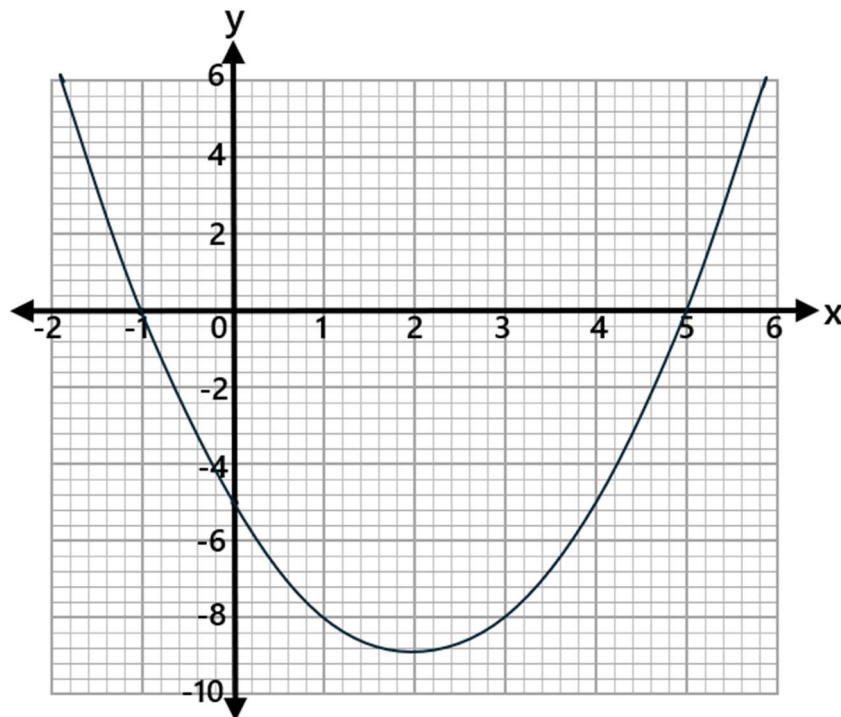


1) The graph of

$$y = x^2 - 4x - 5$$

is shown on the coordinate grid below from  $-2 \leq x \leq 6$ .



a. Use the graph to estimate the solutions of

$$x^2 - 4x - 5 = 1$$

Give your answers to one decimal place.

$$x = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}}$$

b. By drawing a suitable straight line on the grid, find estimates for the solutions of

$$x^2 - 5x - 2 = 0$$

Show your working clearly. Give your answers correct to one decimal place.

$$x = \underline{\hspace{2cm}}$$

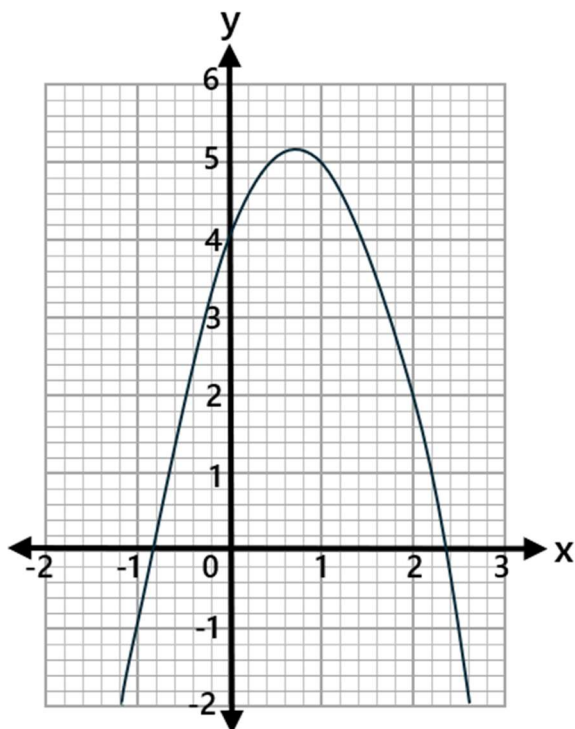
$$x = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}}$$

