

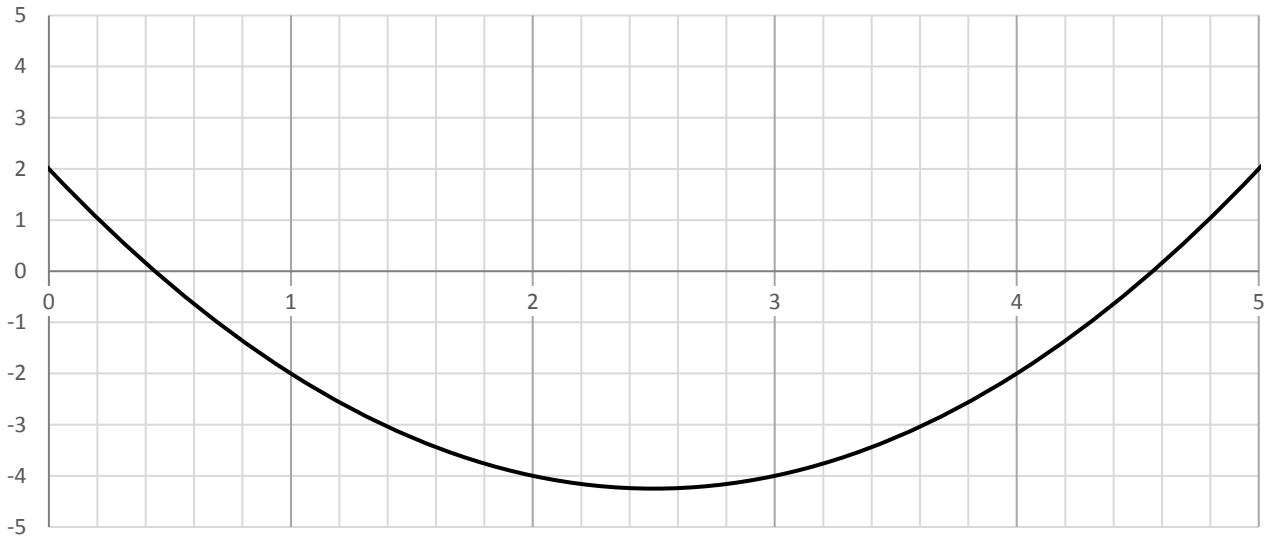
GRAPHICAL SOLUTIONS – PRACTICE QUESTIONS NON-CALCULATOR



metatutor

1.

Pictured below is the curve $y = x^2 - 5x + 2$ for $x = 0$ to 5 .



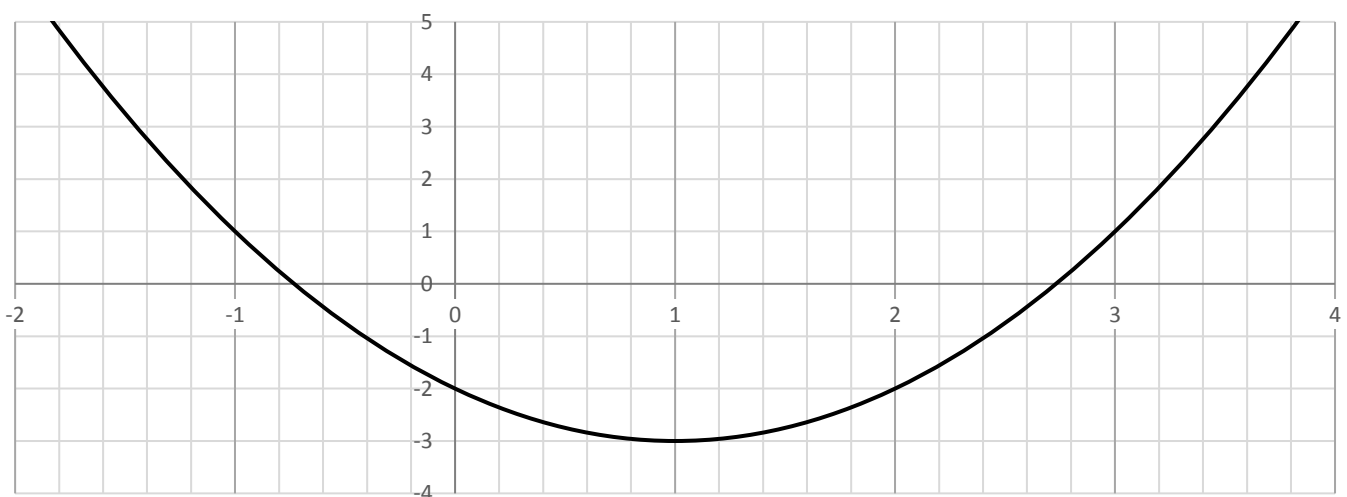
(a) Use the graph to estimate the solutions to $x^2 - 5x + 2 = 0$.

