

Name: _____

Graph Work

Date:

Time:

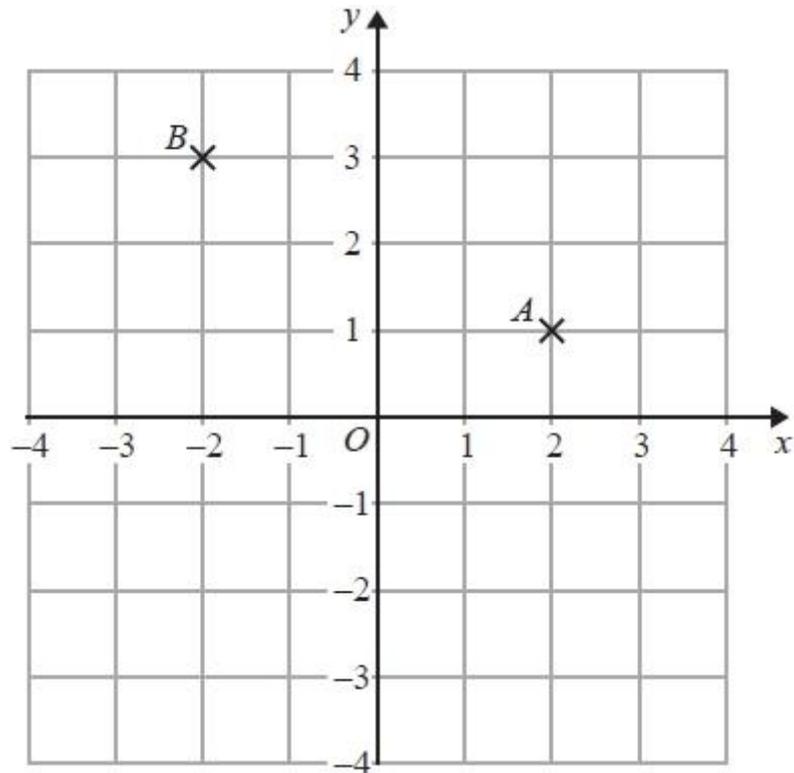
Total marks available: 66

Total marks achieved: _____

SRH4

Questions

Q1.



(a) Write down the coordinates of the point *A*.

(..... ,)
(1)

(b) Write down the coordinates of the point *B*.

(..... ,)
(1)

(c) On the grid, mark with a cross (x) the point $(-3, -1)$.
Label this point *C*.

(1)

(d) On the grid, draw the line $x = 3$

(1)

(Total for question = 4 marks)

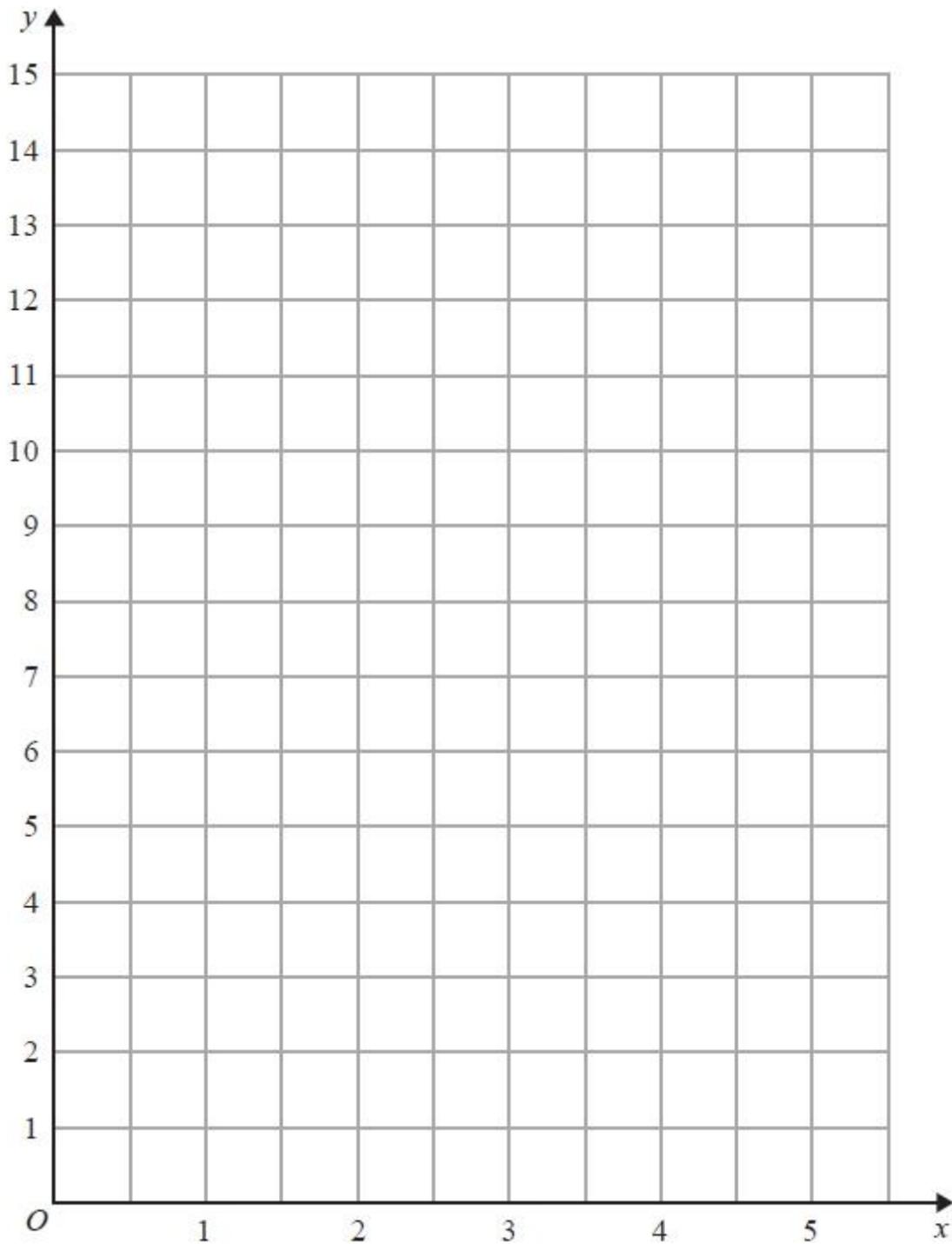
Q2.

