THIRD SPACE LEARNING

Solving Quadratic Equations By Graphing Worksheet

Algebra

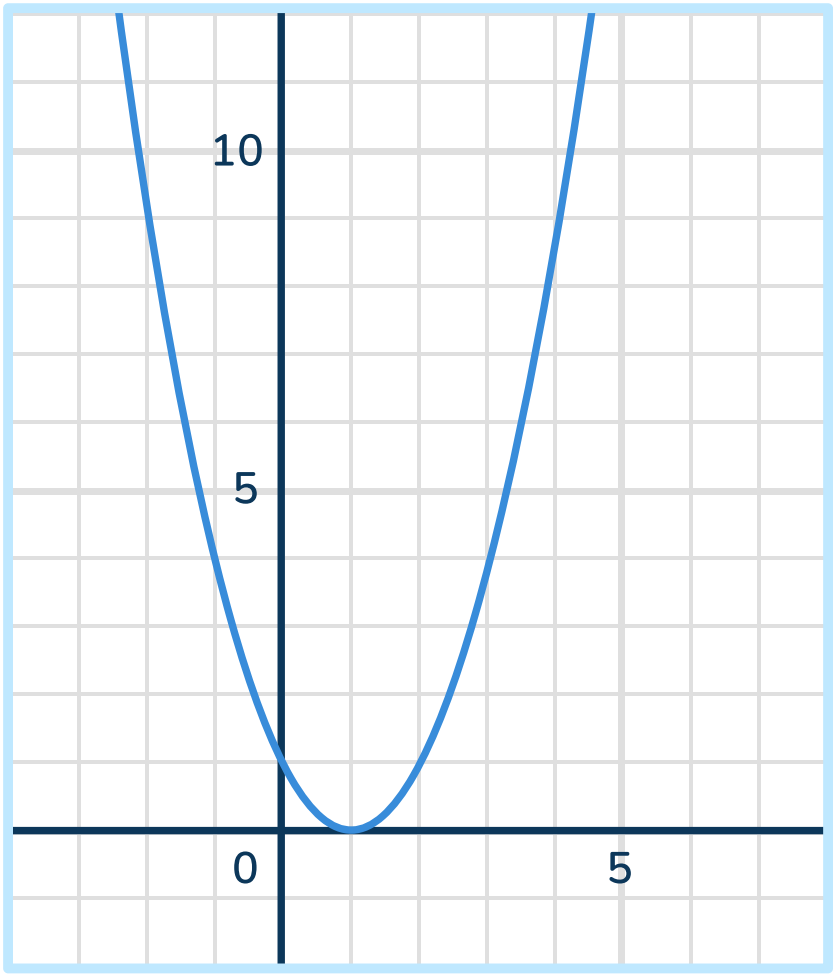
Grades 9 to 12

Questions

Name: .....

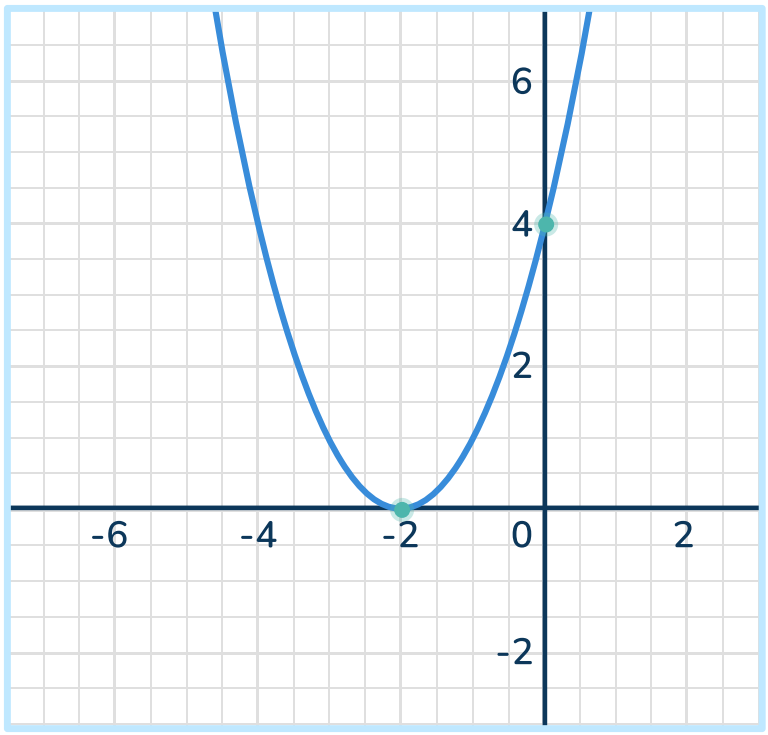
Date: .....