(b) Use the graph to estimate the solutions to $x^2 - 5x + 2 = 1$.

(c) Use the graph to estimate the solutions to $x^2 - 5x + 2 = -3$.

2.

Pictured below is the curve $y = x^2 - 2x - 2$ for $x = -2$ to 4 .

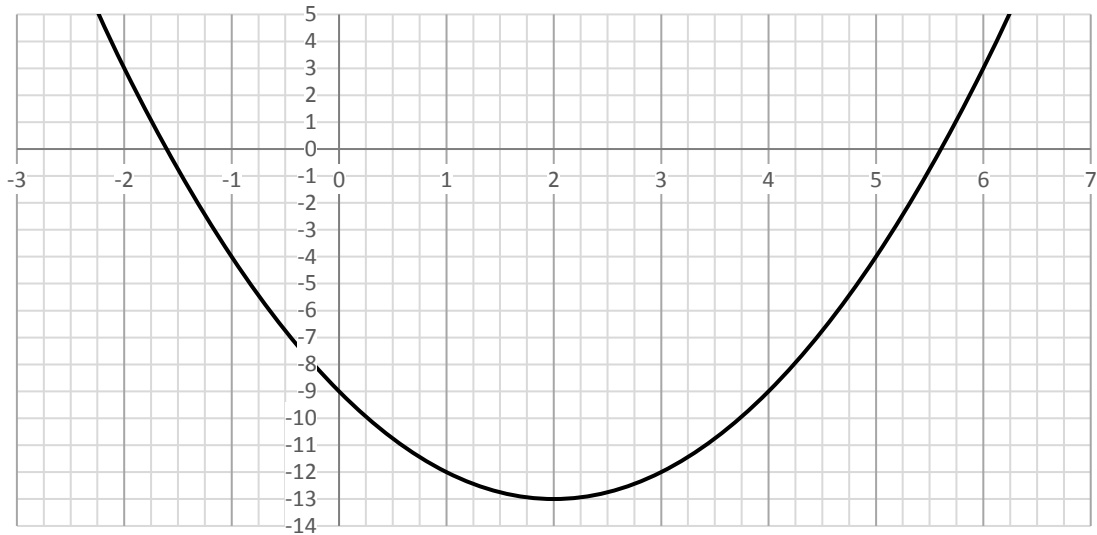


(a) Use the graph to estimate the solutions to $x^2 - 2x - 2 = 0$.

(b) Use the graph to estimate the solutions to $x^2 - 2x - 2 = 4$.

3.

Pictured below is the curve $y = x^2 - 4x - 10$ for $x = -3$ to 7 .

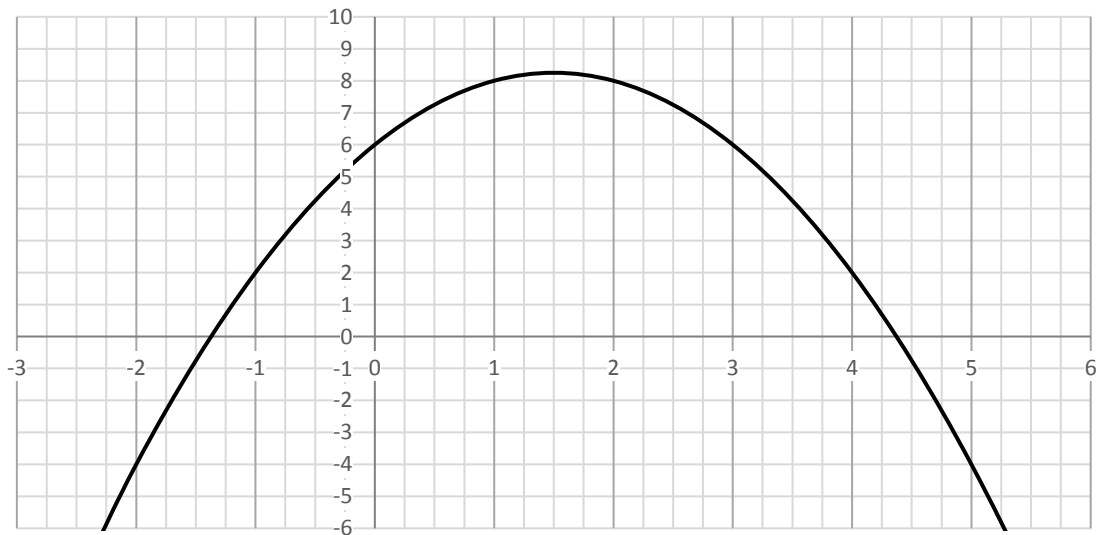


(a) Use the graph to estimate the solutions to $x^2 - 4x - 10 = 0$.