(a) Complete the table of values for $y = 2x + 3$ for values of x from 0 to 5

x	0	1	2	3	4	5
y		5		9		

(2)

(b) On the grid, draw the graph of $y = 2x + 3$ for values of x from 0 to 5

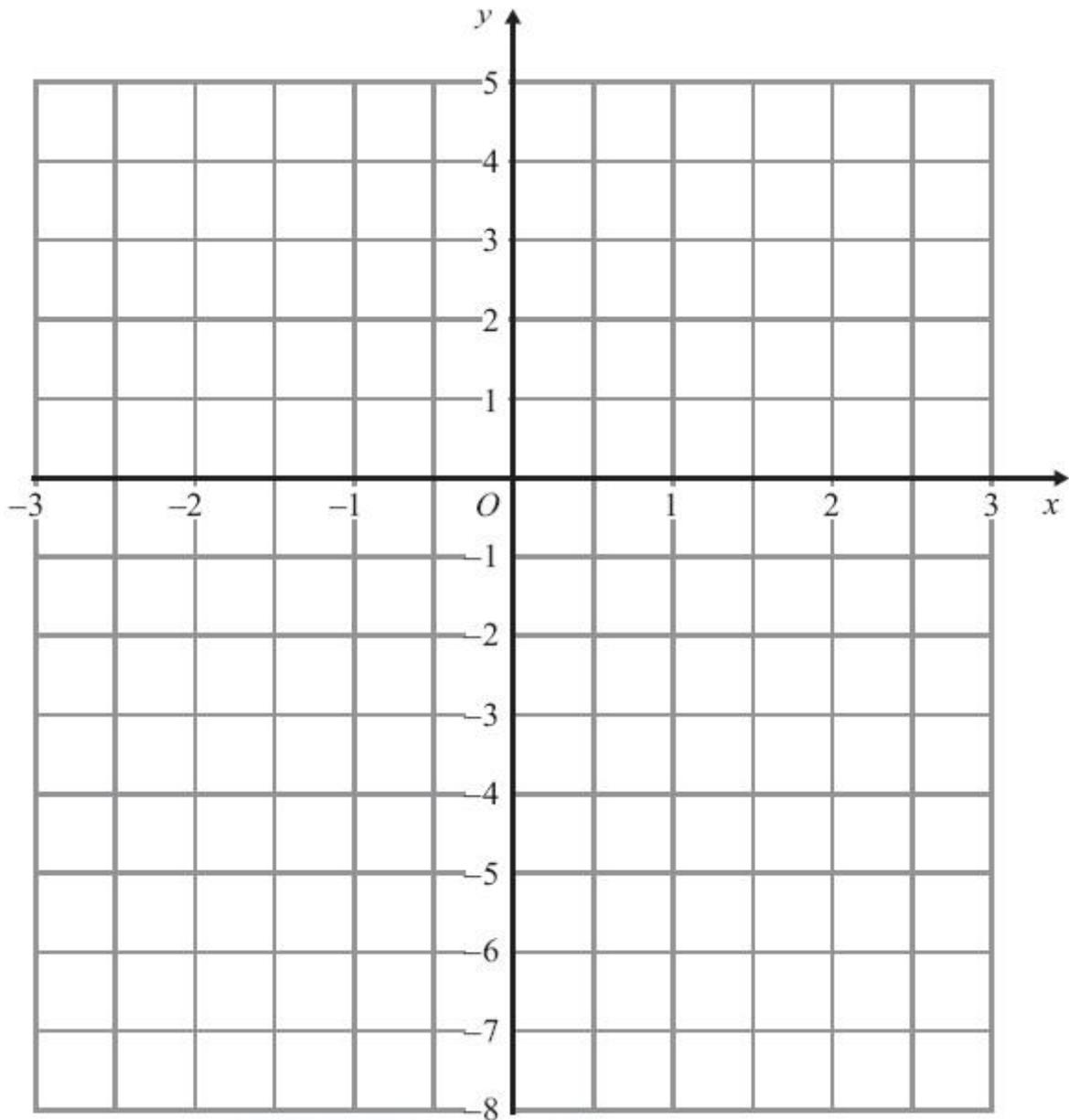


(2)

(Total for question = 4 marks)

Q3.

On the grid, draw the graph of $y = 2x - 3$ for values of x from -2 to 2



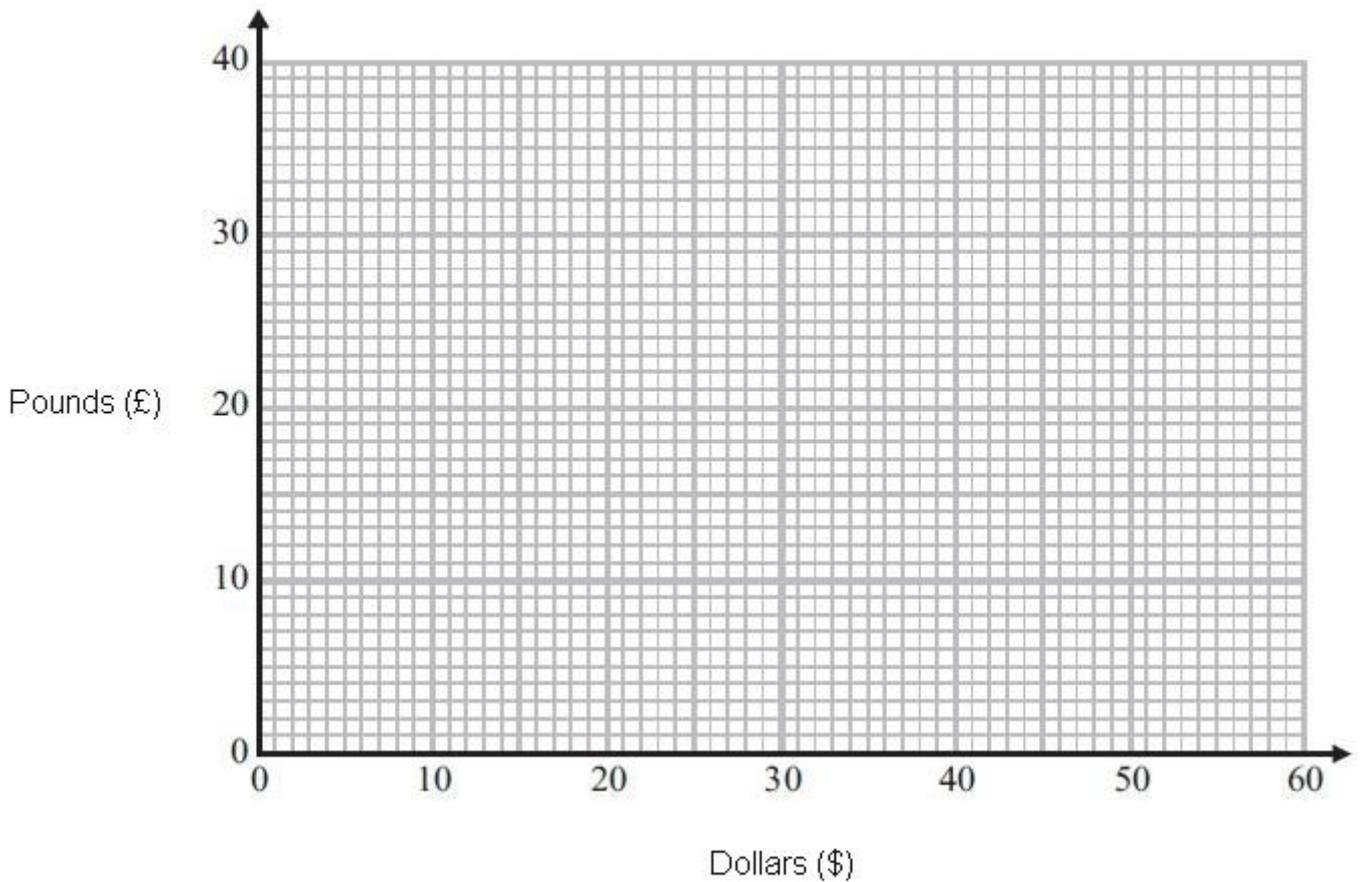
(Total for Question is 3 marks)

