Bronze Level

Model Answers 3

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Difficulty Level	Bronze
Booklet	Model Answers 3

Time Allowed: **58 minutes**

Score: **/ 48**

Percentage: **/100**

1 An aeroplane flew from Qatar to Bahrain.
The distance flown was 135 km.
The average speed was 180 km/h.

Work out the time taken.
Give your answer in minutes.

Speed = distance / time

180 = 135/t
t = 135/180 = 0.75 hours

0.75 hours = 45 minutes

.................45................. minutes

(Total for Question 2 is 3 marks)

2 Solve $7x - 5 = 3x + 2$
Show your working clearly.

4x -5 = 2
4x =7
X =7/4

$x =$ 7/4

(Total for Question is 3 marks)

3 Three positive whole numbers have a median of 7 and a mean of 5

Find the range of these three numbers.

Sum of numbers = 3x5 = 15

Median is 7, so central number = 7

17 - 7 = 8
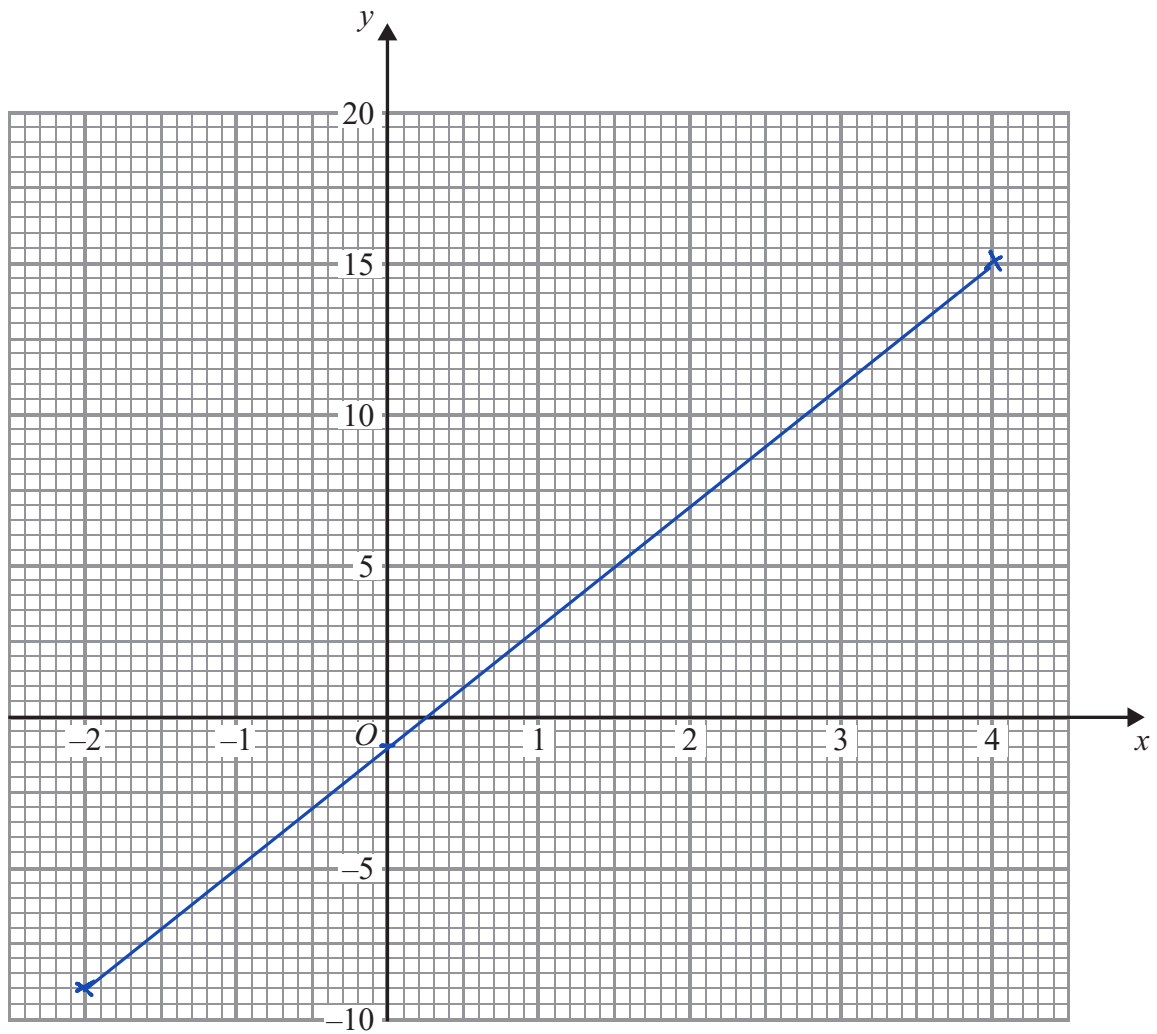So other two numbers must sum to 8, with one greater or equal to 7 and one below, e.g. 7,1
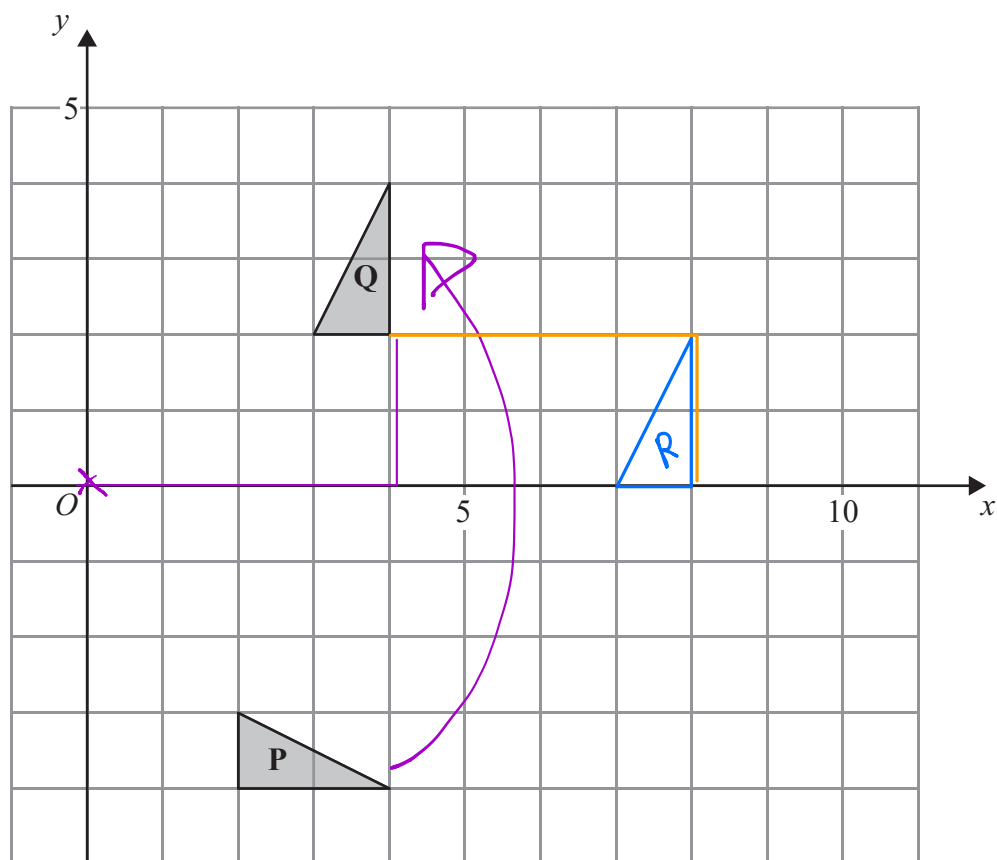
1,7,7

6

Range 7-1 = 6

(Total for Question is 3 marks)

4 On the grid, draw the graph of $y = 4x - 1$ from $x = -2$ to $x = 4$

(Total for Question is 4 marks)

5

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

Rotation 90 anti clockwise about 0,0

....