(b) Use the graph to estimate the solutions to $x^2 - 4x - 5 = 0$.

4.

Pictured below is the curve $y = 6 + 3x - x^2$ for $x = -3$ to 6 .

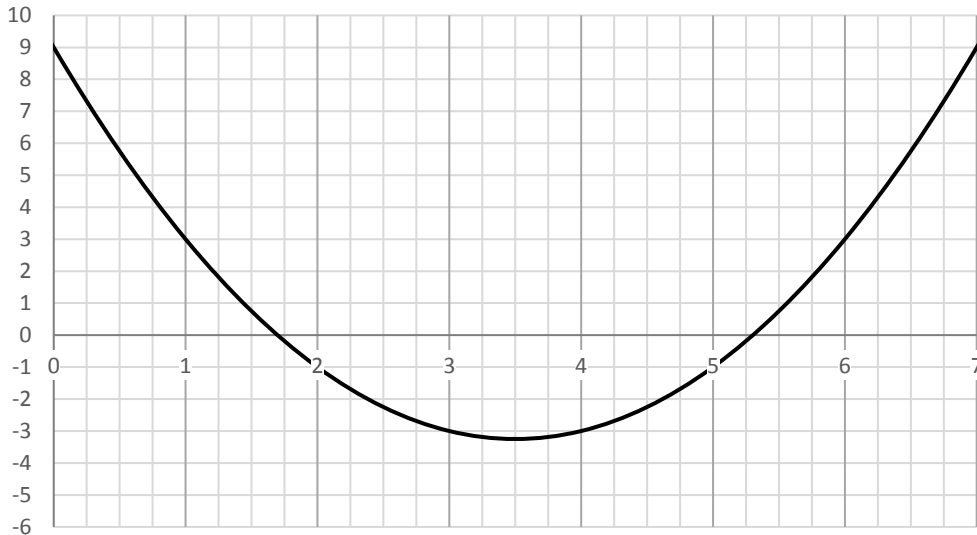


(a) Use the graph to estimate the solutions to the equation $9 + 3x - x^2 = 0$.

(b) Use the graph to estimate the solutions to the equation $2 + 3x - x^2 = 0$.

5.

Pictured below is the curve $y = x^2 - 7x + 9$ for $x = 0$ to 7 .

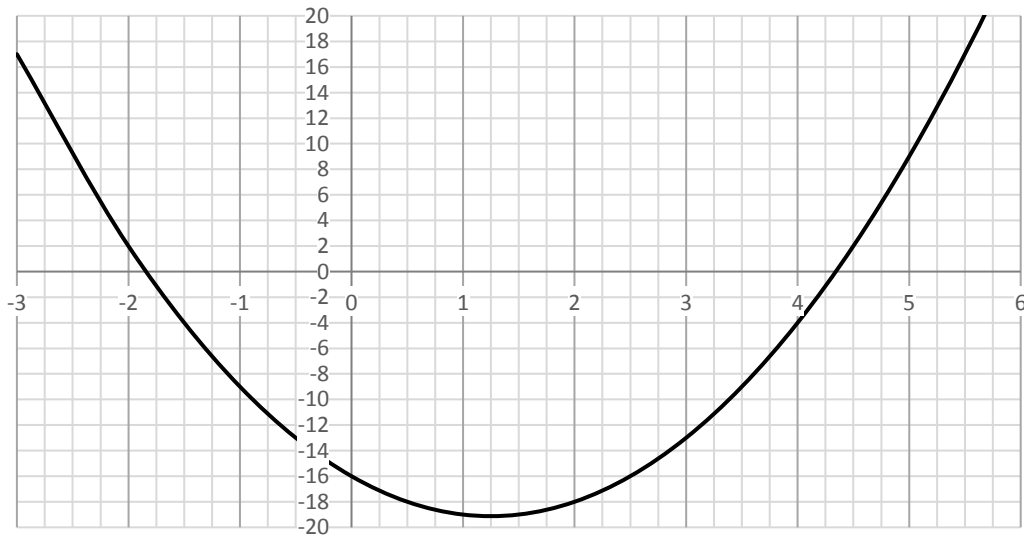


(a) Use the graph to estimate the solutions to the equation $x^2 - 7x + 4 = 0$.

(b) Use the graph to estimate the solutions to the equation $x^2 - 7x + 11 = 0$.