Q4.

The table shows how much some amounts of money in dollars (\$) are when they are changed to pounds (£).

Dollars (\$)	0	15	30	45	60
Pounds (£)	0	10	20	30	40

(a) On the grid, use this information to draw a line graph to change between dollars and pounds.



(2)

(b) Use your line graph to change

(i) £25 into \$

\$

(ii) \$50 into £

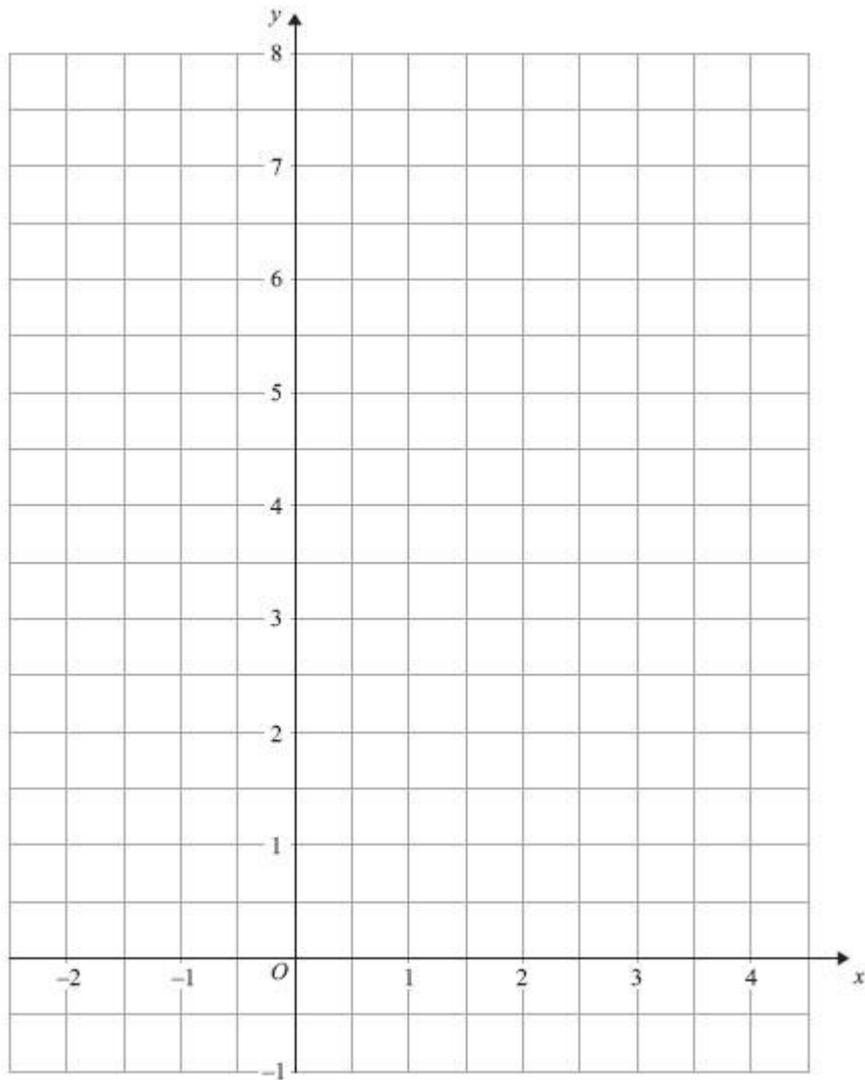
£

(2)

(Total for Question is 4 marks)

Q5.

