Q1.
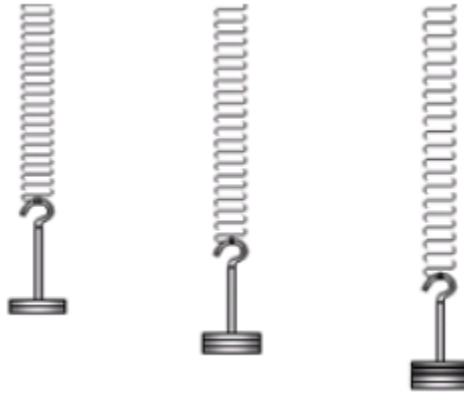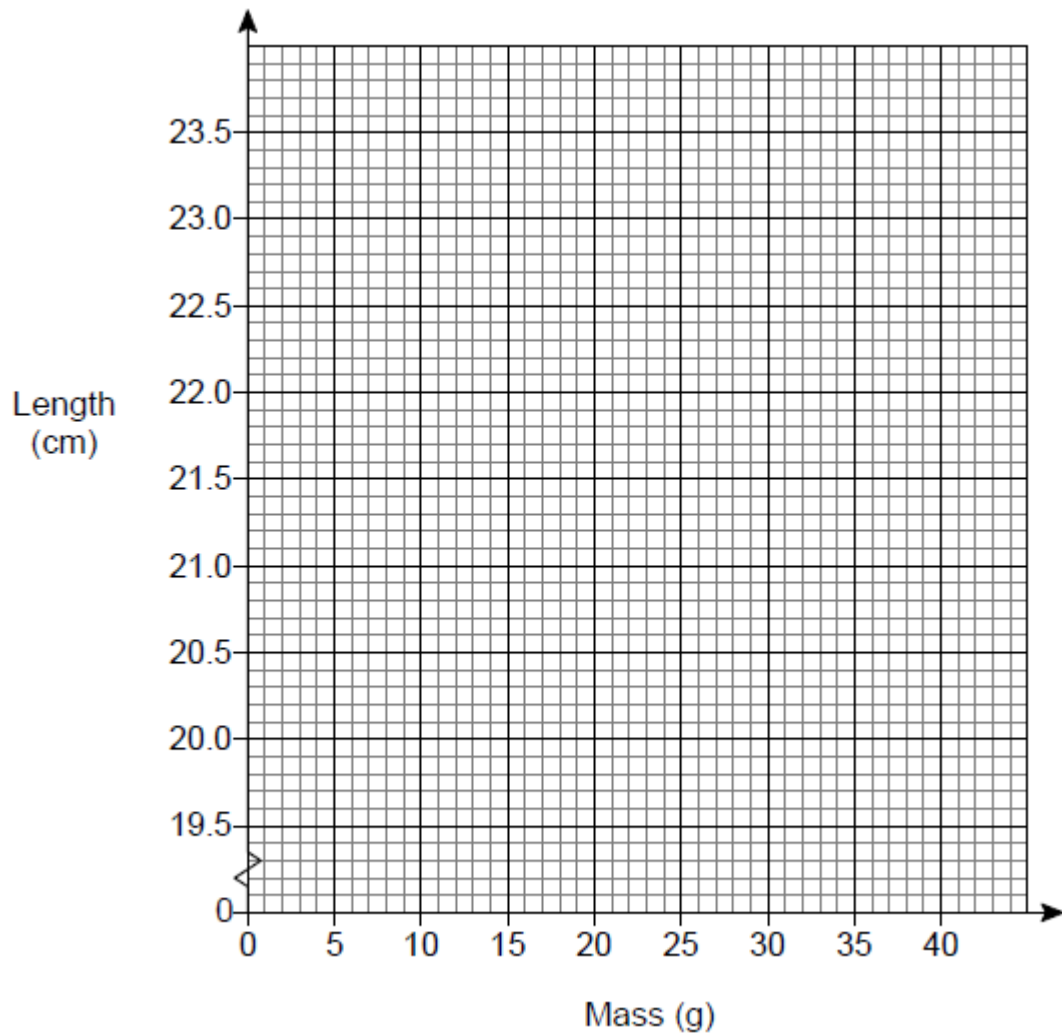
In an experiment, different masses are hung on a spring.

The length of the spring is measured for each mass.

Mass (g)	10	20	30	40
Length (cm)	20.8	21.6	22.4	23.2

(a)   Draw a graph to show the length of the spring for masses from 10 g to 40 g

(2)

(b)   Estimate the length of the spring with no mass hung on it.

