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

Calculator Crossover Paper 4

GCSE Mathematics · Foundation and Higher

40 marks · 45 minutes · Calculator

1 (a) Write 0.000 036 7 in standard form.

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

(b) Work out $(8.12 \times 10^{7}) \div (2.9 \times 10^{-3})$

Give your answer in standard form.

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

[Question 1: 3 marks]

2 (a) Expand and simplify $(x + 9)(x - 5)$

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

(b) Factorise fully $15a^2b - 10ab^2$

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

[Question 2: 4 marks]

3 Freya buys 7 metres of curtain fabric for £40.95

The cost of the fabric is in direct proportion to its length.

Work out the cost of 11.6 metres of the same fabric.

£..... **(2)**

[Question 3: 2 marks]

4 The diagram shows a solid prism.

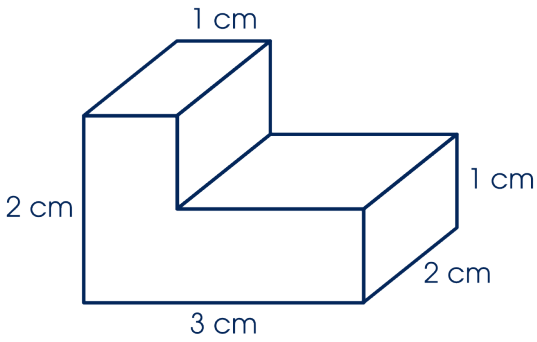


Diagram NOT accurately drawn

(a) On the centimetre grid, draw the plan of the prism.

(2)

(b) On the centimetre grid, draw the front elevation of the prism.

(1)

[Question 4: 3 marks]

5 (a) Each interior angle of a regular polygon is 165.6°

Work out the number of sides of the polygon.

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

(b) Owen says,

"A regular polygon can have an exterior angle of 35°"

Is Owen correct?

You must give a reason for your answer.

.....

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

[Question 5: 3 marks]

6 Priya invests £5800 in a savings account for 5 years.

The account pays compound interest at a rate of 3.6% per annum.

Work out the total amount of interest Priya will get at the end of the 5 years.

Give your answer to the nearest penny.

£..... **(3)**

[Question 6: 3 marks]

7 A train travels 148 km from Westbury to Halton.

The journey takes 1 hour 25 minutes.

Work out the average speed of the train in kilometres per hour.

Give your answer correct to 1 decimal place.

..... km/h **(3)**

[Question 7: 3 marks]

8 (a) Solve $6x + 5 > 2x - 13$

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

(b) Show your answer to part (a) on the number line.

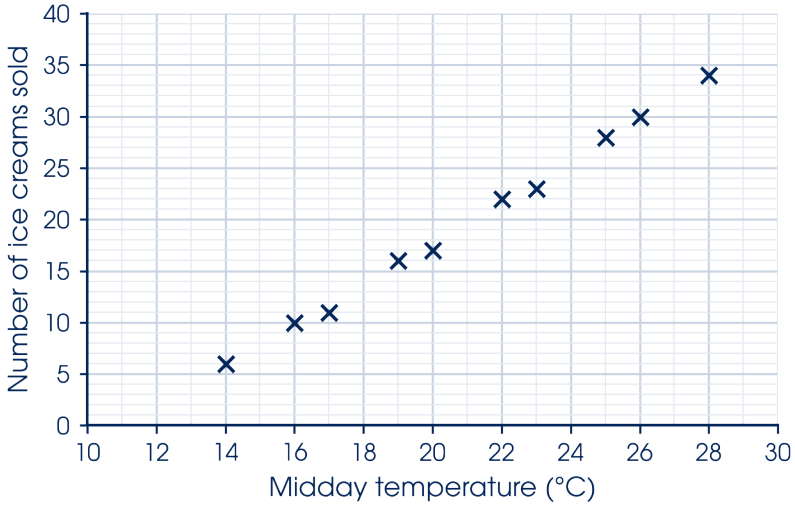


(2)

[Question 8: 4 marks]

9 A café owner records the midday temperature and the number of ice creams she sells on each of 10 days.

The scatter graph shows this information.