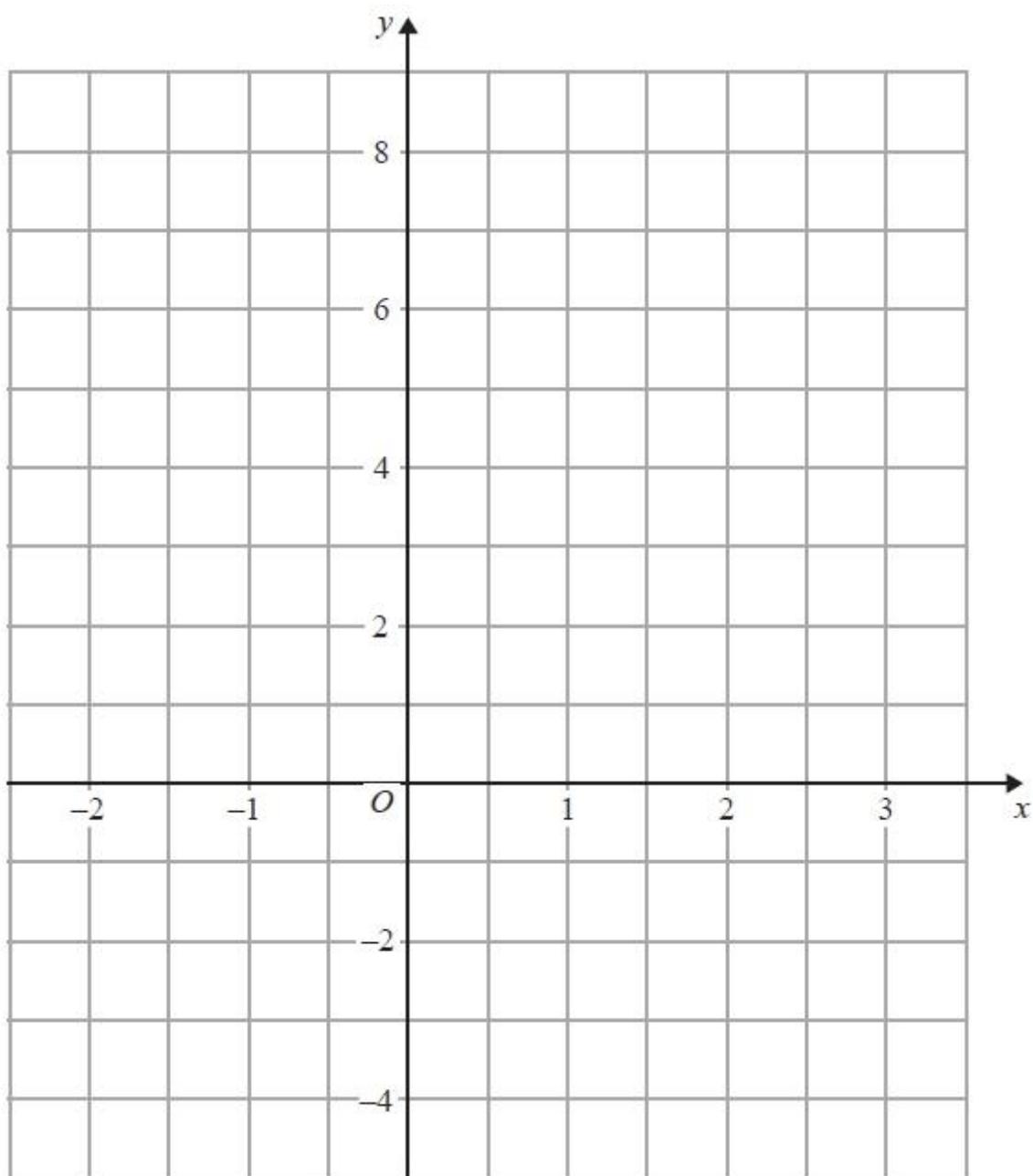
On the grid, draw the graph of $y = \frac{1}{2}x + 5$ for values of x from -2 to 4



(Total for Question is 3 marks)

Q6.

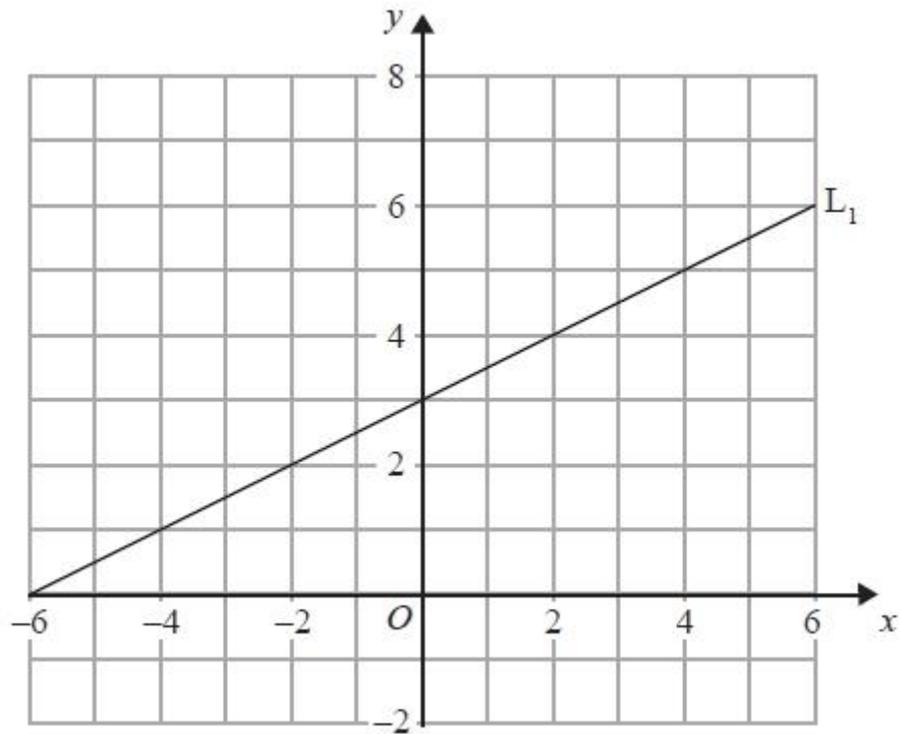
On the grid, draw the graph of $y = 3 - 2x$ for values of x from -2 to 3



(Total for question = 3 marks)

Q7.

The diagram shows a straight line, L_1 , drawn on a grid.



A straight line, L_2 , is parallel to the straight line L_1 and passes through the point $(0, -5)$.

Find an equation of the straight line L_2 .

.....
(Total for Question is 3 marks)

Q8.

The straight line **L** has equation $4x + y = 7$

Find an equation of the straight line perpendicular to **L** that passes through $(-8, 3)$.

.....

(Total for question = 4 marks)

Q9.

