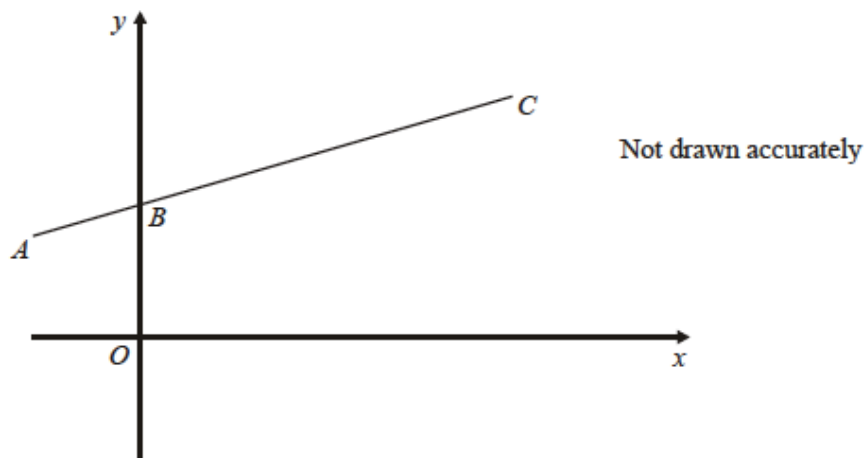


Topic 8 Graphs 1 (Pre-TT) [33]

1.

The diagram shows the points $A(-2, 2)$, $B(0, 3)$ and $C(8, 7)$.

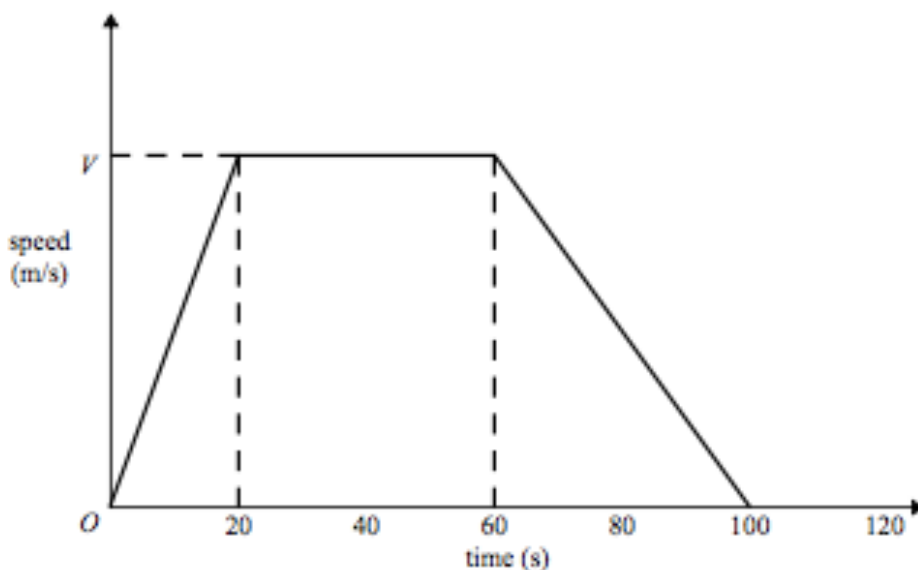


Find the equation of the straight line which passes through A , B and C .

(Total 3 marks)

2.

Here is a speed-time graph for a car journey.
The journey took 100 seconds.



The car travelled 1.75 km in the 100 seconds.

(a) Work out the value of V .

(b) Describe the acceleration of the car for each part of this journey.

(Total 5 marks)

3.

Find the equation of the straight line passing through the point $(0, 5)$ which is perpendicular to the line

$$y = \frac{2}{3}x + 3$$

(Total 2 marks)

4.

Each of the graphs represents one of the following equations.

