

Bronze Level

Model Answers 1

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Difficulty Level	Bronze
Booklet	Model Answers 1

Time Allowed: 60 minutes

Score: / 50

Percentage: /100

- 1 (a) Use your calculator to work out the value of

$$\frac{24.1}{8.4-7.8} - 6.2^2$$

Write down all the figures on your calculator display.

$$\frac{24.1}{0.6} - (6.2 \times 6.2)$$

$$\frac{24.1}{0.6} - 38.4 = 40.166... - 38.4$$

$$1.726 \text{ or } \frac{259}{150}$$

(2)

- (b) Give your answer to part (a) correct to 3 significant figures.

$$1.73$$

(1)

(Total for Question is 3 marks)

2

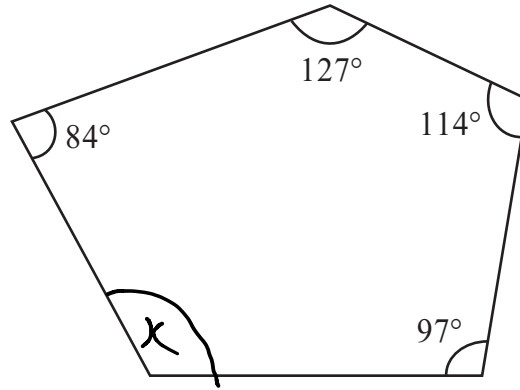


Diagram **NOT**
accurately drawn

Four of the angles of a pentagon are 97° , 114° , 127° and 84° .

Work out the size of the fifth angle.

Number of internal angles = 5
 therefore angles sum to $180 \times (5-2)$
 sum to 540°

$$540 = x + 97 + 114 + 127 + 84$$

$$x = 540 - 97 - 114 - 127 - 84, \quad x = \underline{\underline{118}} \dots 118 \dots^\circ$$

(Total for Question is 4 marks)

- 3 (a) Factorise $w^2 - 9w$.
remove a factor of w

$$w(w-9)$$

as $w(w-9) = w^2 - 9w$

$$\frac{w(w-9)}{(2)}$$

- (b) Solve $5x - 1 = 2x - 7$

rearrange to have x on one side
by subtracting $2x$ from both sides

$$\rightarrow 5x - 2x - 1 = -7, 3x - 1 = -7$$

add 1 to both sides

$$\rightarrow 3x = -6$$

divide both sides by 3

$$\rightarrow \underline{\underline{x = -2}}$$

$$x = \frac{-2}{(3)}$$

- (c) Expand and simplify $(y-7)(y+3)$.

$$(y \times y) + (y \times 3) + (-7 \times y) + (-7 \times 3)$$

$$y^2 + 3y - 7y - 21$$

$$\underline{\underline{y^2 - 4y - 21}}$$

$$\frac{y^2 - 4y - 21}{(2)}$$

(Total for Question is 7 marks)

- 4 Every morning, Samath has one glass of fruit juice with his breakfast. He chooses at random orange juice or pineapple juice or mango juice. The probability that he chooses orange juice is 0.6
The probability that he chooses pineapple juice is 0.3

(a) Work out the probability that he chooses mango juice.

$$\text{Total probability} = 1$$

$$\text{Probability of mango} = 1 - 0.6 - 0.3 = \underline{\underline{0.1}}$$

$$\frac{0.1}{(2)}$$

(b) There are 30 days in April.

Work out an estimate for the number of days in April on which Samath chooses orange juice.

Probability Samath chooses orange juice is 0.6 for each day

$$\text{So number of times is } 30 \times 0.6 = \underline{\underline{18}}$$

$$\frac{18}{(2)}$$

(Total for Question is 4 marks)