1 Using the graph below, to determine the solution(s) to the quadratic equation, $y = x^2 - 2x + 1$.



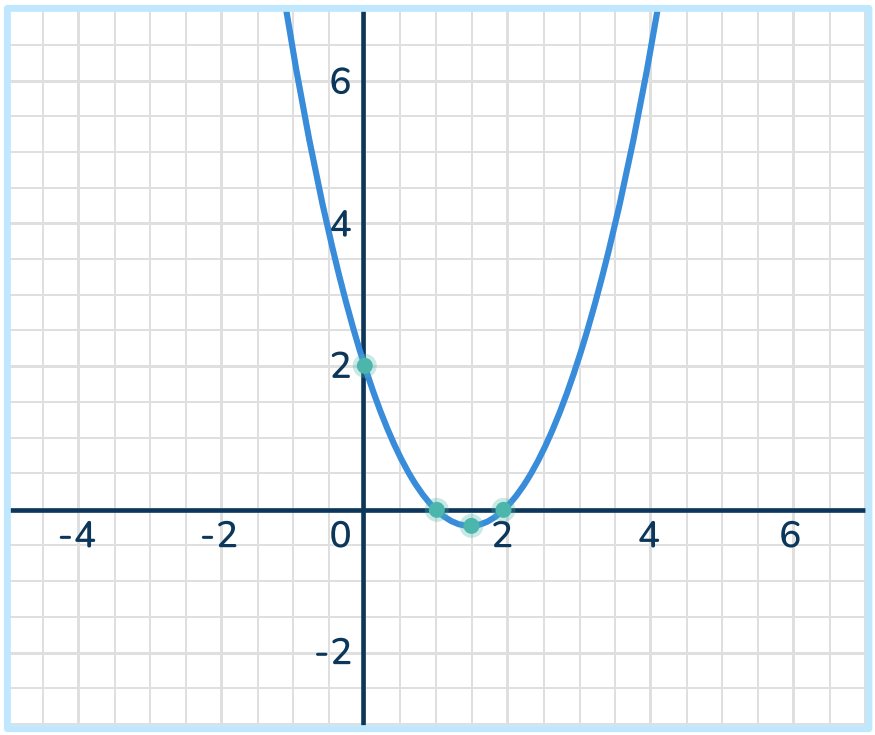
Answer

2 Find the solutions of the equation $x^2 + 4x + 4 = 0$ using the graph below.



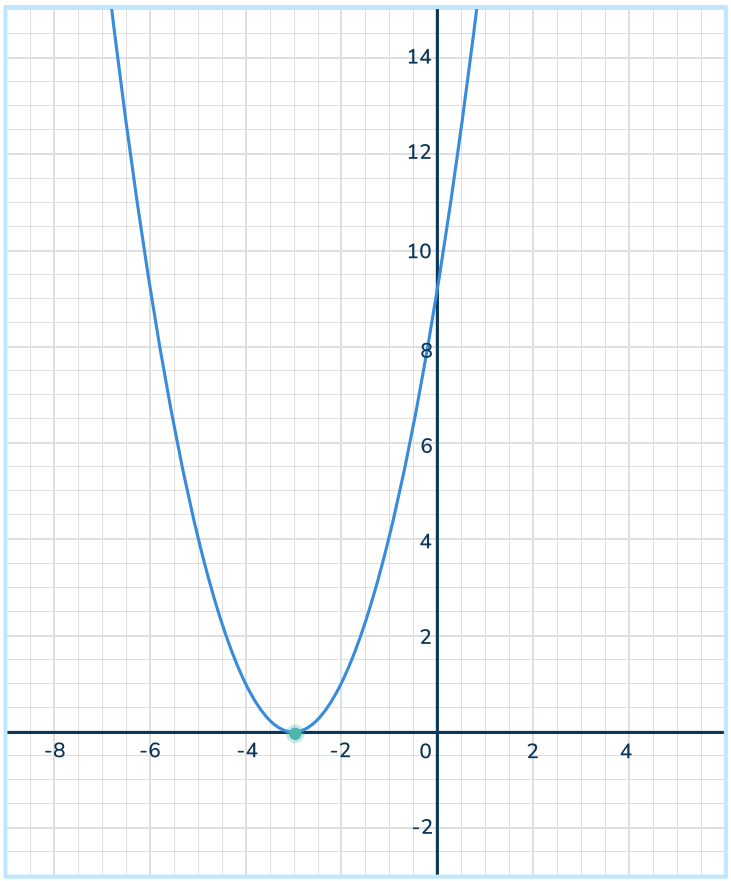
Answer