6.

Pictured below is the curve $y = 2x^2 - 5x - 16$ for $x = -3$ to 6 .

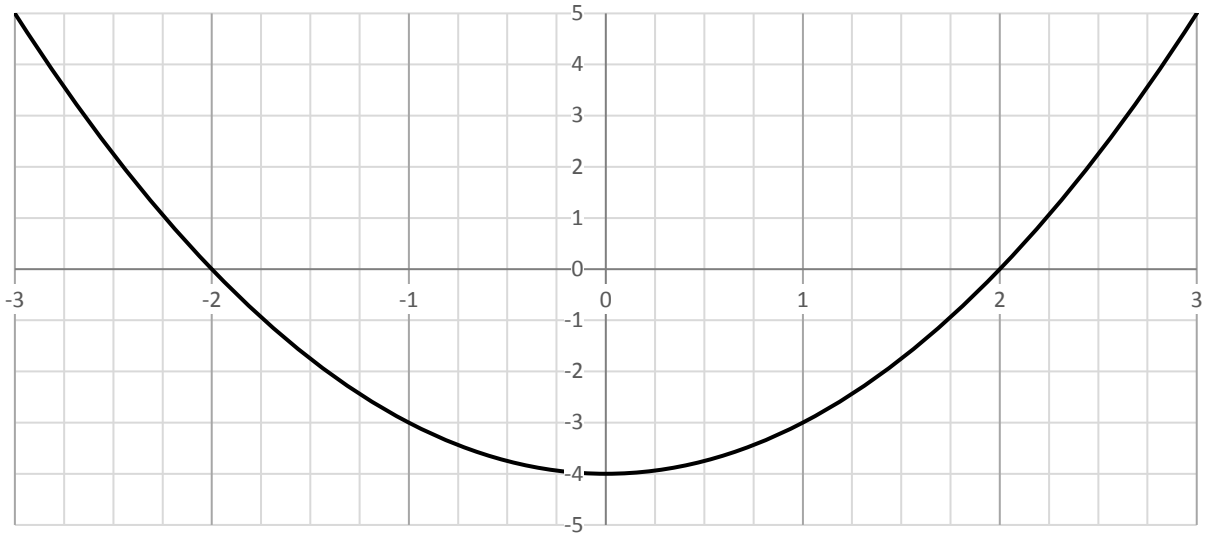


(a) Use the graph to estimate the solutions to the equation $2x^2 - 5x - 24 = 0$.

(b) Use the graph to estimate the solutions to the equation $2x^2 - 5x + 2 = 0$.

7.

Pictured below is the curve $y = x^2 - 4$ for $x = -3$ to 3 .



(a) Complete the table of values for $y = x + 1$.

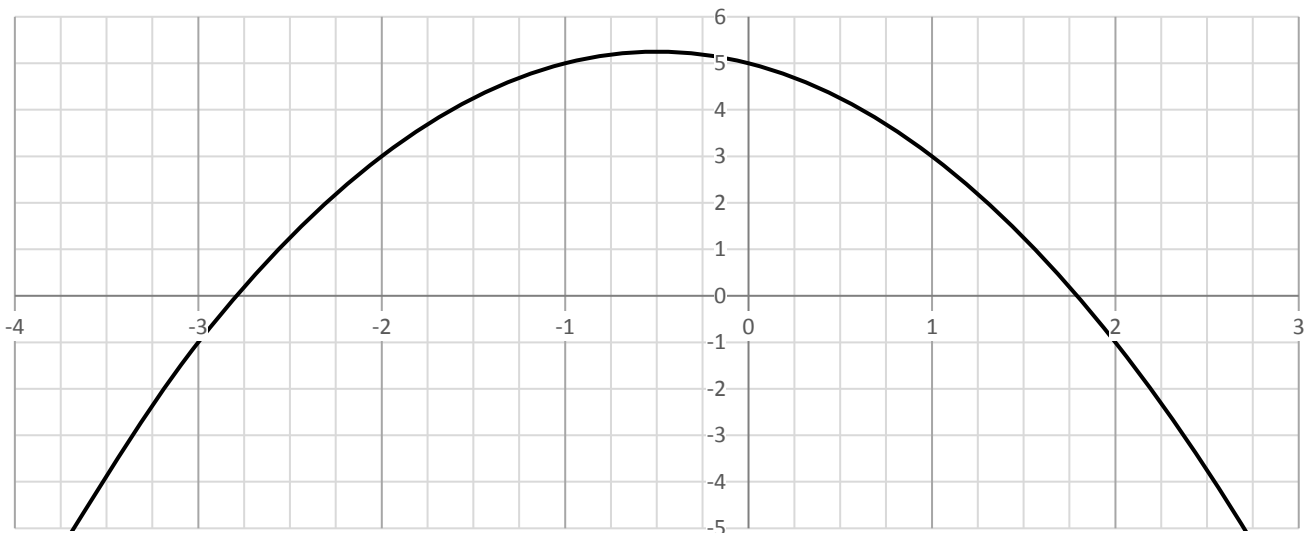
x	-3	-2	-1	0	1	2	3
y							

(b) On the same axis, plot the line $y = x + 1$.

