Bronze Level

Model Answers 6

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Difficulty Level	Bronze
Booklet	Model Answers 6

Time Allowed: 54 minutes

Score: / 45

Percentage: /100

1 (a) Factorise $n^2 + 8n$

$$n(n+8)$$

$$n(n+8)$$

(2)

(b) Expand and simplify $3(2x - 5) - 4(x + 3)$

$$6x - 15 - 4x - 12$$

$$2x - 27$$

(2)

(c) Expand and simplify $(y + 7)(y + 2)$

$$y^2 + 7y + 2y + 14$$
$$y^2 + 9y + 14$$

$$y^2 + 9y + 14$$

(2)

(Total for Question is 6 marks)
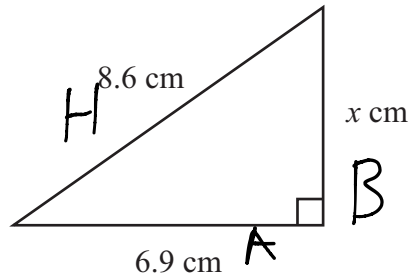
2

8.6 cm

x cm

6.9 cm

Diagram **NOT**
accurately drawn

Work out the value of x.
Give your answer correct to 3 significant figures.

$$H^2 - A^2 = B^2 \quad \rightarrow \quad 8.6^2 - 6.9^2 = x^2$$

$$x = \sqrt{26.35}$$

$$x \approx 5.13$$

$x = $ 5.13

(Total for Question is 3 marks)

3 Solve $3x + 16 = 1 - 2x$

Show clear algebraic working.

$$5x = 1 - 16$$
$$5x = -15$$
$$x = -3$$

$x =$ __−3__

(Total for Question is 3 marks)

4 Jack, Kate and Lila share some money in the ratios 5 : 9 : 6
In total, Jack and Kate receive £56

Work out the amount of money Lila receives.

$$5 + 9 + 6 = 20$$
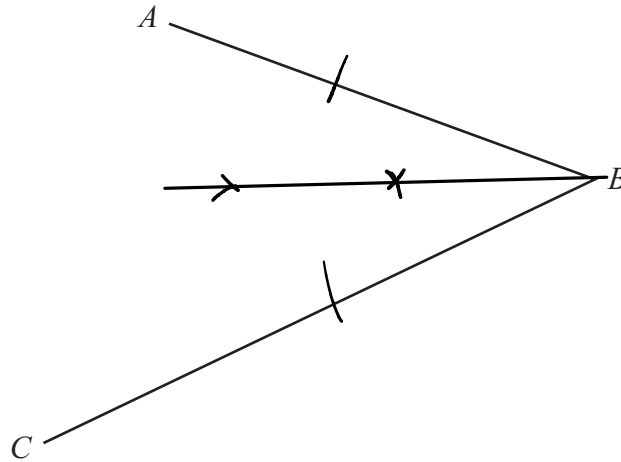
$$56 = \frac{5+9}{20}(n)$$

$$\frac{56}{0.7} = n = 80$$

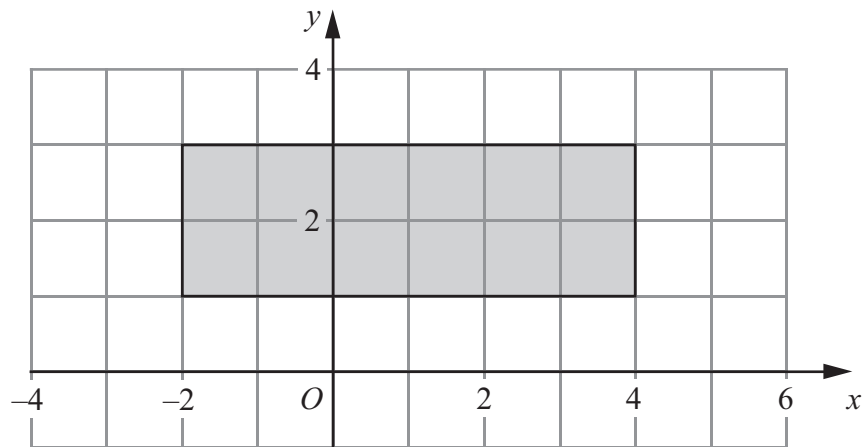$$80 \times \frac{6}{20} = 24$$

£ __24__

(Total for Question is 3 marks)

5 Use ruler and compasses to construct the bisector of angle *ABC*.
You must show all your construction lines.

A

B

C

(Total for Question is 2 marks)

6

y

x

Write down inequalities to fully define the shaded region.