Answer .... cm

(1)

(c)   How much longer is the spring with a 35 g mass than with a 15 g mass?

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Answer .... cm

(2)
(Total 5 marks)

Q2.(a)   Complete the table of values for $y = 3x + 2$

x	−2	−1	0	1	2
y		−1		5	

(2)

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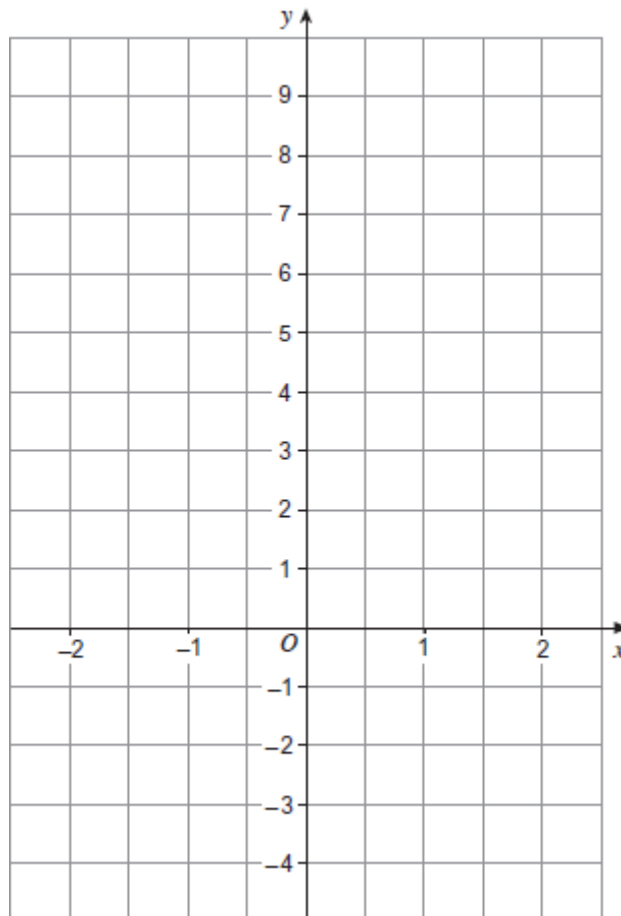
(2)

(c)   Work out the gradient of the line $y = 3x + 2$

Answer ....

(1)
(Total 5 marks)

Q3.(a)   Work out the equation of line AB.

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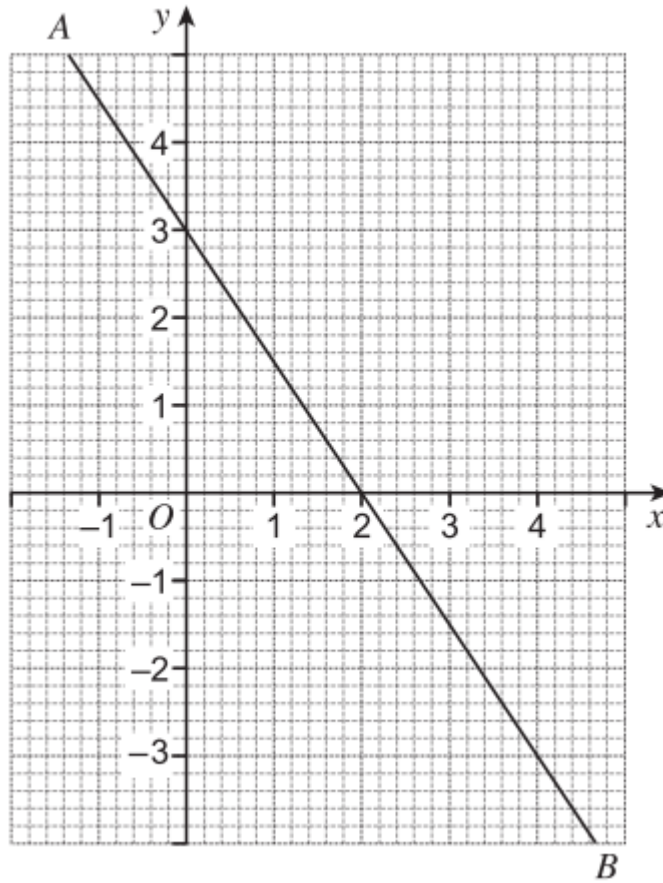
Answer ....