3 Find the solutions of the equation $x^2 - 3x + 2 = 0$ using the graph below.



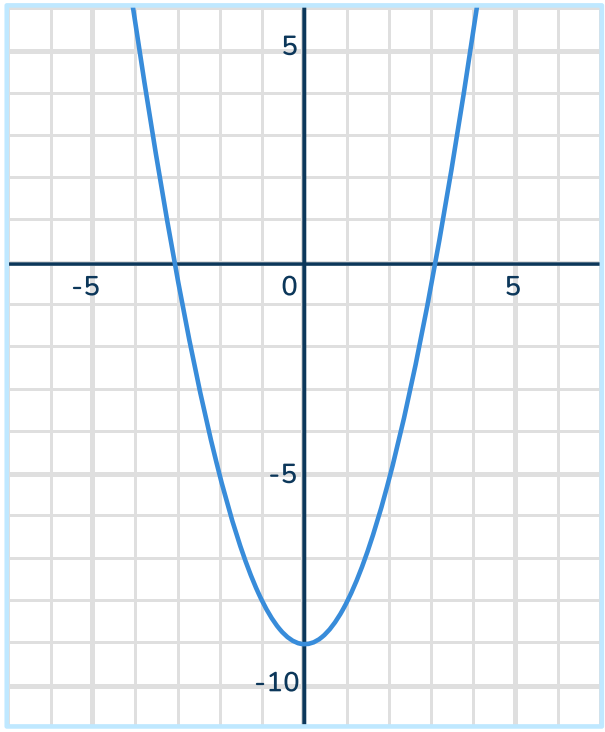
Answer

4 Find the solutions of the equation $x^2 + 6x + 9 = 0$ using the graph below.



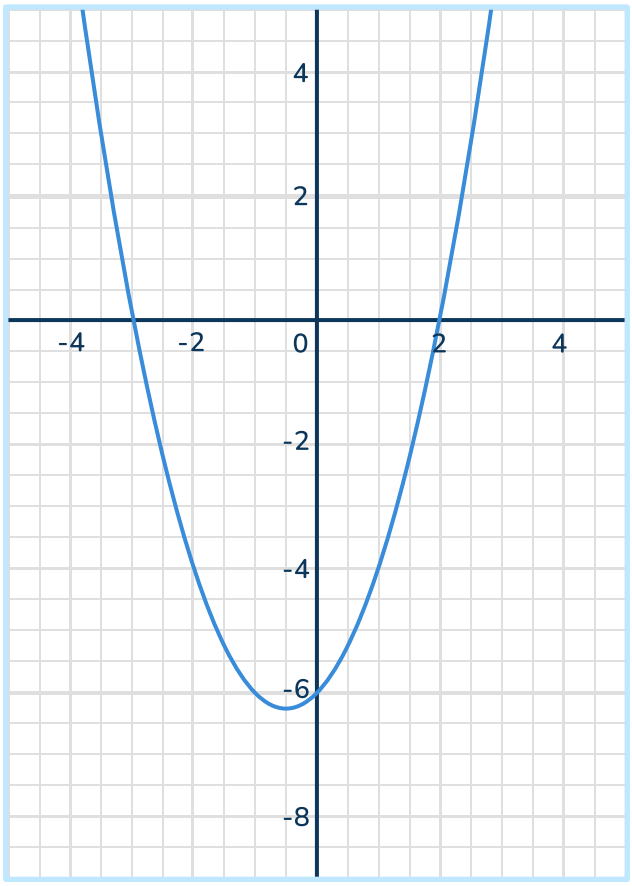
Answer

5 Find the solutions of the equation $y = x^2 - 9$ using the graph below.