The points $A(6, 1)$ and $B(-2, 5)$ are on the line with equation $y = -\frac{1}{2}x + 4$

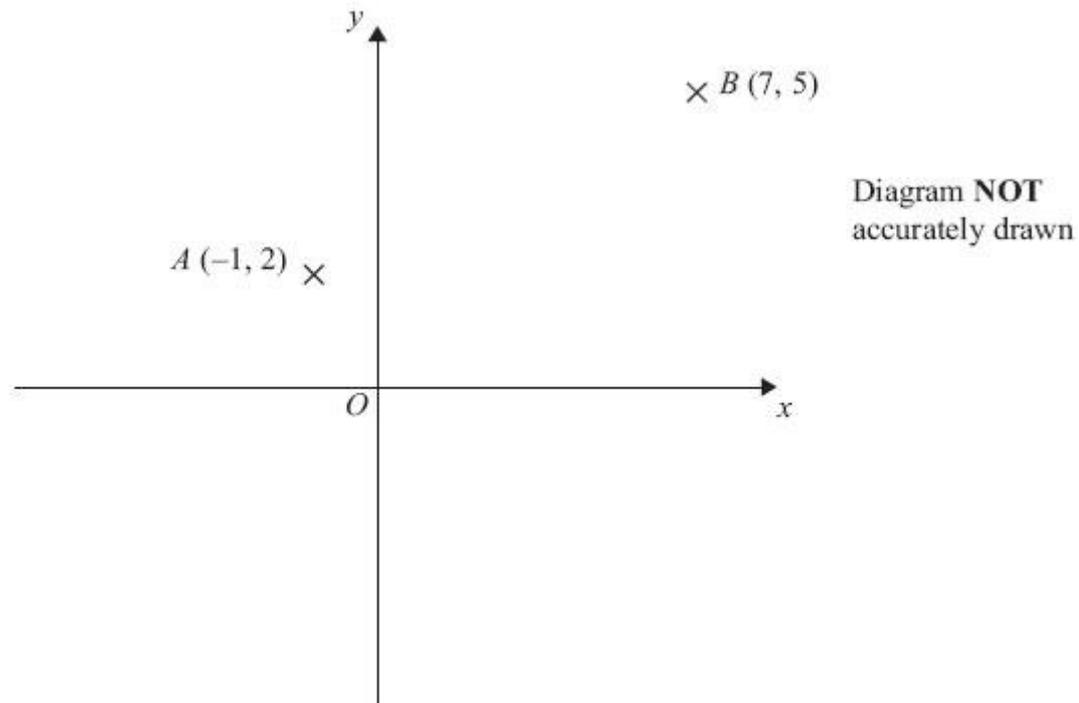
M is the midpoint of AB .

Find an equation of the line through M that is perpendicular to $y = -\frac{1}{2}x + 4$

.....

(Total for question = 4 marks)

Q10.



A is the point $(-1, 2)$
 B is the point $(7, 5)$

(a) Find the coordinates of the midpoint of AB .

.....
(2)

P is the point $(-4, 4)$
 Q is the point $(1, -5)$

(b) Find the gradient of PQ .

.....
(2)

(Total for Question is 4 marks)

Q11.

A and B are two points.

Point A has coordinates $(-2, 4)$.

Point B has coordinates $(8, 9)$.

C is the midpoint of the line segment AB .

(a) Find the coordinates of C .

(..... ,)

(2)

D is the point with coordinates $(100, 56)$.

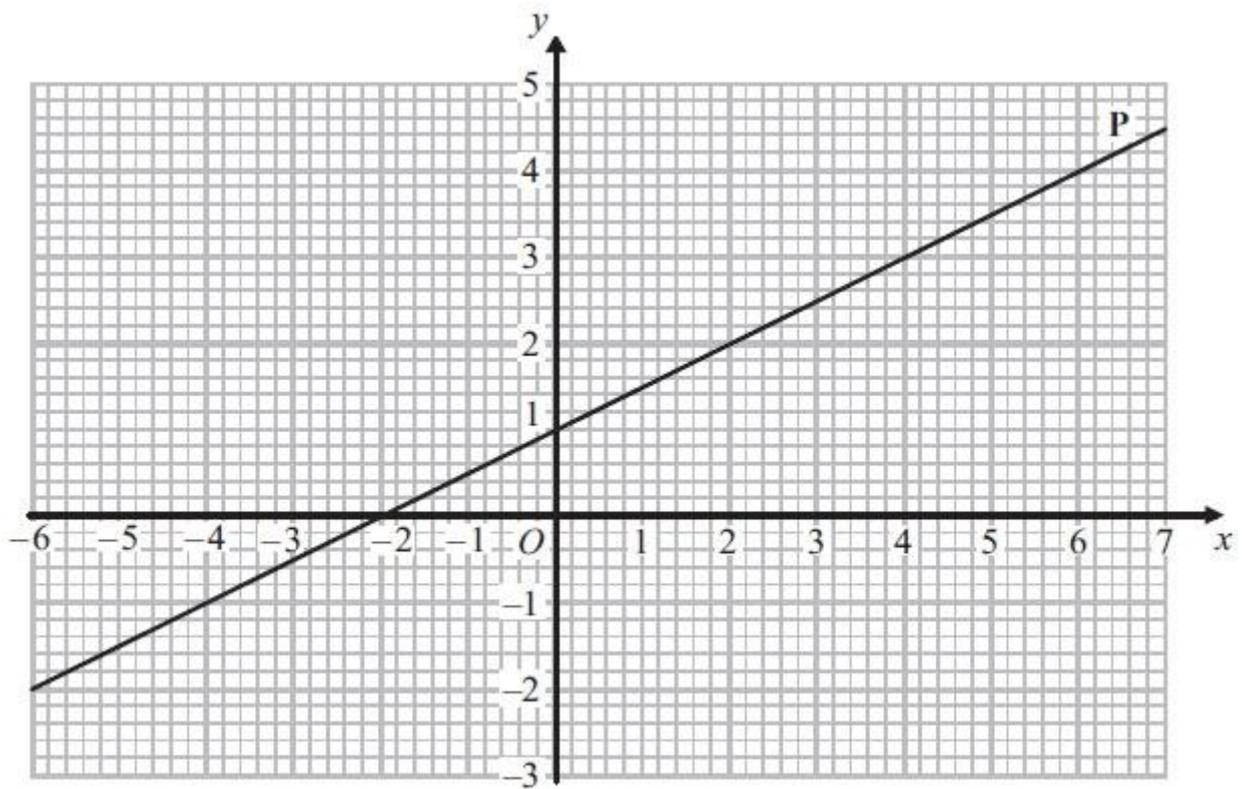
* (b) Does point D lie on the straight line that passes through A and B ? You must show how you work out your answer.

(3)

(Total for question = 5 marks)

Q12.

The straight line **P** has been drawn on a grid.



Find the gradient of the line **P**.