(c) Use the graph to estimate the solutions to the equation $x^2 - 4 = x + 1$.

8.

Pictured below is the curve $y = 10 - x - x^2$ for $x = -4$ to 3 .

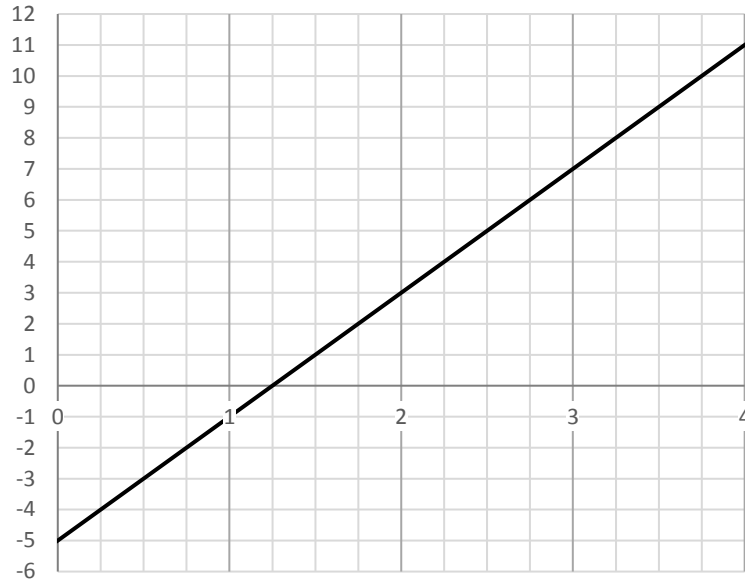


(a) On the same axis, plot the line $y = 4 - 2x$.

(b) Use the graph to estimate the solutions to the equation $10 - x - x^2 = 4 - 2x$.

9.

Pictured below is the graph $y = 3x - 1$ for $x = 0$ to 4.

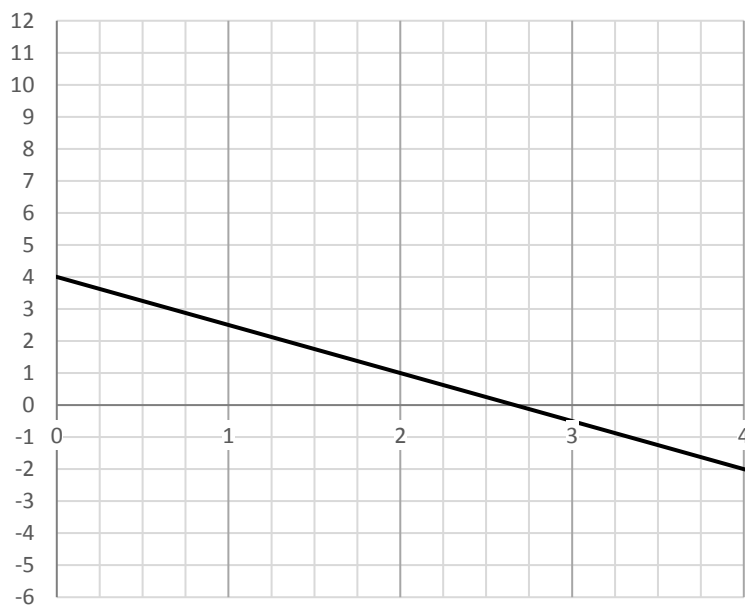


By drawing a second graph on the grid, estimate the solution to the simultaneous equations:

$$\begin{aligned}y &= 3x - 1 \\ y &= 7 - 3x\end{aligned}$$

10.

Pictured below is the graph $2y + 3x = 8$ for $x = 0$ to 4.