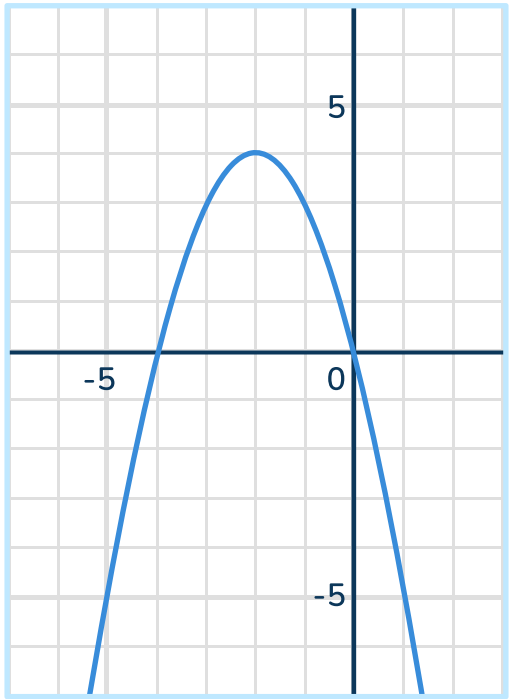
Answer

6 Find the solutions of the equation $x^2 + x - 6 = 0$ using the graph below.



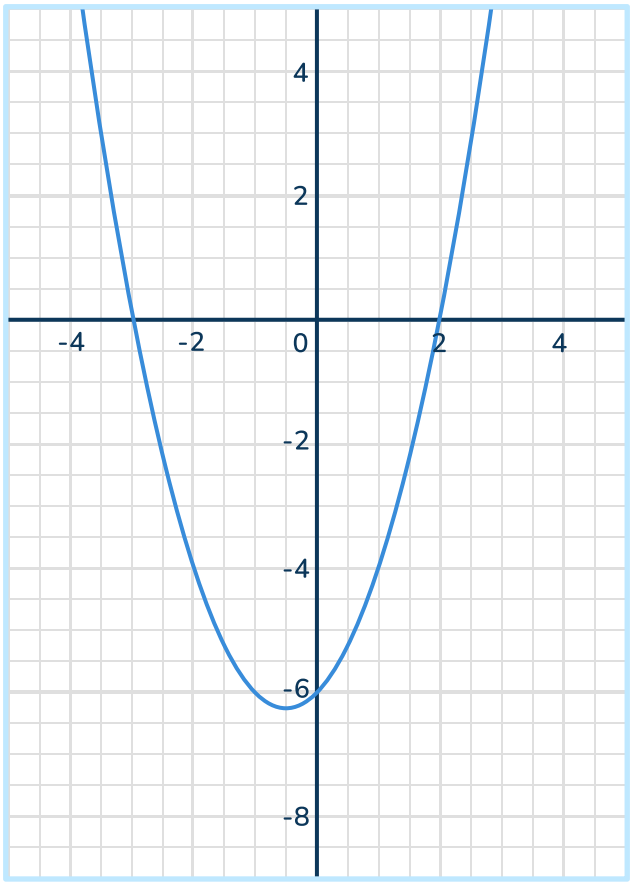
Answer

7 Use the graph of the quadratic equation, $y = -x^2 - 4x$, to find the solution(s) to the quadratic.