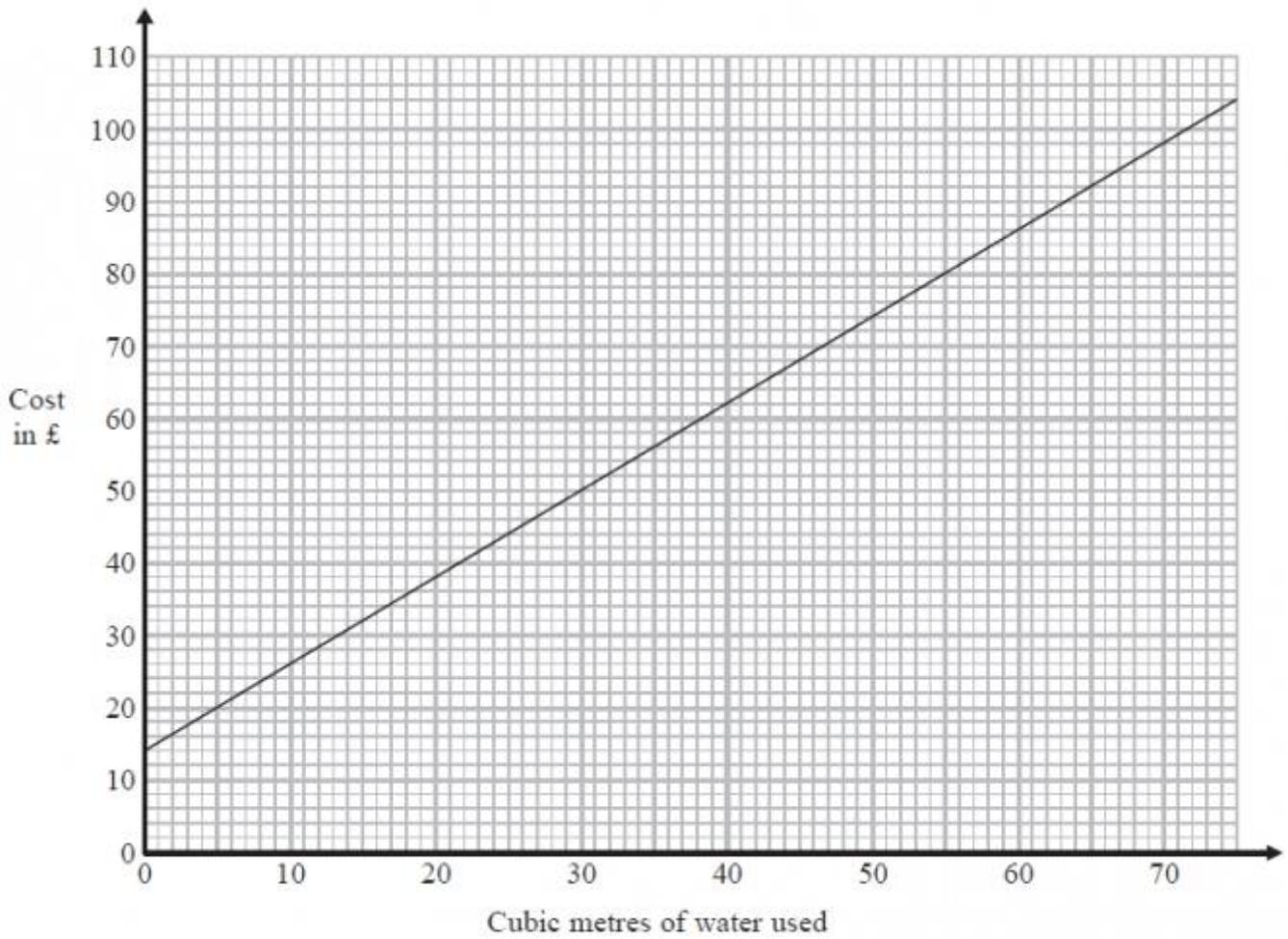
.....

(Total for Question is 2 marks)

Q13.

A water company charges customers a fixed standing charge plus an additional cost for the amount of water, in cubic metres, used.

The graph shows information about the total cost charged.



(a) Write down the fixed standing charge.

£.....
(1)

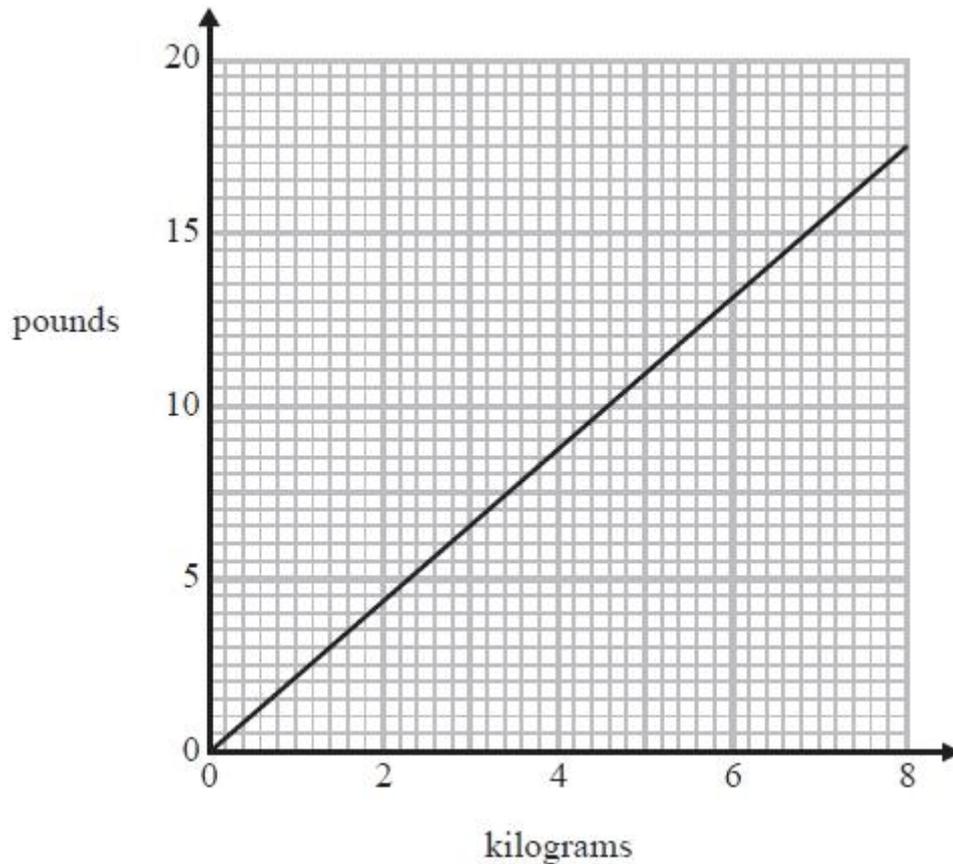
(b) Work out the additional cost for each cubic metre of water used.

