

Bronze Level

Model Answers 5

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Difficulty Level	Bronze
Booklet	Model Answers 5

Time Allowed: 56 minutes

Score: / 46

Percentage: /100

- 1 Joseph travels to work each day by train.
The weekly cost of his train journey is £45
Joseph's weekly pay is £625

(a) Work out 45 as a percentage of 625

$$\frac{45}{625} \times 100 = 7.2\%$$

$$\underline{\underline{7.2}} \dots\dots\dots\%$$

(2)

(b) The weekly cost of his train journey increases by 8%.

Increase £45 by 8%.

$$8\% = 0.08 \rightarrow \text{increase by } 8\% = \times 1.08$$

$$45 \times 1.08 = \underline{\underline{48.6}}$$

$$\pounds \underline{\underline{48.6}} \dots\dots\dots$$

(3)

(c) Joseph's weekly pay increases to £640

Calculate the percentage increase from 625 to 640

$$\frac{\text{Difference}}{\text{original}} \times 100 = \% \text{ increase}$$

$$\frac{640-625}{625} \times 100 = 2.4\%$$

$$\underline{\underline{2.4}} \dots\dots\dots\%$$

(3)

(d) Joseph decides to cycle to work.

He cycles 18 km to work.

His journey to work takes 1 hour 20 minutes.

Calculate his average speed in kilometres per hour.

60 min per hour

$$\therefore 1 + \frac{1}{3} \text{ hours}$$

$$\frac{4}{3} \text{ hours}$$

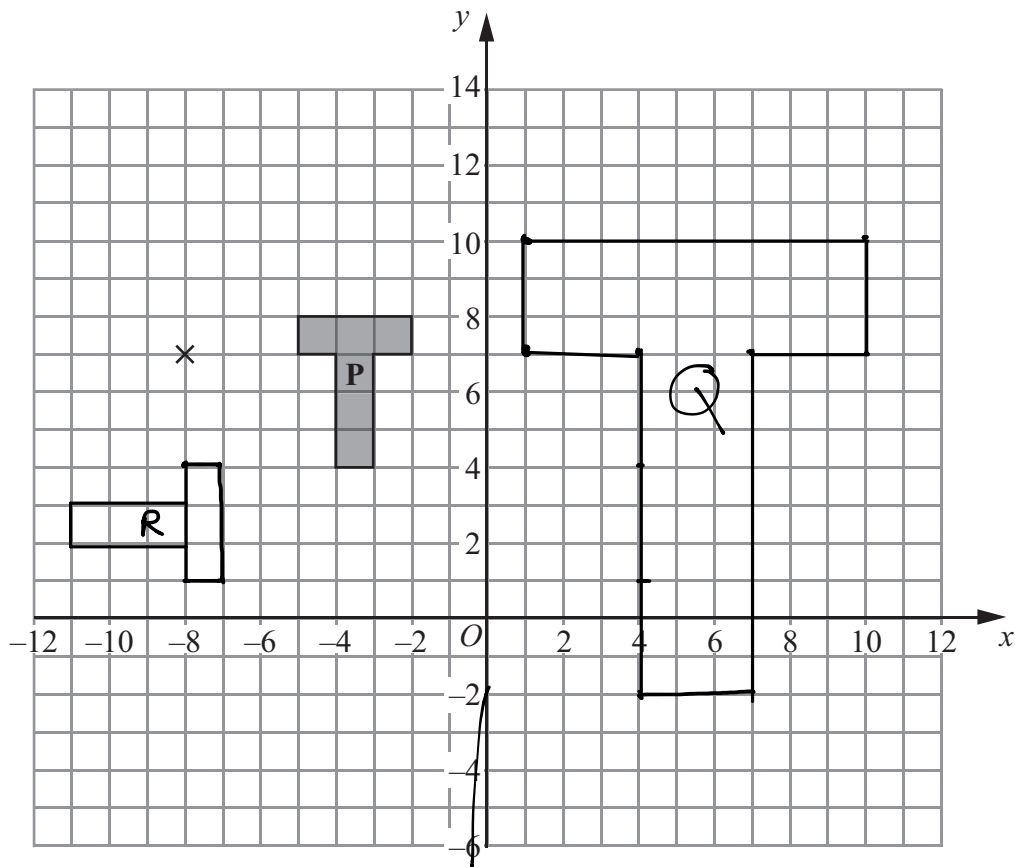
$$\text{avg speed} = \frac{\text{Distance}}{\text{Time}} = \frac{18}{\frac{4}{3}} = \underline{\underline{13.5}} \text{ km/h}$$

$$\underline{\underline{13.5}} \dots\dots\dots \text{ km/h}$$

(3)

(Total for Question is 11 marks)

2



- (a) On the grid, enlarge shape **P** with scale factor 3 and centre $(-8, 7)$.
Label the new shape **Q**.

(3)

- (b) On the grid, rotate shape **P** through 90° clockwise about the point $(-8, 7)$.
Label the new shape **R**.

(2)

(Total for Question is 5 marks)

3 A school has 60 teachers.

The table shows information about the distances, in km, the teachers travel to school each day.