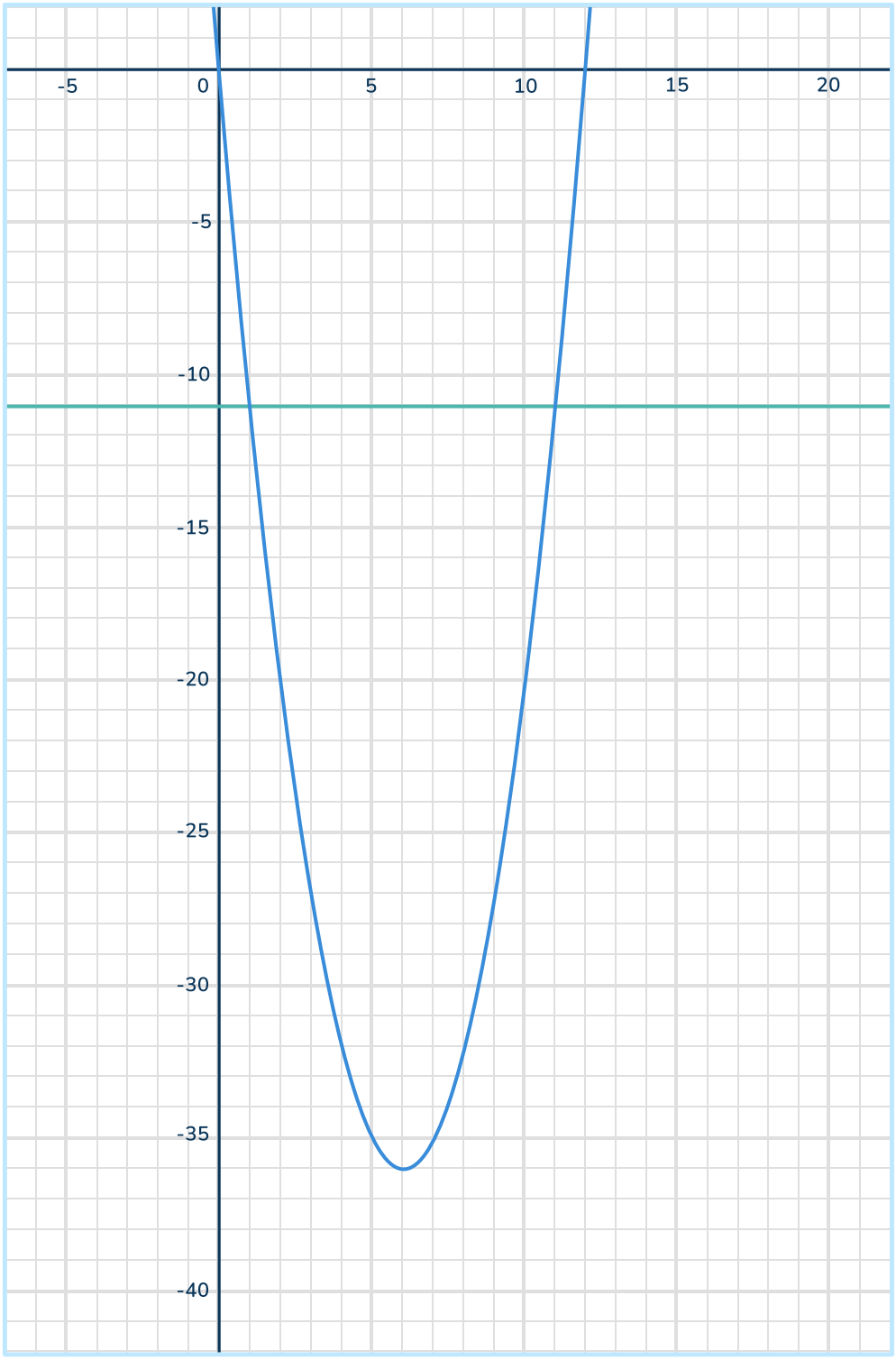
Answer

8 Find the solutions of the equation $x^2 + x - 6 = 0$ using the graph below.



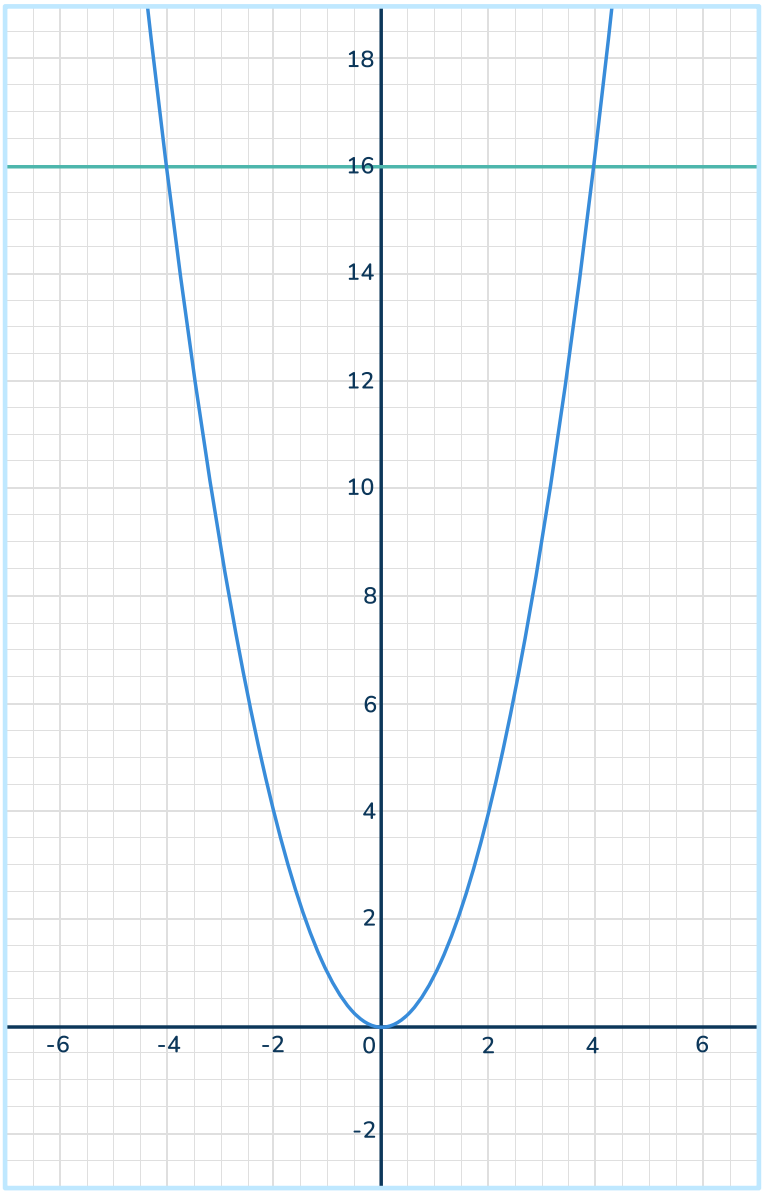
Answer

9 Determine the solutions of the equation $x^2 - 12x = -11$ using the graph below.



