Bronze Level

Model Answers 8

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Difficulty Level	Bronze
Booklet	Model Answers 8

Time Allowed: **59 minutes**

Score: **/ 49**

Percentage: **/100**

1 Here is a list of the ingredients needed to make leek and potato soup for 6 people.

Leek and Potato Soup
Ingredients for 6 people
900 ml chicken stock 900 ml water 750 g leeks 350 g potatoes 350 g onions

(a) Ainsley wants to make leek and potato soup for 13 people.

Work out the amount of chicken stock he needs.

Current recipe makes enough for six, so first find values per person by dividing by 6 then multiply by 13

900/6 x 13 = 1950

1950 ml

(2)

(b) Delia makes leek and potato soup for a group of people.
She uses 1250 g of leeks.

Work out the number of people in the group.

Value of leeks per person Is 750/6 = 125
125 x n = 1250
N = 10

10

(2)

(Total for Question is 4 marks)

2 A plane flew from Frankfurt to Hong Kong.
The flight time was 10 hours 45 minutes.
The average speed was 852 km/h.

Work out the distance the plane flew.

Avg speed = distance / time
Speed x time = distance

10hours 45mins = 10.75 hours
852*10.75 = 9159

9159 km

(Total for Question is 3 marks)

3 (a) Simplify $5c \times 4c$

5x4 x c x c

20 x c^2

$20c^2$

(1)

(b) Factorise $4x + x^2$

Remove a factor of x
X(4 + x)

X(4+x)

(2)

(c) Work out the value of $y^3 + 5y$ when $y = 2$

Sub 2 in for y

$(2)^3 + 5(2)$

$8 + 10$

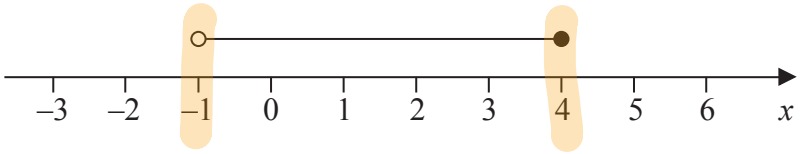
18

18

(2)

(Total for Question is 5 marks)

4 (a)



An inequality is shown on the number line.

Write down this inequality.

X is greater than -1, dot I not filled

X is less than or equal to 4, dot is filled in -1< x ⩽ 4

-1< x ⩽ 4

(2)

(b) (i) Solve the inequality $2(y - 3) \geqslant 1$

Divide both sides by 2
Y -3 ⩾ 0.5

Add 3
Y ⩾ 3.5

Y⩾3

(ii) Write down the lowest **integer** which satisfies this inequality.

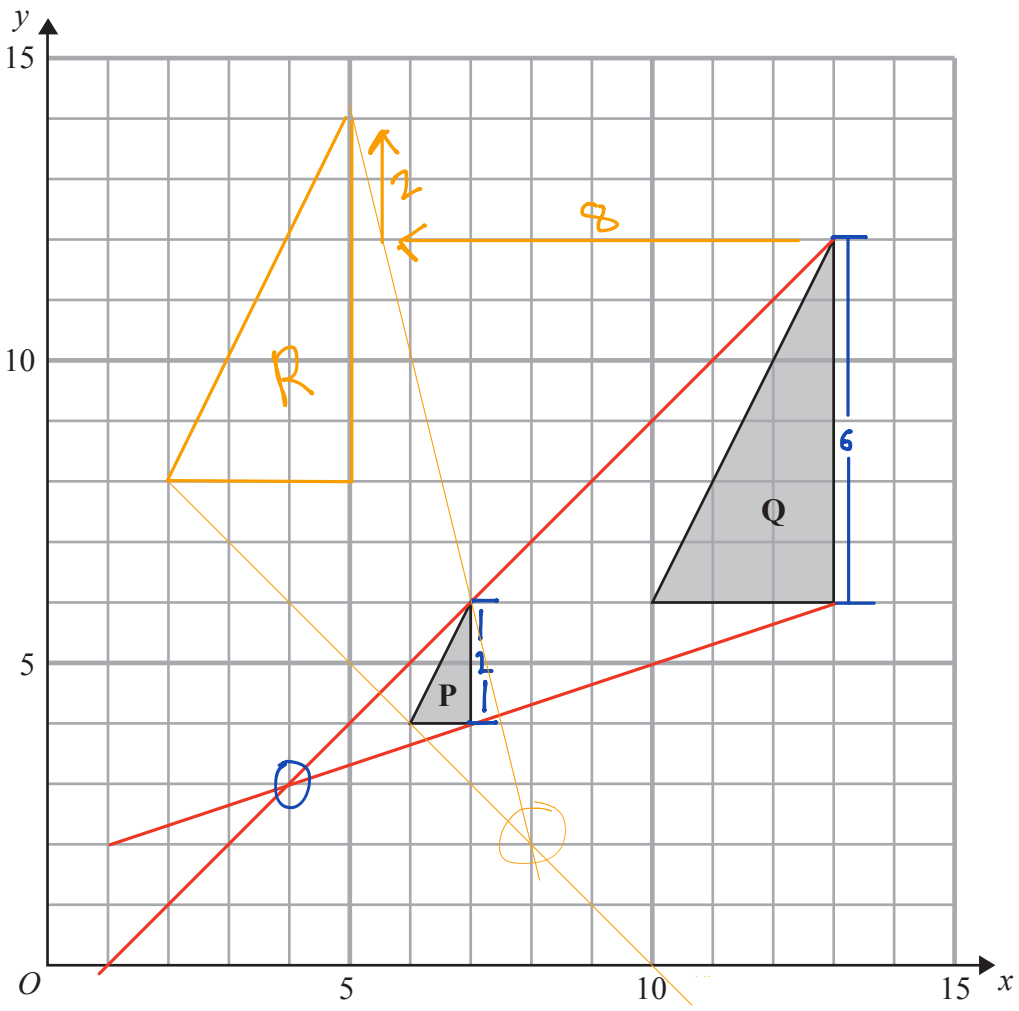
First integer greater than 3.5 is 4

4

(4)

(Total for Question is 6 marks)

5



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

Enlargement of a factor of 3 about point 4,3

(3)

(b) On the grid, translate triangle **Q** by the vector $\begin{pmatrix} -8 \\ 2 \end{pmatrix}$

Label the new triangle **R**.