Distance (d km)	Frequency
$0 < d \leq 5$	12
$5 < d \leq 10$	6
$10 < d \leq 15$	4
$15 < d \leq 20$	6
$20 < d \leq 25$	14
$25 < d \leq 30$	18

(a) Write down the modal class.

$$\frac{25 < d \leq 30}{(1)}$$

(b) Work out an estimate for the total distance travelled to school by the 60 teachers each day.

mid point \times freq :

$$2.5 \times 12 + 7.5 \times 6 + 12.5 \times 4 + 17.5 \times 6 + 22.5 \times 14 + 27.5 \times 18$$

$$30 + 45 + 50 + 105 + 315 + 495 = 1040$$

$$\frac{1040}{(3)} \text{ km}$$

(Total for Question is 4 marks)

4 (i) Solve the inequalities $-2 < x + 2 \leq 5$

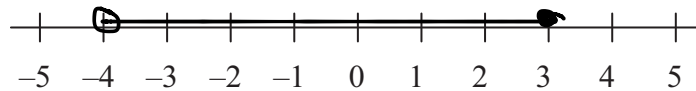
$$-2 < x + 2, \quad x + 2 \leq 5$$

$$-2 - 2 < x, \quad x \leq 5 - 2$$

$$-4 < x, \quad x \leq 3 \rightarrow -4 < x \leq 3$$

$$\underline{-4 < x \leq 3}$$

(ii) On the number line, represent the solution to part (i).



(Total for Question is 4 marks)

5

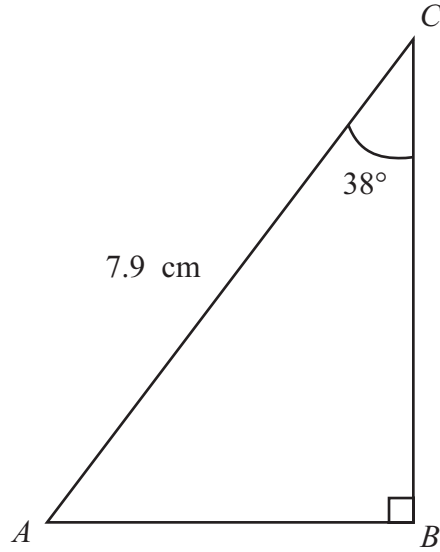


Diagram NOT accurately drawn

ABC is a triangle.
 $AC = 7.9$ cm
 Angle $B = 90^\circ$
 Angle $C = 38^\circ$

- (a) Calculate the length of BC .
 Give your answer correct to 3 significant figures.

SOH CA TOA

$$\cos(38^\circ) \times 7.9 = \underline{\underline{6.23}}$$

6.23 cm
 (3)

- (b) The size of angle C is 38° , correct to 2 significant figures.

- (i) Write down the lower bound of the size of angle C .

37.5^o

37.5^o

- (ii) Write down the upper bound of the size of angle C .

38.49
 or 38.5

38.5^o
 (2)

(Total for Question is 5 marks)

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

$$\frac{8.7+2.8}{1.4^2}$$

Give your answer as a decimal.

Write down all the figures on your calculator display.

$$\frac{11.5}{1.46} = 5.8673\dots\dots$$

$$\underline{5.8673469\dots}$$

(2)

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

$$\underline{5.9}$$

(1)

(Total for Question is 3 marks)

- 7 A circle has a diameter of 7.6 cm.
Work out the circumference of the circle.
Give your answer correct to 3 significant figures.

$$\pi D = \text{Circumference}$$
$$\pi \times 7.6 = \underline{\underline{23.9}}$$

$$\underline{23.9} \text{ cm}$$

(Total for Question is 2 marks)

8 The table shows information about the marks of 20 students in a science test.

Mark	Frequency
6	2
7	4
8	5
9	8
10	1

Work out the mean mark of the 20 students.

$$(6 \times 2) + (7 \times 4) + (8 \times 5) + (9 \times 8) + (10 \times 1) = 162$$

$$\frac{162}{\text{Total}} = \frac{162}{20} = \underline{8.1}$$

8.1

(Total for Question is 3 marks)

9 Abid is waiting for a bus.

The probability that his bus will be early is 0.2

The probability that his bus will be on time is 0.7

Work out the probability that his bus will be either early or on time.

$$P_e + P_{ot} = 0.2 + 0.7$$

$$= \underline{\underline{0.9}}$$

0.9

(Total for Question is 2 marks)

10 $\mathcal{E} = \{\text{even numbers}\}$
 $A = \{2, 4, 6, 8, 10\}$

(a) B is a set such that $A \cap B = \{4, 8\}$
The set B has 3 members.

List the members of one possible set B .

4, 8, 10

(2)

(b) C is a set such that $A \cap C = \emptyset$
The set C has 3 members.

List the members of one possible set C .

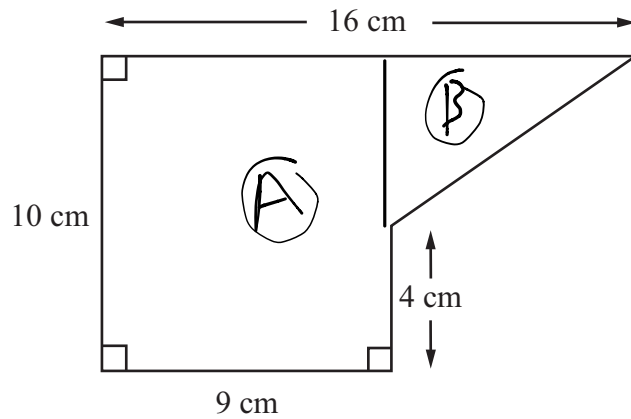
16, 18, 20

16, 18, 20

(1)

(Total for Question is 3 marks)

11

Diagram **NOT**
accurately drawn

The diagram shows a shape.

Work out the area of the shape.

$$A = 9 \times 10 = 90$$

$$B = \frac{1}{2} \times b \times h = \frac{1}{2} (16 - 9) (10 - 4)$$

$$= 21$$

$$A + B = \underline{\underline{111}}$$

111..... cm²

(Total for Question is 4 marks)