(3)

(b)   Work out the equation of the line passing through (2, −3) and parallel to the line
$y = 3x + 4$

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Answer ....

(2)
(Total 5 marks)

Q4. The graph shows the cost, C (£), of hiring a car for d days from Roy's Rentals.
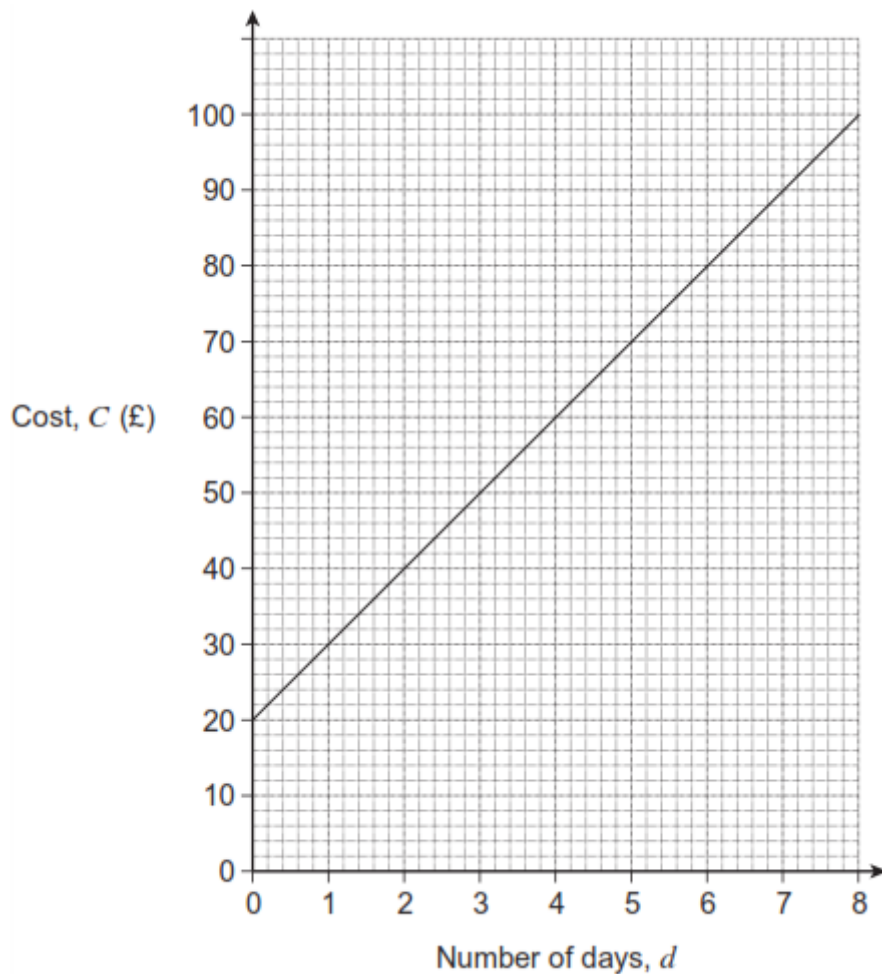
(a)   Circle the correct formula for hiring a car from Roy's Rentals.

$C = 20d + 100$ $C = 10d + 20$ $C = 20d + 10$ $C = 5d + 20$

(1)

(b)   The cost of hiring a car from First Cars is given by the formula $C = 8d + 30$

Plot the graph of $C = 8d + 30$ on the grid above.

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(2)

(c)　Toby wants to hire a car for 7 days.

Which of these firms should he use?
Give a reason for your answer.

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(2)
(Total 5 marks)

Q5. The graph shows the cost, C (£), of hiring a circular saw from Branch Tool Hire for a number of days, d.

Cost, C (£)

