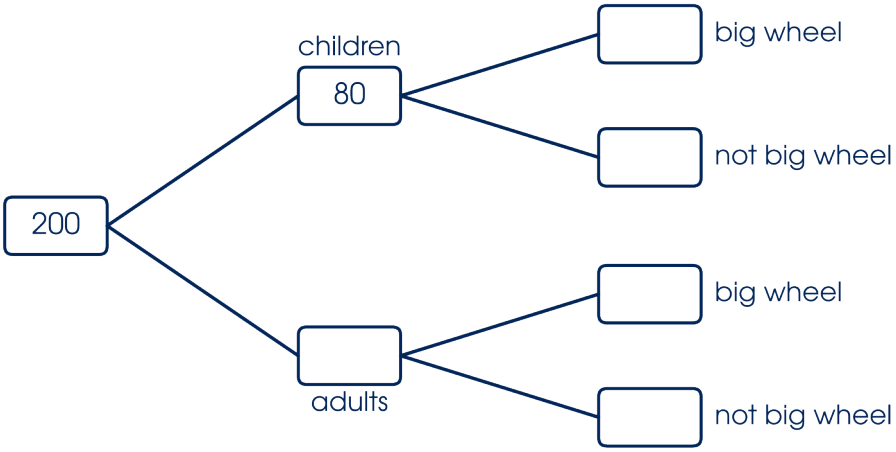
13 200 people visited a theme park.

80 of the people were children. The rest were adults.

$\frac{3}{4}$ of the children went on the big wheel.

30% of the adults went on the big wheel.

(a) Use this information to complete the frequency tree.



(3)

(b) One of the people who went on the big wheel is chosen at random.

Work out the probability that this person is a child.

.....

(1)

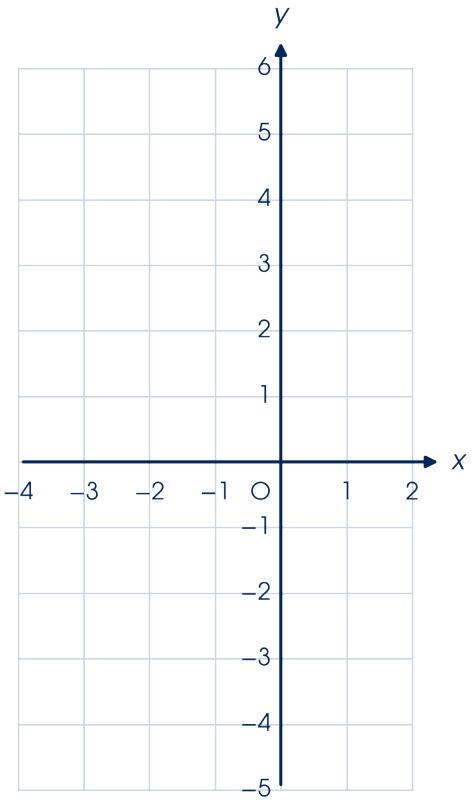
[Question 13: 4 marks]

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

x	−4	−3	−2	−1	0	1	2
y	5		−3		−3	0	

(2)

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



(2)

[Question 14: 4 marks]

TOTAL FOR PAPER IS 40 MARKS