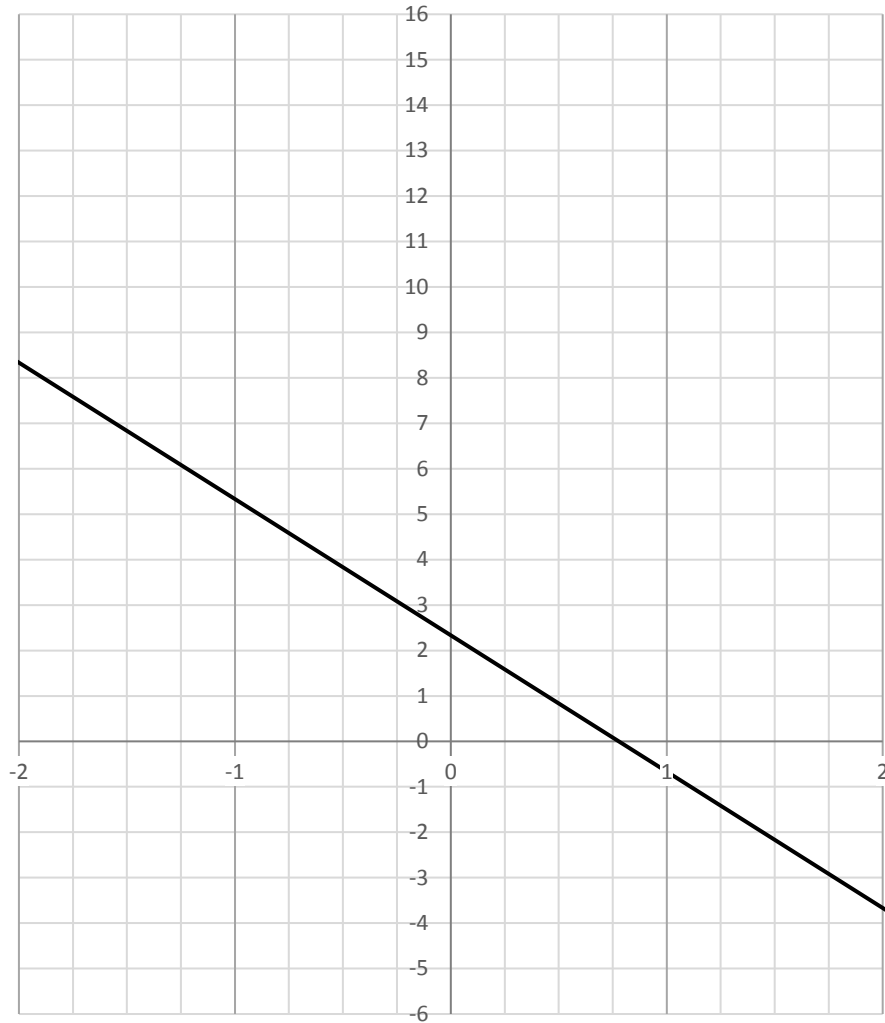


By drawing a second graph on the grid, estimate the solution to the simultaneous equations:

$$\begin{aligned}2y + 3x &= 8 \\ y &= 4x - 5\end{aligned}$$

11.

Pictured below is the graph $3y + 9x = 7$ for $x = 0$ to 4 .

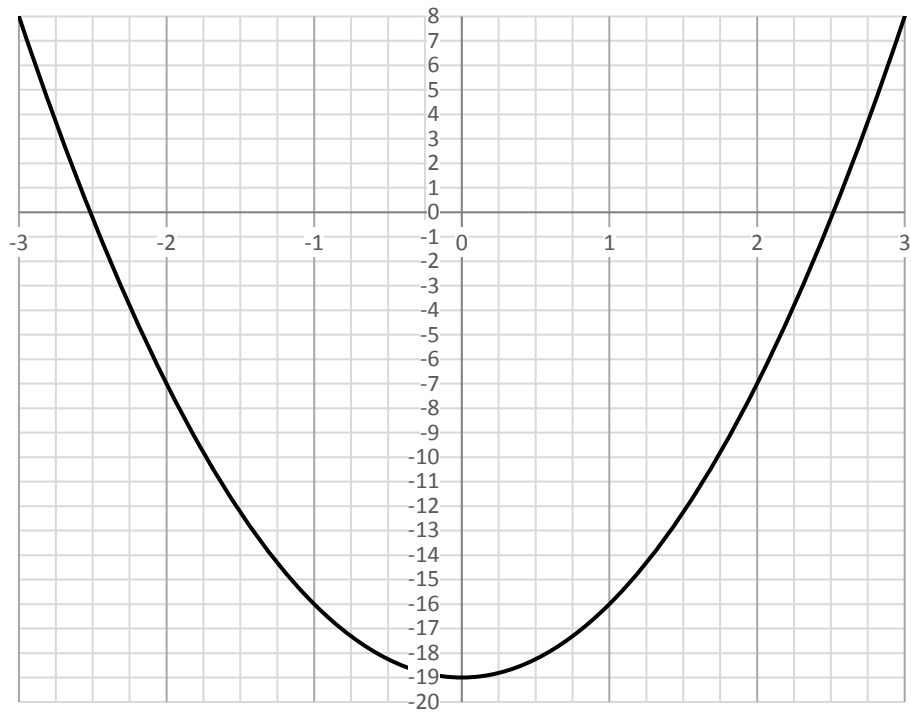


By drawing another graph on the grid, estimate the solution to the simultaneous equations:

$$\begin{aligned} 3y + 7x &= 7 \\ 2y - 11x &= 10 \end{aligned}$$

12.