A $y = 3x + 4$

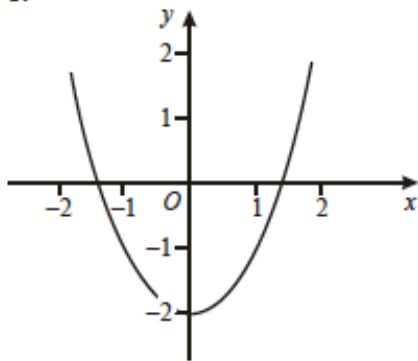
B $2x + 3y = 12$

C $y = x^2 - 2$

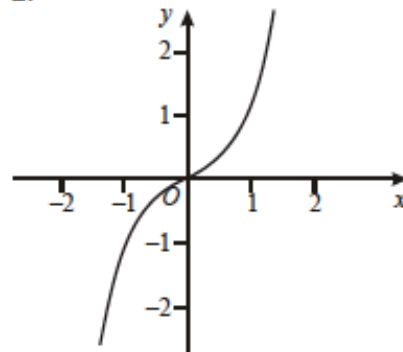
D $y = x^3$

Write down the letter of the equation represented by each graph

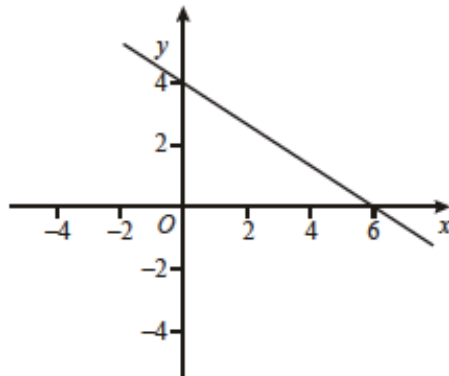
1.



2.



3.



(Total 3 marks)

5.

(a) Copy and complete the table of values for $y = x^2 - 4x - 1$.

x	-1	0	1	2	3	4	5
y		-1	-4		-4	-1	4

(2)

(b) On a grid $-2 \leq x \leq 6$, $-6 \leq y \leq 5$, draw the graph of $y = x^2 - 4x - 1$.

(2)

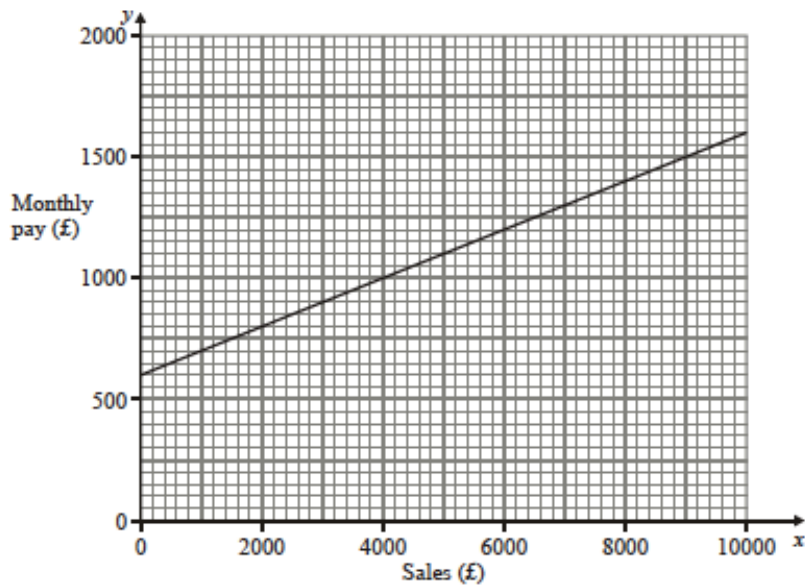
(c) Use your graph to solve the equation $x^2 - 4x - 1 = 0$.

(2)

(Total 6 marks)

6.

The graph shows how Ellie's monthly pay depends on her sales.



(a) Find the equation of the line in the form $y = mx + c$

(3)

(b) Calculate Ellie's pay when her sales are £16 000.

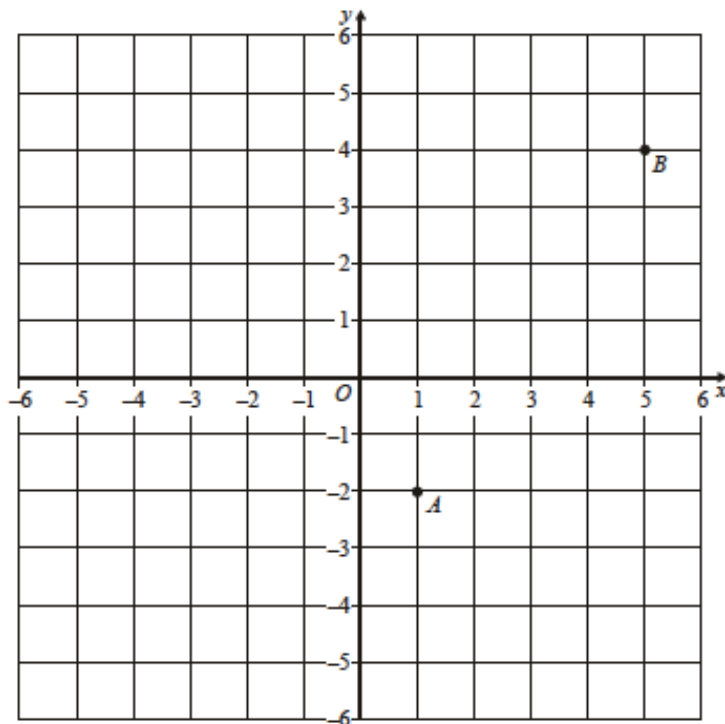
(2)

(Total 5 marks)

7.