2) The graph of

$$y = -2x^2 + 3x + 4$$

is shown on the coordinate grid below from  $-2 \leq x \leq 3$ .



a. Use the graph to estimate the solutions of

$$-2x^2 + 3x + 4 = -1$$

Give your answers to one decimal place.

$$x = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}}$$

b. By drawing a suitable straight line on the grid, find estimates for the solutions of

$$-2x^2 + x + 1 = 0$$

Show your working clearly. Give your answers correct to one decimal place.

$$x = \underline{\hspace{2cm}}$$

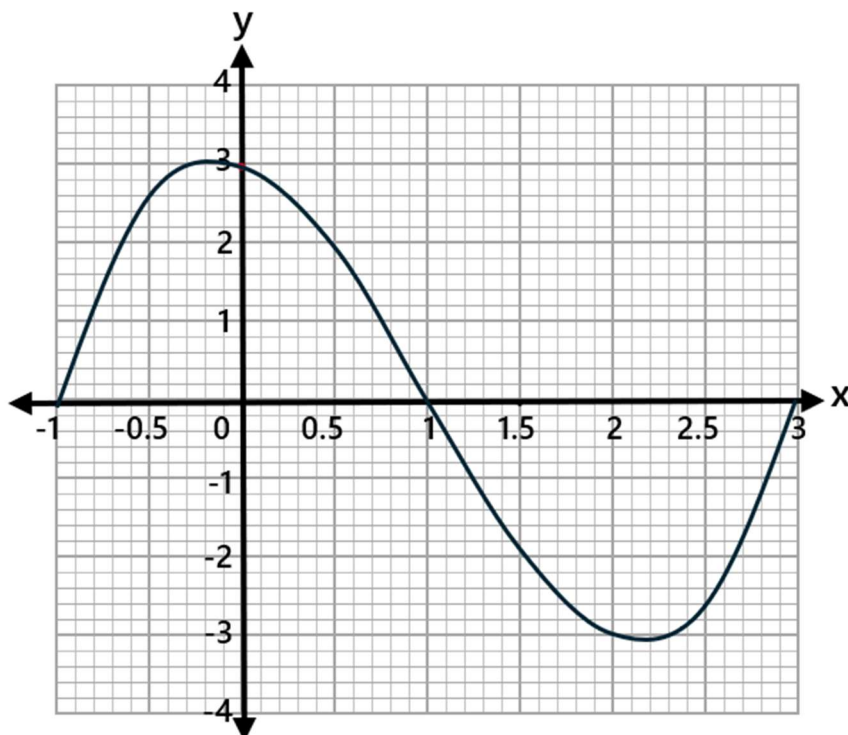
$$x = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}}$$

3) The graph of

$$y = x^3 - 3x^2 - x + 3$$

is shown on the coordinate grid below from  $-1 \leq x \leq 3$ .



a. Use the graph to estimate the solutions of

$$x^3 - 3x^2 - x + 3 = -2$$

Give your answers to one decimal place.

$$x = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}}$$

b. By drawing a suitable straight line on the grid, find estimates for the solutions of

$$x^3 - 3x^2 + 3 = 0$$

Show your working clearly. Give your answers correct to one decimal place.

$$x = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}}$$

4) The graph of

$$y = 2x^3 - x^2 - 5x + 2$$

is shown on the coordinate grid below from  $-2 \leq x \leq 2$ .



a. Use the graph to estimate the solutions of

$$2x^3 - x^2 - 5x + 2 = -1$$

Give your answers to one decimal place.

$$x = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}}$$

b. By drawing a suitable straight line on the grid, find estimates for the solutions of

$$2x^3 - x^2 - 4x + 1 = 0$$

Show your working clearly. Give your answers correct to one decimal place.

$$x = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}}$$