Pictured below is the curve $y = 3x^2 - 19$ for $x = -3$ to 3 .

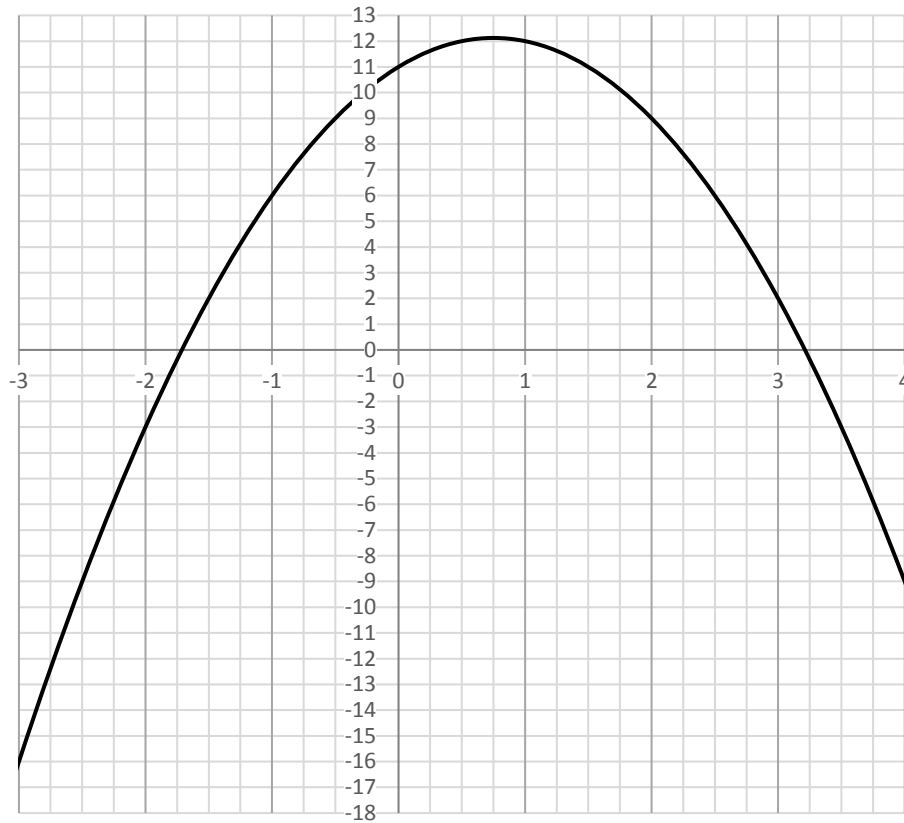


(a) Use the graph to estimate the solutions to the equation $3x^2 - 8 = 0$.

(b) By drawing an appropriate straight line, use the graph to estimate the solutions to the equation $3x^2 - 19 = 3x - 11$.

13.

Pictured below is the graph $y = -2x^2 + 3x + 11$ for $x = -3$ to 4 .