(1)

(c) Describe fully the single transformation which maps triangle **R** onto triangle **P**.

Enlargement about 8,2 of scale factor 1/3

(2)

(Total for Question is 6 marks)

6 The table shows information about the number of goals scored in each of the 25 matches in a hockey tournament.

Number of goals	Number of matches
1	6
2	8
3	7
4	3
5	1

Work out the mean number of goals.

Total number of goals = num of goals x frequency

1x6 + 2x8 + 3x7 + 4x3 + 5x1 = 60

Total number of goals/ total players = mean = 60/25 = 2.4

2.4

(Total for Question is 3 marks)

7 The ratio of Mark's age to Reeta's age is 3 : 5
Mark's age is 24 years.

(a) Work out Reeta's age.

3:5 = 1: 5/3. (divide both by 3)
Reetas age is 5/3 x Marks
24 x 5/3 = 40

40 years

(2)

The ratio of John's age to Zahra's age is 1 : 4
The sum of their ages is 45 years.

(b) Work out Zahra's age.

1+ 4 = 5, ratios is for every 5 units
45/ 5= 9, Zhara is 4 x unit value
So Zhara is 9 x 4 = 36

36 years

(2)

(Total for Question is 4 marks)

8

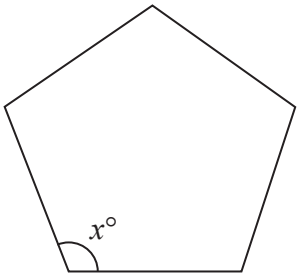


Diagram **NOT** accurately drawn

The diagram shows a regular 5-sided polygon.

(a) Work out the value of x.

Sum of internal angles = (number of sides- 2)x 180 = 540
5 sides, so five internal angles
540/5 = 108

$x =$ 108

(2)

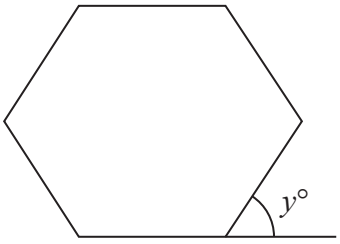


Diagram **NOT** accurately drawn

The diagram shows a regular 6-sided polygon.

(b) Work out the value of y.

Sum of external angles = 360
Six sides therefore six external angles
360/ 6 = 60

$y =$ 60

(2)

(Total for Question is 4 marks)

9 (a) Factorise $t^2 + 6t$

Remove a factor of t
t(t+6)

t(t+6)

(2)

(b) Solve $7x - 5 = 5x - 4$
Show clear algebraic working.

Subtract a 5x from both sides
7x -5x -5 = -4
Add 5 to both sides
2x = -4 +5
2x = 1, x = 1/2

$x =$ 1/2

(3)

(c) Expand and simplify fully $4(2y + 3) + 2(y - 6)$

8y + 12y+(2y -12)
8y +12 +2y - 12
10y

10

(2)

(Total for Question is 7 marks)

10 $\mathscr{E}$ = {even numbers}
A = {factors of 8}
B = {factors of 20}

List the members of $A \cap B$

Must be number in both lists
Factors of 20: 1,2,4,5,10
Factors of 8: 1,2,4

Only numbers in both lists are 2 and 4

2, 4

(Total for Question is 2 marks)

11

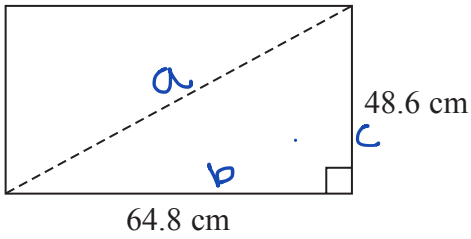


Diagram **NOT** accurately drawn

A TV screen is rectangular.
The width of the rectangle is 64.8 cm and the height is 48.6 cm.
The length of a diagonal of the rectangle gives the 'size' of the TV screen.

(a) Calculate the 'size' of the TV screen.

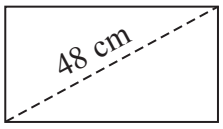
$a^2 + b^2 = c^2$ (Pythagoras)

$\sqrt{64.8^2 + 48.6^2} = c$

$c = 81$

81 cm

(3)



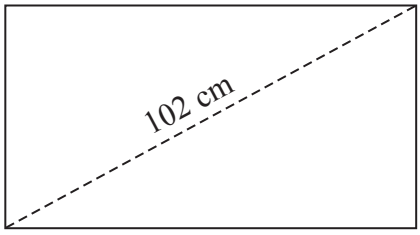


Diagram **NOT** accurately drawn

The diagram shows two rectangular TV screens.
The rectangles are similar.
The 'size' of the smaller screen is 48 cm.
The width of the smaller screen is 38.4 cm.
The 'size' of the larger screen is 102 cm.

(b) Calculate the width of the larger TV screen.

Scale factor is larger/ smaller = 102/48

Large width = small width x sf
102/48 x 38.4 = 81.6

81.6 cm

(2)

(Total for Question is 5 marks)