....

(3)

(b) On the grid, translate triangle **Q** by the vector $\begin{pmatrix} 4 \\ -2 \end{pmatrix}$

Label the new triangle **R**.

(1)

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

Rotation of 90 degrees about (3,1)

....

....

(2)

(Total for Question is 6 marks)

6 (a) The length of an Airbus A300 aeroplane is 54 m.
   The ratio of the length of this aeroplane to its wingspan is 6 : 5

   Work out the wingspan of the aeroplane.

$$\frac{\text{Length}}{\text{Wing}} = \frac{6}{5} \rightarrow 54 \times \frac{5}{6} = \text{wing}$$

$$\rightarrow =$$

   .... 45 .... m

   (2)

(b) A model is made of the Airbus A300 aeroplane.
   The length of the model is 36 cm.
   The length of the real aeroplane is 54 m.

   Find the ratio of the length of the model to the length of the real aeroplane.
   Give your ratio in the form 1 : *n*

   length : Length

   36cm : 54m

   .36 m : 54m

   36 : 5400

   1 : $\frac{5400}{36}$

   $\rightarrow$ 1 : 150

   1 : .... 150 ....

   (3)

(Total for Question is 5 marks)

7                              $A = 2x^2 + kx$

(a) $x!"!\#\$!!$
   $k = 4$

   Work out the value of A.

$$A = 2(-3)^2 + (4)(-3)$$
$$A = 2(9) + (-12)$$
$$A = 18 - 12$$
$$A = 6$$

$A =$ _____6_____

(2)

(b) $A = 38$
   $x = 4$

   Work out the value of k.

$$38 = 2(4)^2 + k(4)$$
$$36 - 2(16) = k(4)$$
$$\frac{36 - 2(16)}{4} = k = \frac{3}{2} = 1.5$$

$k =$ _____1.5_____

(3)

(Total for Question is 5 marks)

8

Diagram **NOT**
accurately drawn

3.7 cm

x cm

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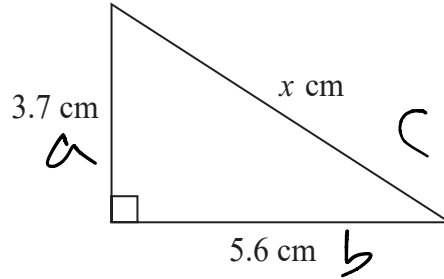
Work out the value of x.
Give your answer correct to 3 significant figures.

Pythagoras
$a^2 + b^2 = c^2$
$(3.7)^2 + (5.6)^2 = x^2$
$45.05 = x^2$
$\therefore \quad x = 6.7119.. \simeq 6.71$

$x =$ ....

(Total for Question is 3 marks)

9 Three positive whole numbers have a mean of 4 and a range of 7

Find the three positive whole numbers.

$1 + 3 + 8 \quad = 12$
$\dfrac{12}{3} = 4 \quad ; \quad 8 - 1 = 7$

...........1........... ....3........... ....8...........