$y \leq 3, y \geq 1 \rightarrow 1 \leq y \leq 3$

$-2 \leq x, x \leq 4 \rightarrow -2 \leq x \leq 4$

(Total for Question is 3 marks)

7 (a) Simplify $\dfrac{5x^5 y^6}{x^2 y^4}$

$5x^{5-2} \times y^{6-4}$

$5x^3 \times y^2$

$5x^3 y^2$

(2)

(b) Simplify $(2n^4)^3$

$2^3 \, n^{4 \times 3}$

$8n^{12}$

(2)

(Total for Question is 4 marks)

8 The table shows information about the mark scored on an examination question by each of 40 students.

Mark	Number of students
0	13
1	2
2	3
3	8
4	14

Work out the mean mark.

$$\frac{(mark \times n)}{Total\ number\ of\ students}$$

$$\frac{0(13) + 1(2) + 2(3) + 3(8) + 4 \times 14}{13 + 2 + 3 + 8 \cdot 14} = \frac{88}{40}$$

$$\rightarrow \underline{\underline{2.2}}$$

2.2

(Total for Question is 3 marks)

9 (a) Work out the value of $\dfrac{\sqrt{7.4}}{9.8 - 2.1}$

Give your answer as a decimal.
Write down all the figures on your calculator display.

$$\frac{\sqrt{7.4}}{7.7} \rightarrow \frac{7.72o..}{7.7}$$

$$\rightarrow 0.353284948$$

....

(2)

(b) Give your answer to part (a) correct to 2 significant figures.

$$0.35$$

....

(1)

(Total for Question is 3 marks)

10 (a) Multiply out $6(n - 2)$

$$6n - 6(2)$$
$$6n - 12$$

$6n - 12$
....

(1)

(b) Factorise $p^2 - 5p$

take out a factor of P

$$P(p - 5)$$

$P(p-5)$
....

(2)

(c) Solve $\dfrac{7x - 3}{2} = x$

Show clear algebraic working.

$\times 2$

$$7x - 3 = 2x$$

$+3$

$$7x = 2x + 3$$

$-2x$

$$5x = 3$$

$$\rightarrow x = \frac{3}{5}$$

$x = \dfrac{3}{5}$

(3)

(Total for Question is 6 marks)

11 $S = \{s, q, u, a, r, e\}$
   $V = \{a, e, i, o, u\}$

List the members of the set

(i) $S \cap V$

u, a, e

(ii) $S \cup V$

s, q, r, a, e, i, o, u

(Total for Question is 2 marks)

12 A box contains some coloured cards.
Each card is red or blue or yellow or green.
The table shows the probability of taking a red card or a blue card or a yellow card.

Card	Probability
Red	0.3
Blue	0.35
Yellow	0.15
Green	0.2

George takes at random a card from the box.

(a) Work out the probability that George takes a green card.

Total probability must be one

$$\therefore \quad 1 = 0.3 + 0.35 + 0.15 + P_g$$

$$\therefore P_g = 1 - (0.3 + 0.35 + 0.15)$$

$$P_g = 0.2$$

0.2

(2)

George replaces his card in the box.
Anish takes a card from the box and then replaces the card.
Anish does this 40 times.

(b) Work out an estimate for the number of times Anish takes a yellow card.

Number of trials X probability

$$40 \times 0.15 = 6$$

6

(2)

(Total for Question is 4 marks)

13 Wendy travelled on the Eurostar train from St Pancras station to the Gare du Nord station.
The Eurostar train travelled a distance of 495 km.
The journey time was 2 hours 15 minutes.

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

Avg speed = avg distance / avg time

2 hours 15mins = 2·25 hours

∴ Avg speed in km/h = $\dfrac{495}{2·25}$ = 220

220   km/h

(Total for Question is 3 marks)