- 5 Show that $\frac{5}{6} - \frac{3}{4} = \frac{1}{12}$

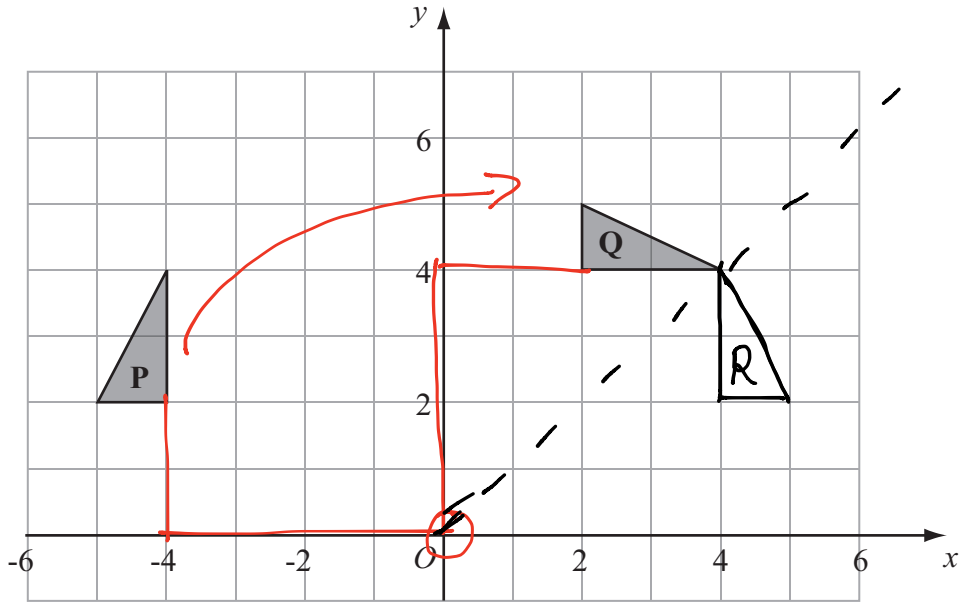
12 is lowest common multiple of all Denominators

$$\text{SO: } \frac{5 \times 2}{6 \times 2} = \frac{10}{12}, \quad \frac{3 \times 3}{4 \times 3} = \frac{9}{12}$$

$$\frac{10}{12} - \frac{9}{12} = \frac{10-9}{12} = \underline{\underline{\frac{1}{12}}}$$

(Total for Question is 2 marks)

6



(a) Describe fully the single transformation which maps triangle P onto triangle Q.

Rotation, 90° clockwise, about $(0,0)$

(3)

(b) Reflect triangle Q in the line $y = x$.

Label the new triangle R.

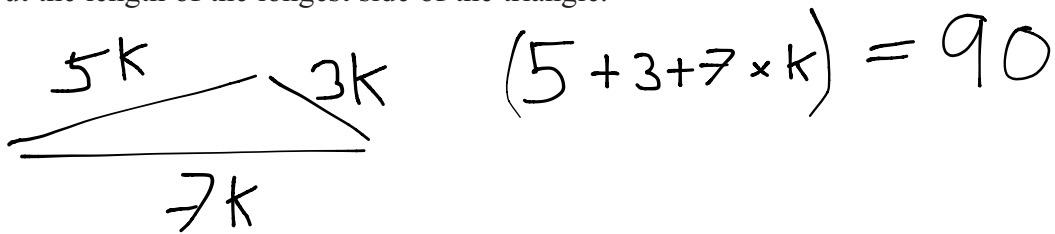
(2)

(Total for Question is 5 marks)

7 The perimeter of a triangle is 90 cm.

The lengths of the sides of the triangle are in the ratios 3 : 5 : 7

Work out the length of the longest side of the triangle.



$$15k = 90$$

$$k = \frac{90}{15} = 6$$

\therefore sides are of length:

18 : 30 : 42

So longest side = 42 cm

(Total for Question is 3 marks)

- 8 $\mathcal{E} = \{2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\}$
 $A = \{\text{odd numbers}\}$
 $P = \{\text{prime numbers}\}$

List the members of the set

(i) $A \cap P,$

$\cap = \text{and}$, So numbers
that are odd 'and' prime \longrightarrow

3, 5, 7, 11

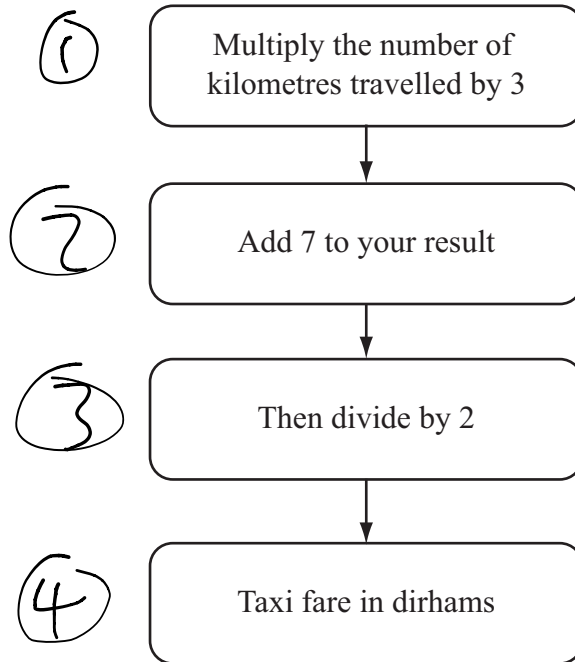
(ii) $A \cup P.$

$\cup = \text{or}$, So numbers that are
either odd or prime \longrightarrow
(list both)