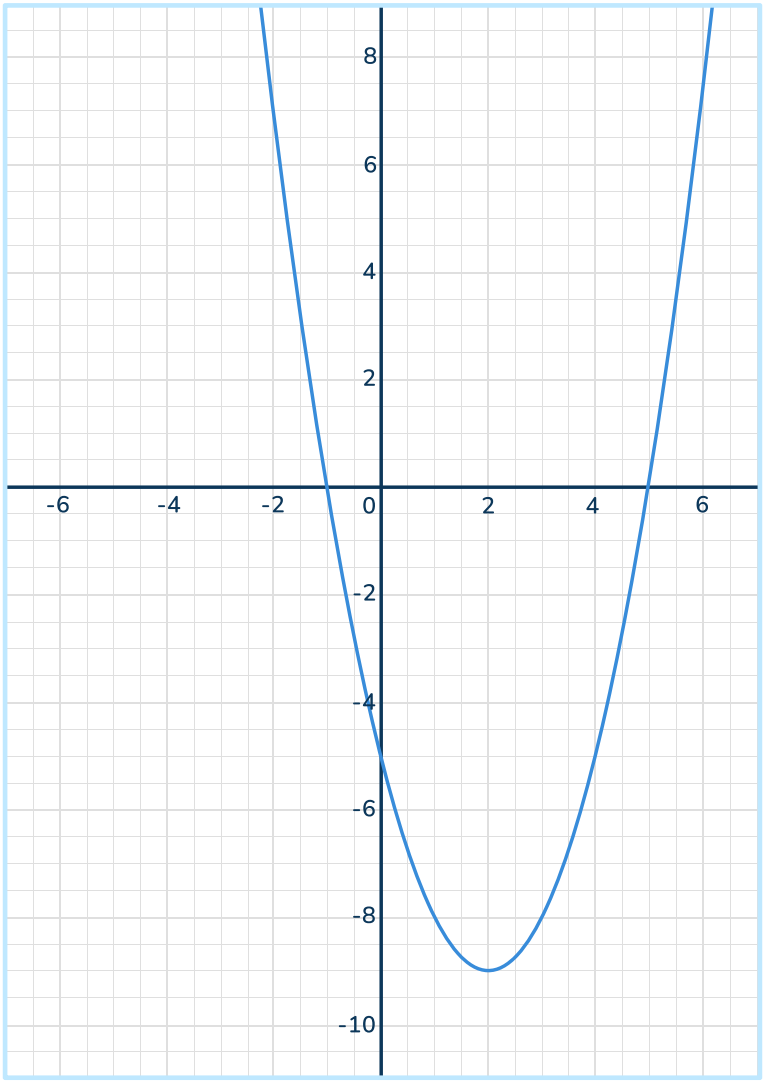
Answer

10 Find the solutions of the equation $x^2 = 16$ using the graph below.



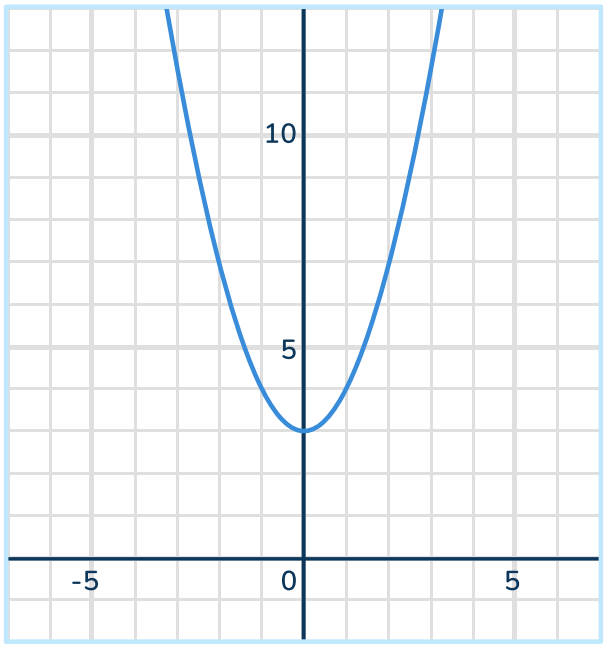
Answer

11 Find the solutions of the equation $x^2 - 4x - 5 = 0$ using the graph below.



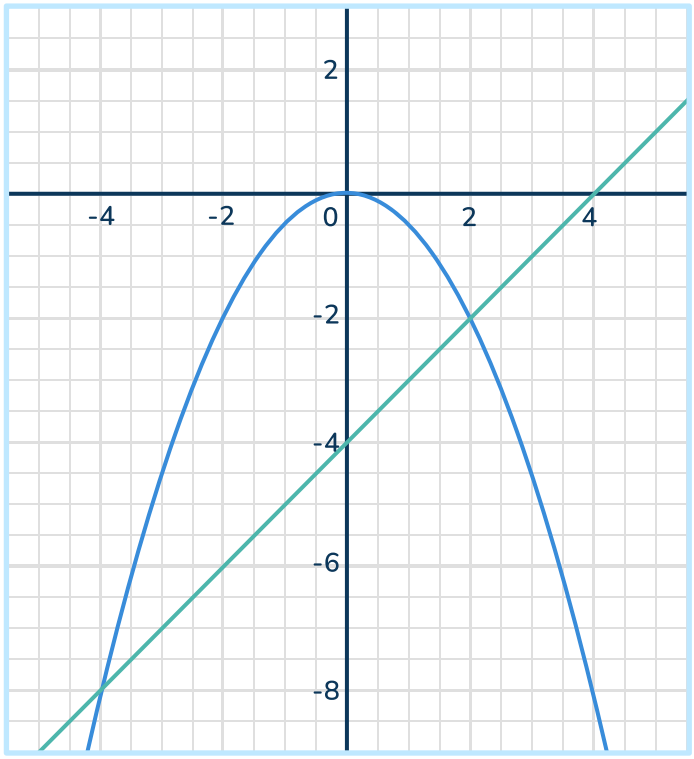
Answer

