Topic Test 1 (20 minutes)
Sketching graphs - Foundation
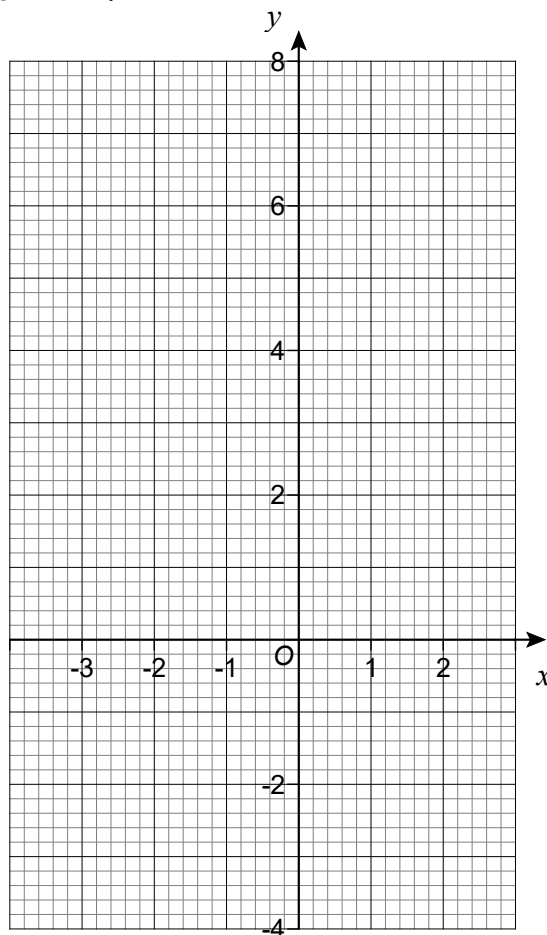
1 (a) Complete this table of values for $y = x^2 + 2x - 2$ for values of x from -3 to 2

[1 mark]

x	-3	-2	-1	0	1	2
y	1	-2		-2	1	

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

[2 marks]

1(c) Use the graph to estimate the value of y when $x = 1.5$
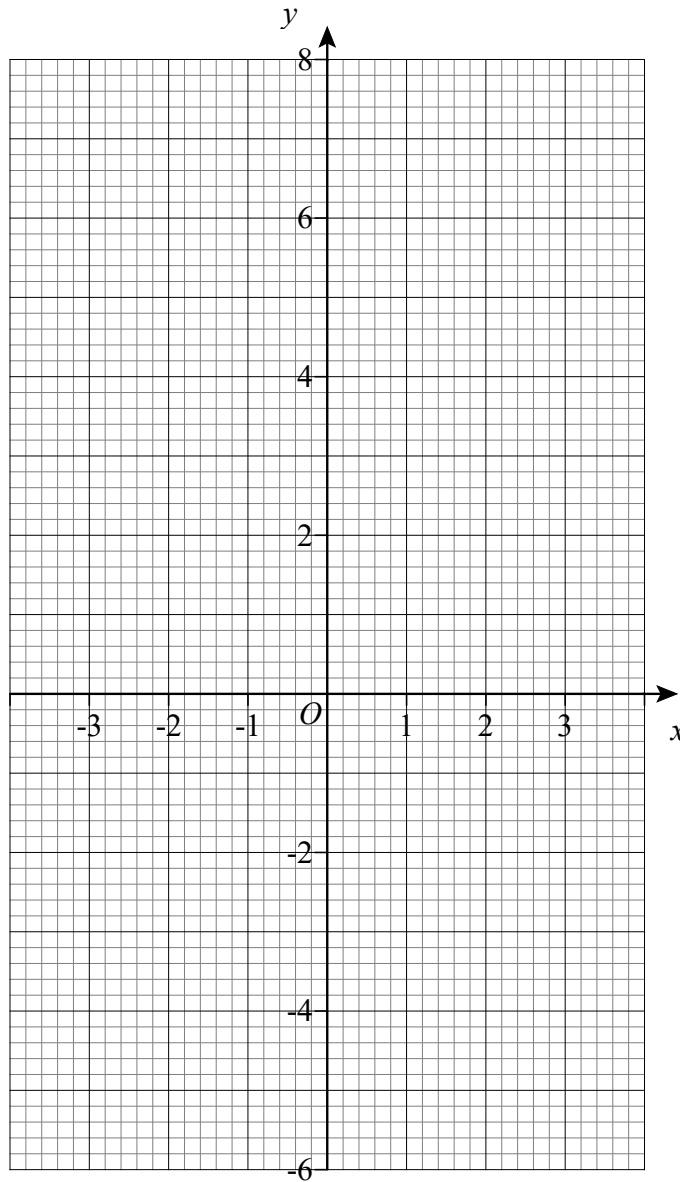
[1 mark]

Answer _____

1(d) Use the graph to estimate the solutions to $x^2 + 2x - 2 = 0$

[1 mark]

Answer _____

2 (a) Draw the graph of $y = 2x + 1$ for values of x from -3 to 3

[3 marks]

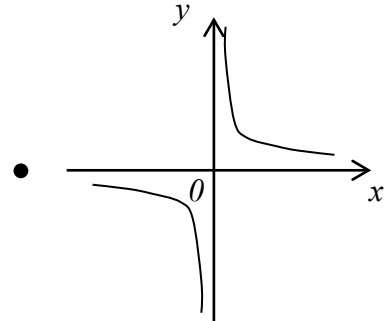**2 (b)** Show clearly how you can use the graph to solve the equation $2x + 1 = 4$

[2 marks]