2, 3, 5, 7, 9, 11

(Total for Question is 2 marks)

9 This rule can be used to work out the fare, in dirhams, for a taxi journey in Dubai.

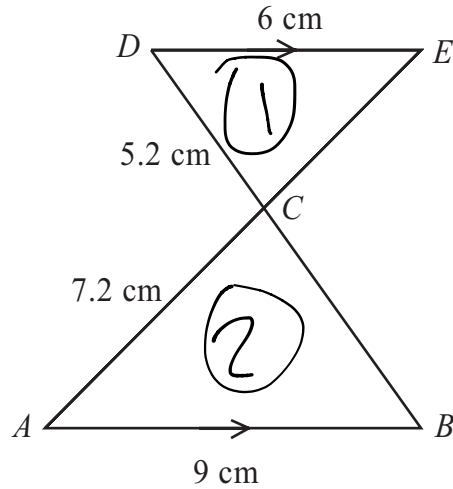


Find a formula for the fare, C dirhams, for a taxi journey of d kilometres.

① $d \times 3 = 3d \rightarrow$ ② $3d + 7 \rightarrow$
 \rightarrow ③ $\frac{3d + 7}{2} \rightarrow$ ④ $C = \frac{3d + 7}{2}$

(Total for Question is 3 marks)

10

Diagram **NOT**
accurately drawn

AB is parallel to DE .
 ACE and BCD are straight lines.
 $AB = 9$ cm.
 $AC = 7.2$ cm.
 $CD = 5.2$ cm.
 $DE = 6$ cm.

(a) Calculate the length of BC .

Triangles are proportional
 \therefore length of sides are a ratio

$$AB = k \times DE \quad \frac{9}{6} = k \quad \therefore BC = 5.2 \times \frac{9}{6} = 7.8 \text{ cm}$$

(2)

(b) Calculate the length of CE .

$$\frac{9}{6} = \frac{7.2}{CE} \rightarrow CE = 7.2 \times \frac{6}{9} = \underline{\underline{4.8}}$$

$$\underline{\underline{4.8}} \text{ cm}$$

(2)

(Total for Question is 4 marks)

- 11 In a sale, normal prices are reduced by 15%.
The normal price of a television was \$640

Work out the sale price of the television.

$$15\% = \frac{15}{100} \quad \text{OR} \quad 640 \times 0.85$$

$$640 \times \frac{15}{100} = 96 \quad = \underline{\underline{544}}$$

$$640 - 96 = \underline{\underline{544}}$$

\$ 544

(Total for Question is 3 marks)

- 12 John throws a biased coin 120 times.

It shows heads 90 times.

- (a) John throws the coin once more.

Work out an estimate for the probability that the coin shows **tails**.

$$P_H = \frac{90}{120} = \text{prob of heads} = \frac{9}{12}$$

$$\text{Total prob} = 1 = P_H + P_T$$

$$\therefore 1 - P_H = P_T = \frac{3}{12}$$

(2)

Carly throws the same coin 200 times.

- (b) Work out an estimate for the number of times the coin shows **tails**.

$$\text{number of throws} \times \text{Prob}$$

$$200 \times \frac{3}{12} = 50$$

(2)

(Total for Question is 4 marks)

- 13 Here is a list of ingredients for making Apple and Raspberry Crumble for 6 people.

Apple and Raspberry Crumble	
Ingredients for 6 people	
120 grams	plain flour
230 grams	apples
200 grams	raspberries
160 grams	soft brown sugar
90 grams	butter

Sam wants to make Apple and Raspberry Crumble for 15 people.
She has enough plain flour, soft brown sugar and butter.

Work out the amount of apples and the amount of raspberries Sam needs.

Multiple all ingredients by $\frac{15}{6}$

$$230g \times \frac{15}{6} = \underline{575}g \text{ of apples}$$

$$200 \times \frac{15}{6} = \underline{500}g \text{ of raspberries}$$

apples 575 grams
raspberries 500 grams

(Total for Question is 3 marks)

- 14 The length of Rachael's journey from her home to work is 72 km.
The journey takes 1 hour 20 minutes.

Work out her average speed in km/h.

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}} \quad , 1:20 \text{ mins} = \frac{4}{3} \text{ hours}$$

$$\text{Speed} = \frac{72}{4/3} = \underline{\underline{54}}$$

..... 54 km/h

(Total for Question is 3 marks)