Number of days, d
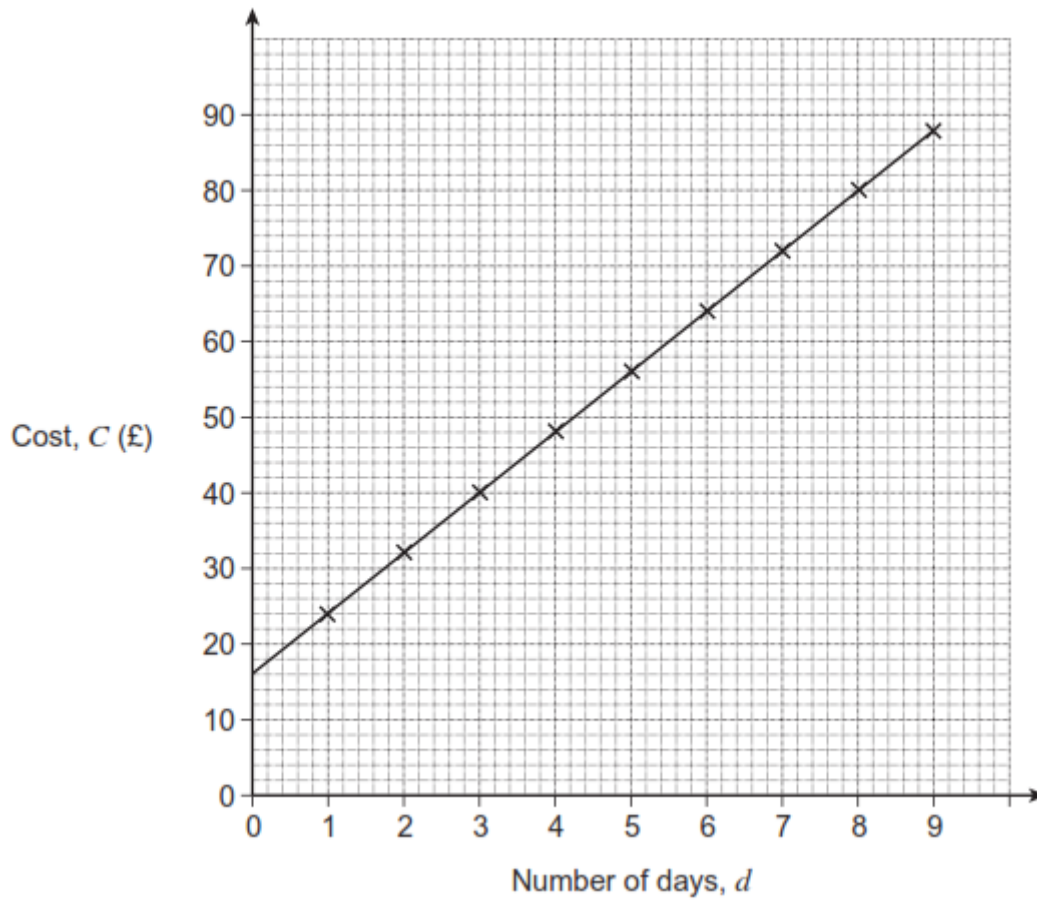
(a)   Circle the correct formula for the cost, C.

$C = 24d$ $C= 8d + 24$ $C = 16d + 8$ $C = 8d + 16$

....

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(1)

(b)   The cost of hiring a circular saw from Woods Tool Hire is given by the formula

$C = 9d + 11$

Sam thinks that Woods Tool Hire is always cheaper.

Is this true?
Tick a box.

Yes ☐   No ☐

Give reasons for your answer.

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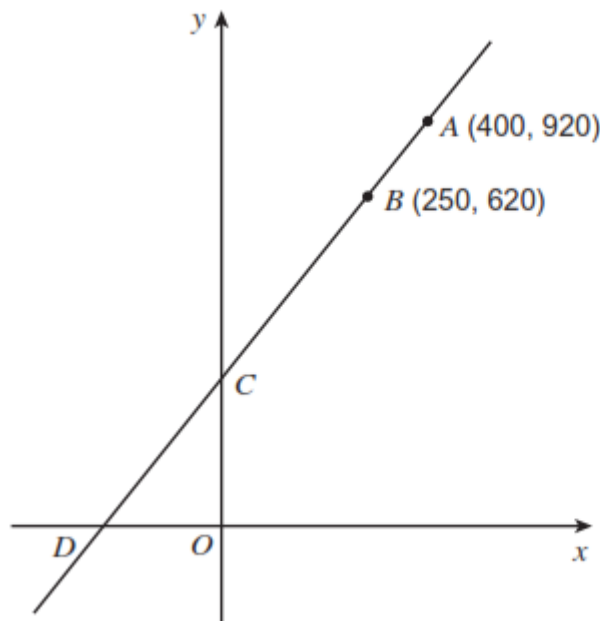
(3)
(Total 4 marks)

Q6. The diagram shows a line $ABCD$.
A is the point (400, 920).
B is the point (250, 620).
The line cuts the y-axis at C and the x-axis at D.

Not drawn accurately

Work out the coordinates of C and D.

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Answer C (........................ , ...)

D (........................ , ...)

(Total 4 marks)

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