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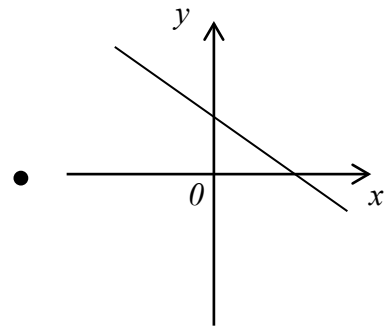
2 of 6

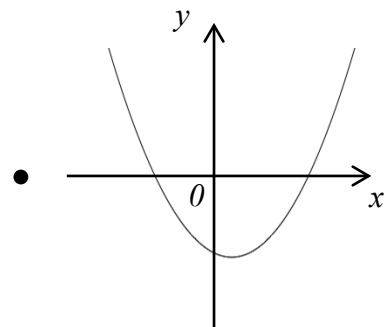**3** Match each graph to an equation.
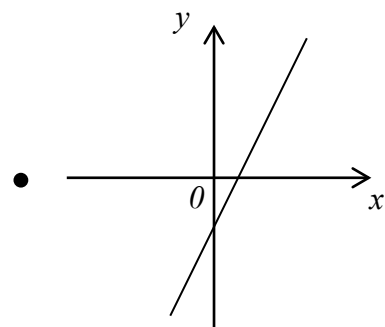
[2 marks]
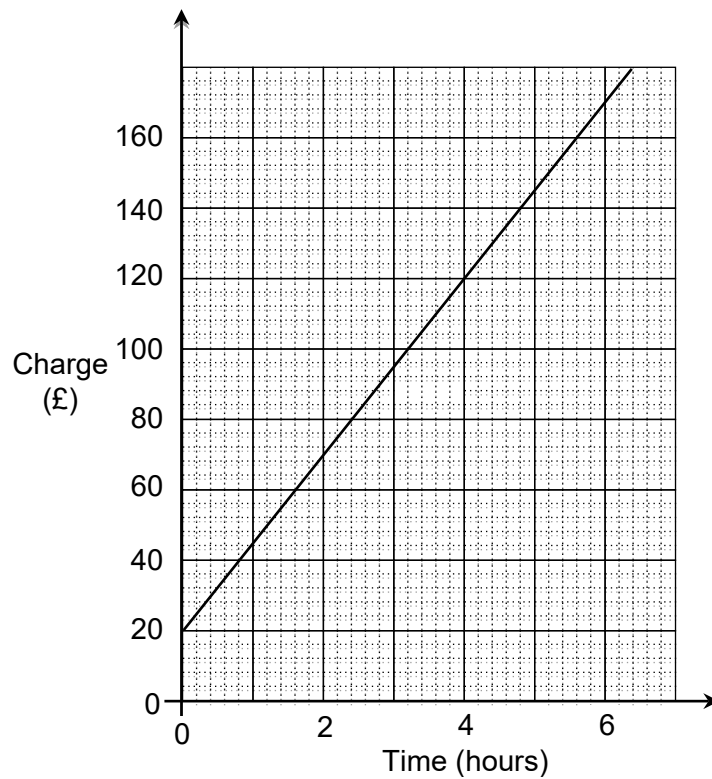
$3y + 2x = 4$ ●

$y = 5x - 4$ ●

$y = \dfrac{1}{x}$ ●

$y = x^2 - 2x - 8$ ●

4 A joiner uses this graph to work out how much to charge for jobs.

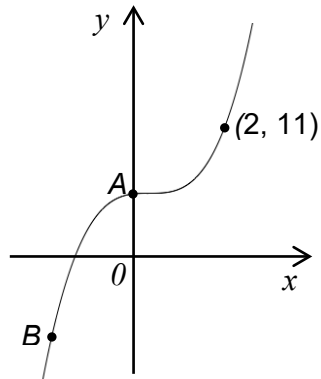**4 (a)** Write down the fixed cost.

[1 mark]

Answer £ _____

4 (b) Work out how much the joiner charges per hour.

[2 marks]

Answer £ _____

5   This is a sketch of $y = x^3 + k$
The graph passes through (2, 11)

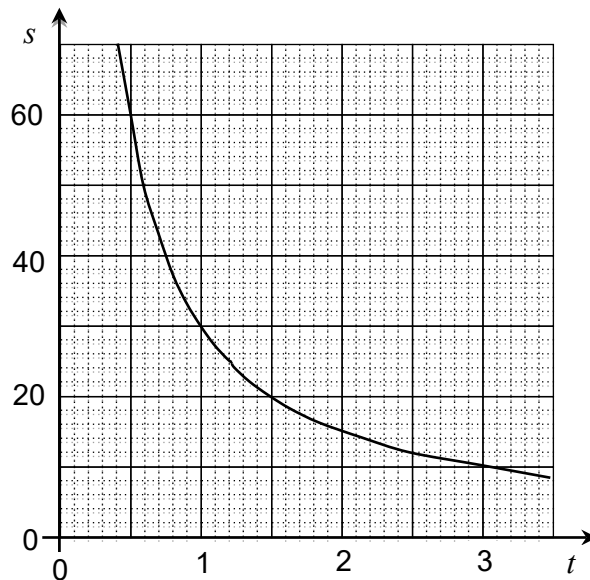**5 (a)**   Work out the y-coordinate of point *A.*

[1 mark]

Answer _____

5 (b)   Point *B* has an x-coordinate of –2

Work out the y-coordinate of point B.

[1 mark]

Answer _____

6 This graph shows the relationship between the speed, s mph, and the time, t hours, of cars travelling a fixed distance.

6 (a) Write down the speed when the time taken is 90 minutes.

[1 mark]

Answer _____ mph

6 (b) Work out the fixed distance.

[1 mark]

Answer _____ miles

6 (c) Work out the time taken when the speed is 90 mph
Give your answer in minutes.

[1 mark]

Answer _____ minutes