A is the point $(1, -2)$.

B is the point $(5, 4)$.

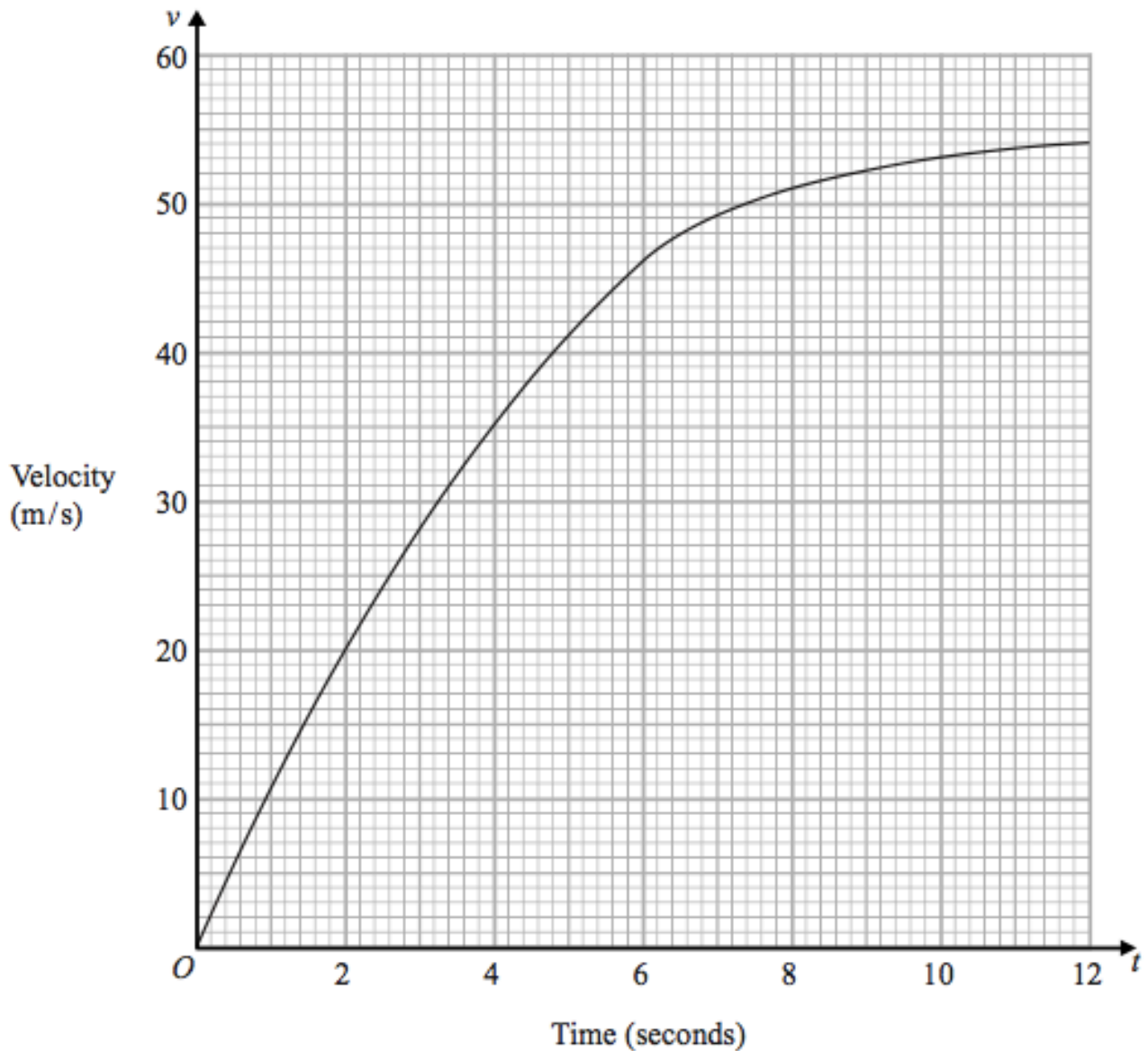


Find the equation of the line perpendicular to AB , passing through the mid-point of AB .

(Total 4 marks)

8.

The graph shows information about the velocity, v m/s, of a parachutist t seconds after leaving a plane.



- (a) Work out an estimate for the acceleration of the parachutist at $t = 6$
- (b) Work out an estimate for the distance fallen by the parachutist in the first 12 seconds after leaving the plane.
Use 3 strips of equal width.

(Total 5 marks)