

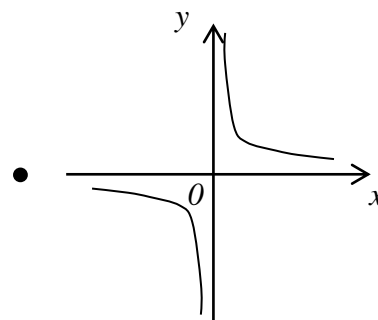
Topic Test 1 (20 minutes)

Sketching graphs - Higher

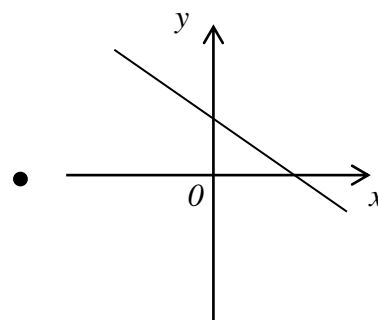
1 Match each graph to an equation.

[2 marks]

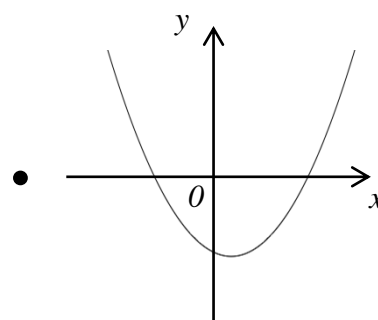
$3y + 2x = 4$ •



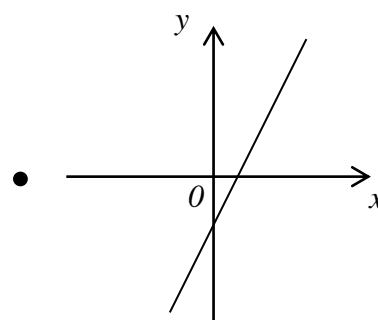
$y = 5x - 4$ •



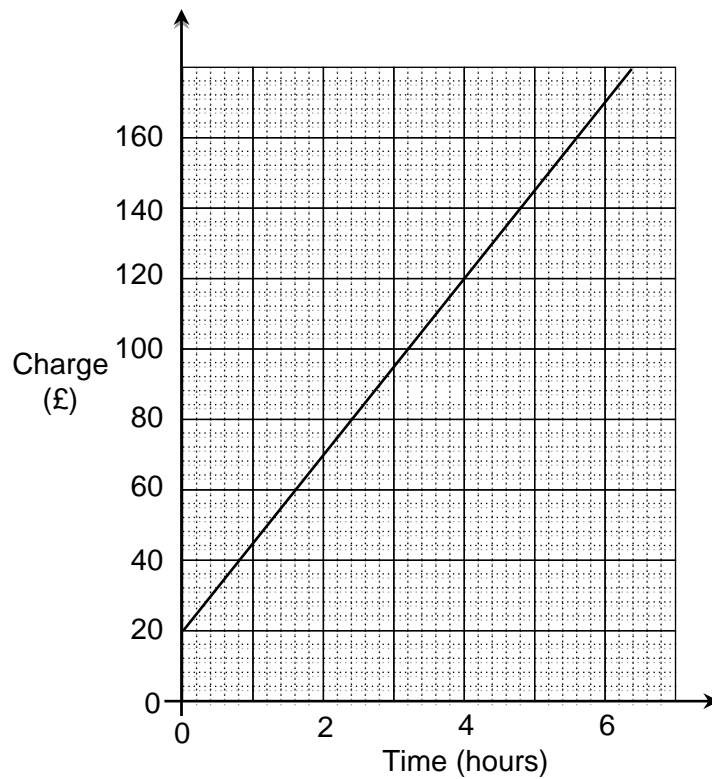
$y = \frac{1}{x}$ •



$y = x^2 - 2x - 8$ •



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



2 (a) Write down the fixed cost.

[1 mark]

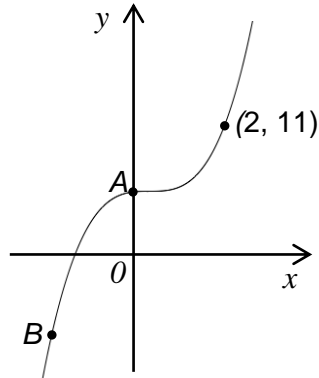
Answer £ _____

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

[2 marks]

Answer £ _____

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



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

[1 mark]

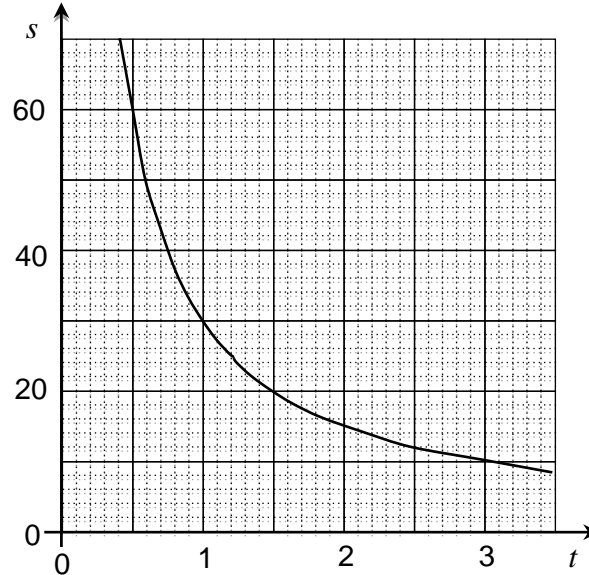
Answer _____

- 3 (b)** Point B has an x -coordinate of -2
Work out the y -coordinate of point B.