(a) Describe the relationship between the temperature and the number of ice creams sold.

.....

(1)

(b) On another day the midday temperature was 21 °C.

Use the scatter graph to estimate the number of ice creams sold on this day.

.....

(2)

(c) The café owner wants to use the scatter graph to estimate the number of ice creams she will sell on a day when the midday temperature is 5 °C.

Explain why this may not be reliable.

.....

.....

(1)

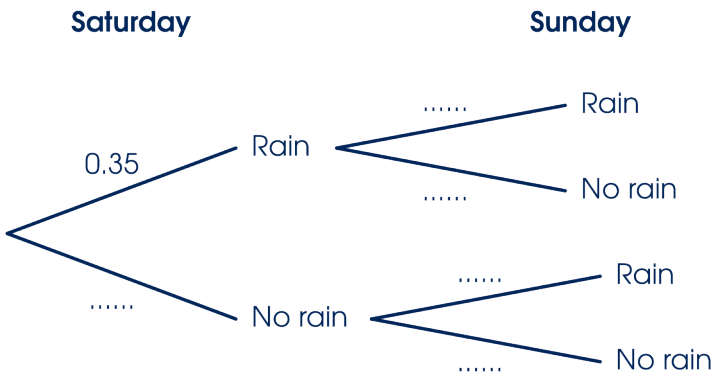
[Question 9: 4 marks]

10 The probability that it will rain on any day is 0.35

Whether it rains on one day is independent of whether it rains on any other day.

Leon is going camping on Saturday and Sunday.

(a) Complete the probability tree diagram.



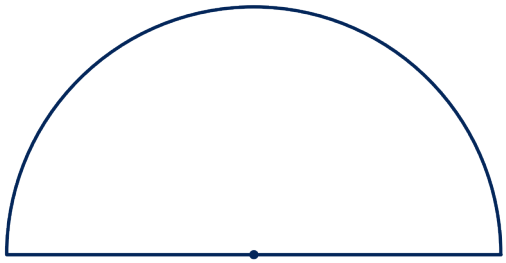
(2)

(b) Work out the probability that it will rain on exactly one of these two days.

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

[Question 10: 4 marks]

11 The diagram shows a semicircle with diameter 13.6 cm.



13.6 cm

Diagram NOT accurately drawn

(a) Work out the area of the semicircle.

Give your answer correct to 1 decimal place.

..... cm^2 **(2)**

(b) Work out the perimeter of the semicircle.

Give your answer correct to 3 significant figures.

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

[Question 11: 4 marks]

12 *ABC* is a right-angled triangle.

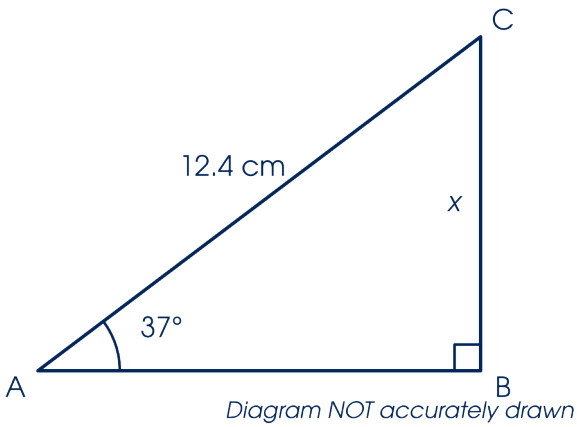


Diagram NOT accurately drawn

Work out the value of x.

Give your answer correct to 1 decimal place.

x = ... cm **(3)**

[Question 12: 3 marks]

TOTAL FOR PAPER IS 40 MARKS