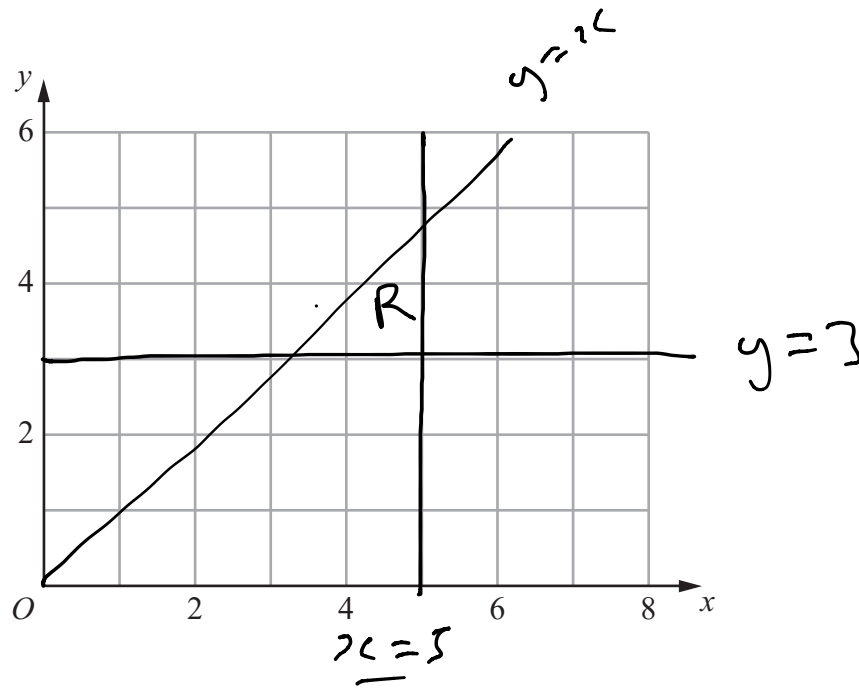**(Total for Question is 2 marks)**

10 Show, by shading on the grid, the region defined by all three of the inequalities

$x \leqslant 5$

$y \geqslant 3$

$y \leqslant x$

Label your region **R**.

$y = x$

$y = 3$

$x = 5$

R

(Total for Question is 3 marks)

11

D   C

Diagram **NOT** accurately drawn

x ① x ②

9 cm   5 cm

A   N   B
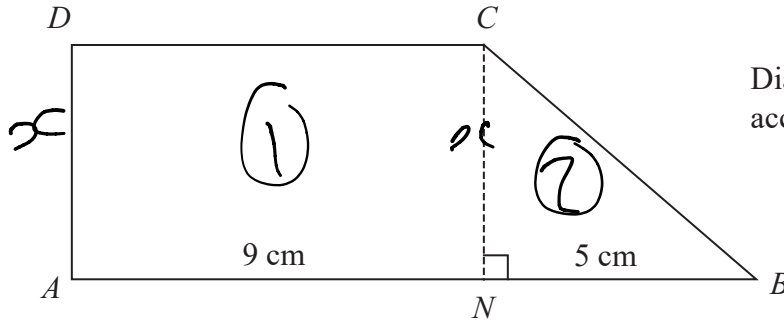
The shape *ABCD* is made from a rectangle *ANCD* and the right-angled triangle *NBC*.
ANB is a straight line.
AN = 9 cm.
NB = 5 cm.
The area of rectangle *ANCD* is 36 cm^2

Work out the area of shape *ABCD*.

Total area
= ① + ②

area ① : 36 = $x \times 9$

$\dfrac{36}{9} = x = 4$

area ② = $\dfrac{1}{2}(x)(5) = 10\,cm^2$

Total A = 46 cm^2

.... cm^2

(Total for Question is 4 marks)

12 On 9th May, 2009, there were 3440 people in the world with swine flu.
Of these people, 1639 were in the USA.

(a) Express 1639 as a percentage of 3440
Give your answer correct to 1 decimal place.

$$\frac{1639}{3440} \times 100 = 4.76..-$$

4.76 .... %

(2)

The 3440 people who had swine flu on 9th May was an increase of 37.6% on
the number of people who had swine flu on 8th May.

(b) Calculate the number of people who had swine flu on 8th May.

$$3440/1.376$$

2300

(3)

(Total for Question is 5 marks)

13 Work out the value of $\dfrac{6.6 \times 1.2}{4.4 - 2.75}$

$$\frac{7.92}{1.65} = 4.8$$

4.8

(Total for Question is 2 marks)