[1 mark]

Answer _____

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



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

[1 mark]

Answer _____ mph

- 4 (b) Work out the fixed distance.

[1 mark]

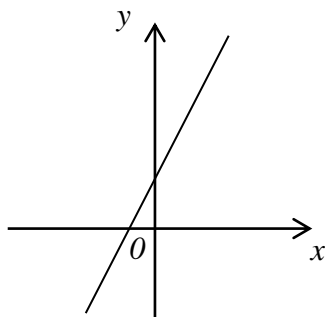
Answer _____ miles

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

[1 mark]

Answer _____ minutes

5 This is a sketch of the graph of $y = 3x + 1$



5 (a) On the same grid sketch the graph of $y = 3x + 5$

[1 mark]

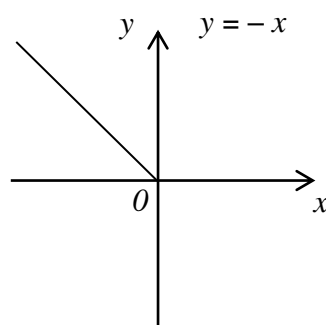
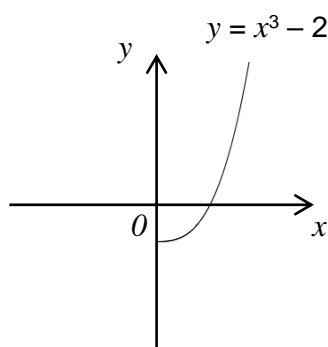
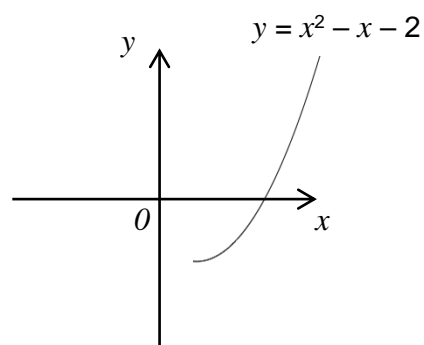
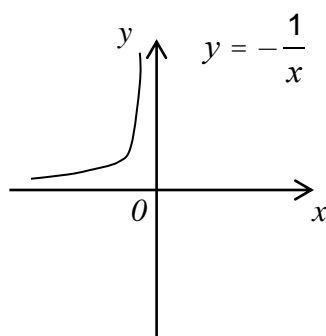
5 (b) On the same grid sketch the graph of $y = x + 1$

[1 mark]

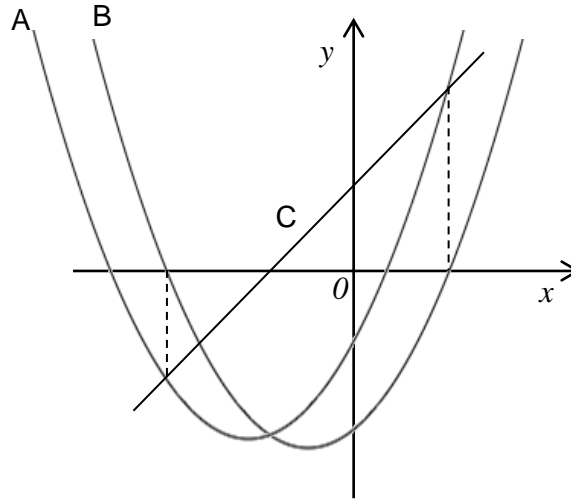
6 In the following graphs, half of the graph is not drawn.

Complete the graphs.

[4 marks]



- 7 A is the graph of $y = x^2 + 2x - 3$
C is the graph of $y = 3x + 3$

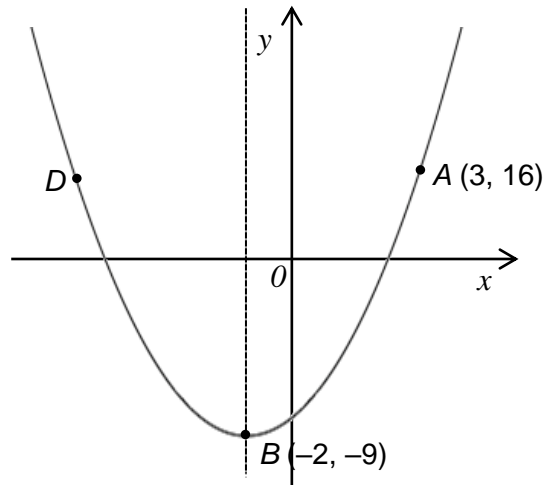


Work out the equation of graph B.

[2 marks]

Answer _____

- 8 The quadratic shown is symmetrical about the line $x = -2$



- 8 (a) D is the reflection of A in the line of symmetry.

Write down the coordinates D .

[1 mark]

Answer (_____ , _____)

- 8 (b) Point C has an x -coordinate of 1

Work out the missing y -coordinate.

[1 mark]

Answer (1 _____ , _____)