£.....
(2)

(Total for Question is 3 marks)

Q14.

You can use this conversion graph to change between kilograms and pounds.



(a) Use the conversion graph to change 5 kilograms to pounds.

..... pounds
(1)

Brett weighs 150 pounds.
Henri weighs 64 kilograms

(b) Work out their total weight.

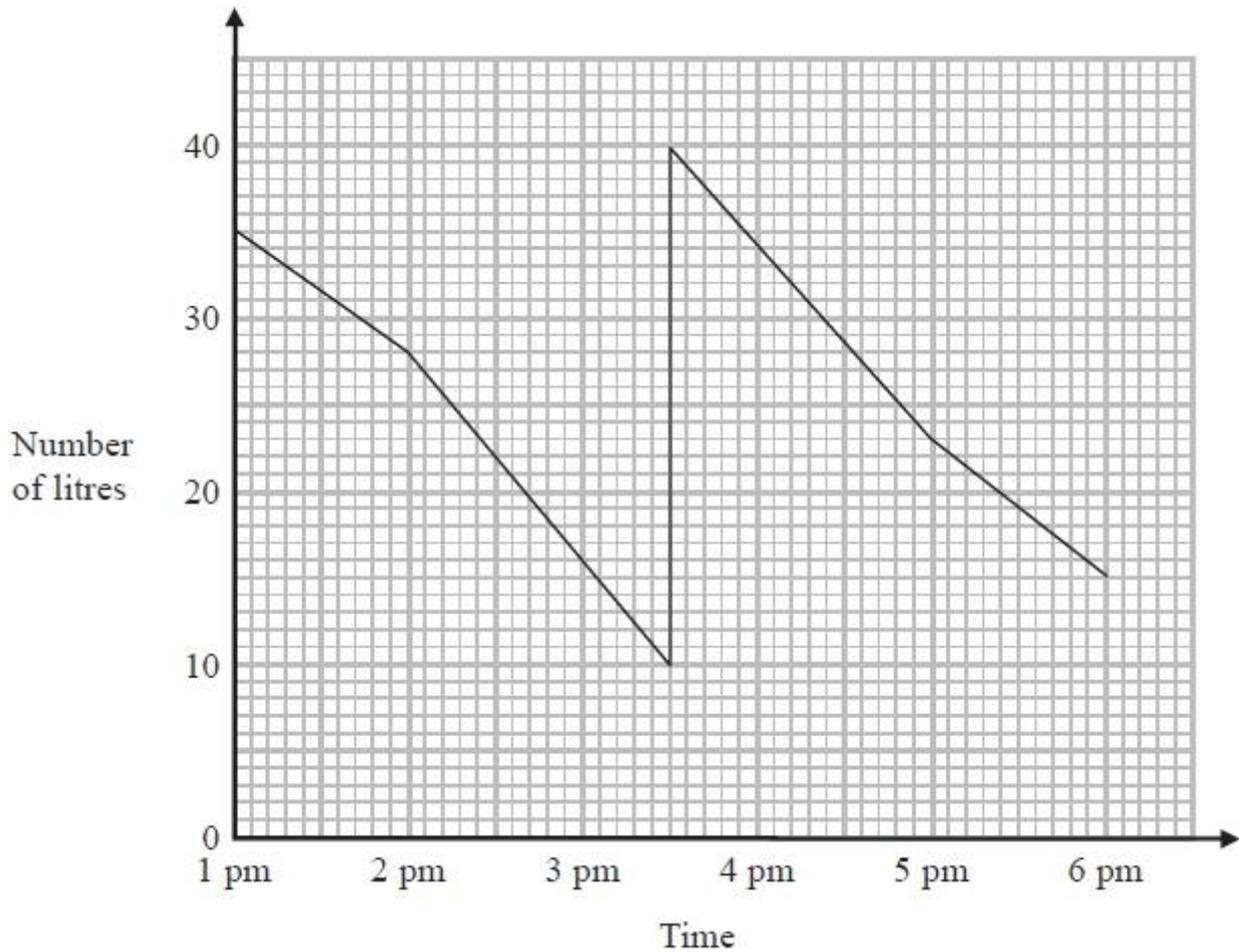
Give your answer in kilograms.
You must show your working.

..... kilograms
(3)

(Total for question = 4 marks)

Q15.

The graph gives information about the number of litres of petrol in the tank of Jim's car during a journey.



(a) How many litres of petrol were in the tank at 1 pm?

..... litres
(1)

At 3 30 pm Jim stopped and put some petrol into the tank.

(b) How many litres of petrol did Jim put into the tank?

..... litres
(1)

(c) Work out the total number of litres of petrol the car used between 1 pm and 6 pm.

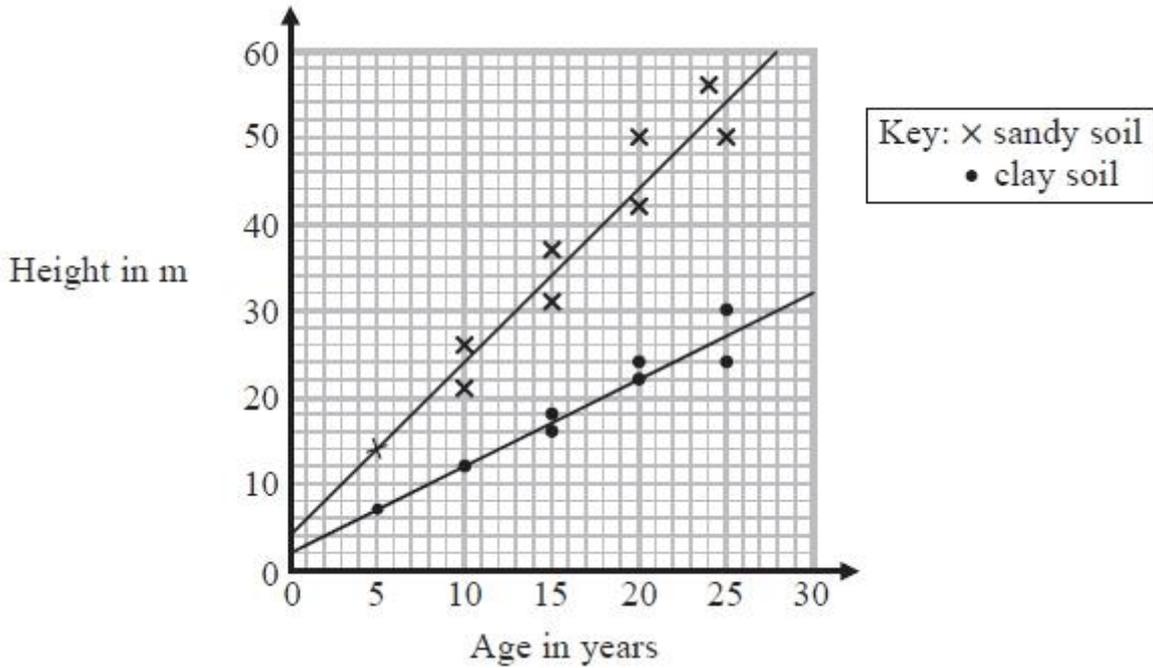
..... litres
(2)