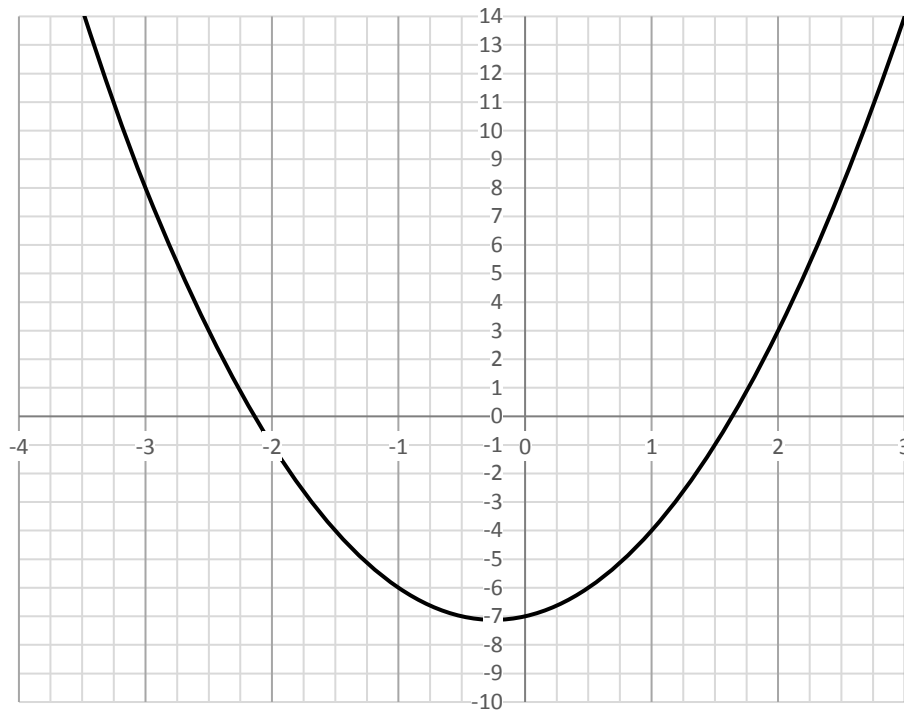


(a) By drawing an appropriate straight line, use the graph to estimate the solutions to the equation $-2x^2 + 3x + 11 = 5x + 4$.

(b) By drawing an appropriate straight line, use the graph to estimate the solutions to the equation $-2x^2 + 3x + 11 = 3 - 2x$.

14.

Pictured below is the graph $y = 2x^2 + x - 7$ for $x = -4$ to 3 .

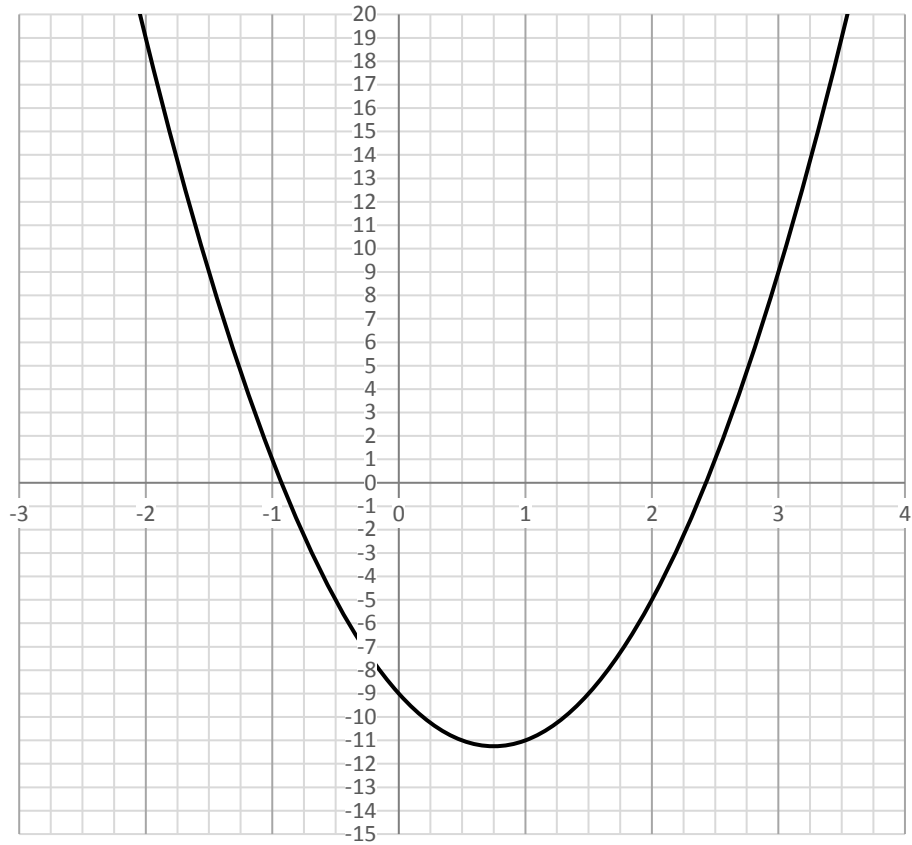


(a) By drawing an appropriate straight line, use the graph to estimate the solutions to the equation $2x^2 + 3x - 12 = 0$.

(b) By drawing an appropriate straight line, use the graph to estimate the solutions to the equation $2x^2 = 2x + 3$.

15.

Pictured below is the curve $y = 4x^2 - 6x - 9$ for $x = -3$ to 4 .



(a) Use the graph to estimate the solutions to the equation $4x^2 - 2x - 3 = 6x - 5$.

(b) Use the graph to estimate the solutions to the equation $5x^2 - 6x = 24$.