(Total for question = 4 marks)

Q16.

Bill wants to compare the heights of pine trees growing in sandy soil with the heights of pine trees growing in clay soil.

The scatter diagram gives some information about the heights and the ages of some pine trees.



(a) Describe the relationship between the height of pine trees and the age of pine trees growing in sandy soil.

.....

(1)

A pine tree growing in clay soil is 18 years old.

(b) Find an estimate for the height of this tree.

.....m

(1)

A pine tree is growing in sandy soil.

(c) Work out an estimate for how much the height of this tree increases in a year.

.....m

(2)

(d) Compare the rate of increase of the height of trees growing in clay soil with the rate of increase of the height of trees growing in sandy soil.

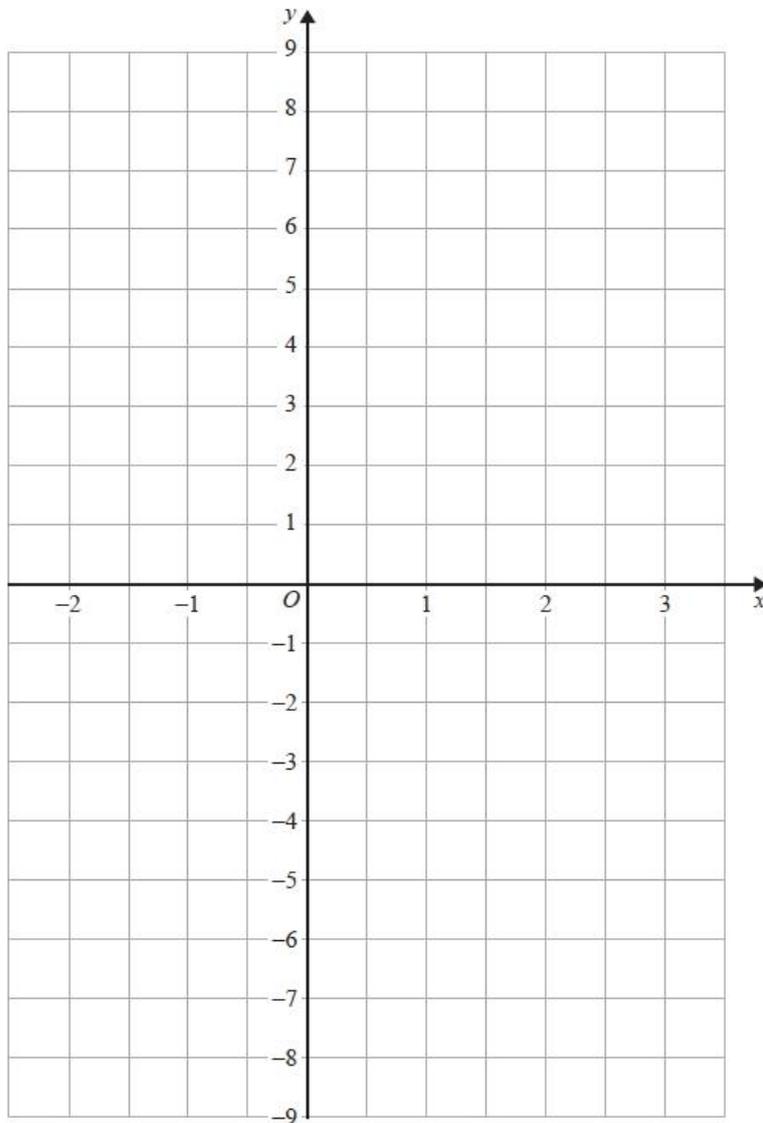
.....
.....

(2)

(Total for question = 6 marks)

Q17.

On the grid, draw the graph of $y = 3x - 2$ for values of x from -2 to 3 .



(Total for question = 3 marks)

Q18.

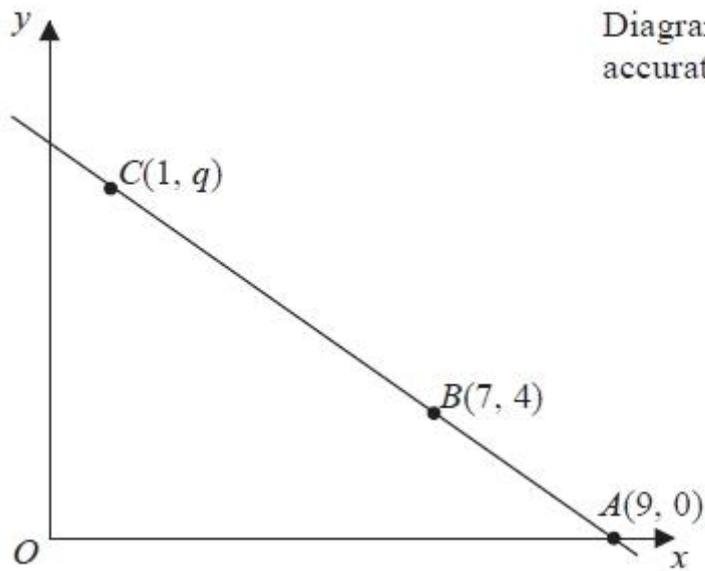


Diagram NOT
accurately drawn

The points A , B and C lie on a straight line.

The coordinates of A are $(9, 0)$.

The coordinates of B are $(7, 4)$.

The coordinates of C are $(1, q)$.

Work out the value of q .

.....

(Total for Question is 3 marks)