12 Leigh Ann uses the graph of the quadratic, $y = x^2 + 3$, to find the solution to the quadratic. She claims that the solution is $x = 3$. Is her claim correct and if not, what is the solution?



Answer

13 Ian uses the graph below to determine the solutions to the equation $x - 4 = -\frac{1}{2}x^2$. He says that the solution is $x = 0$ because that is the x - intercept of the parabola. Is he correct?

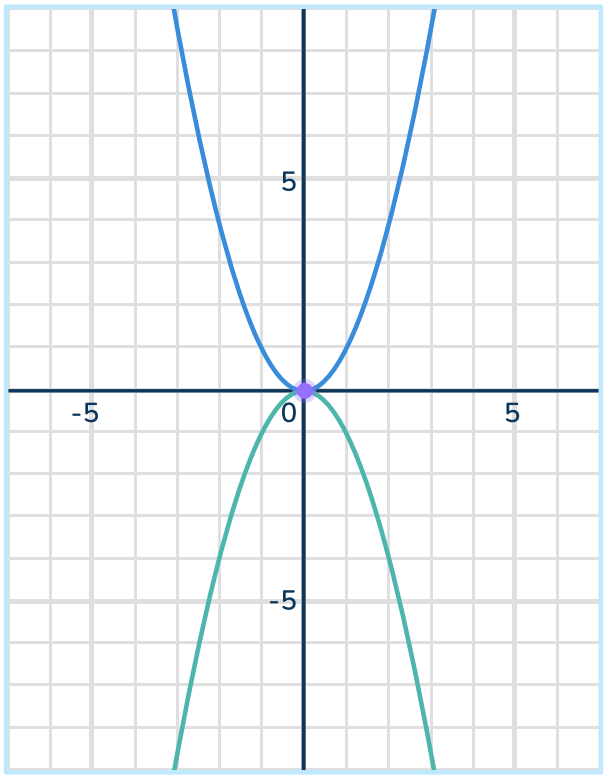


Answer

14 Explain why the x-intercepts are the same as the solutions to a quadratic equation.

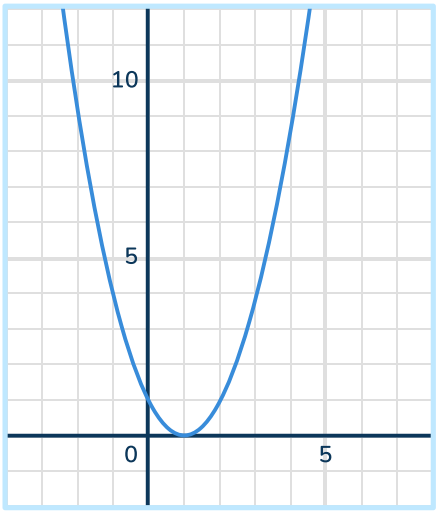
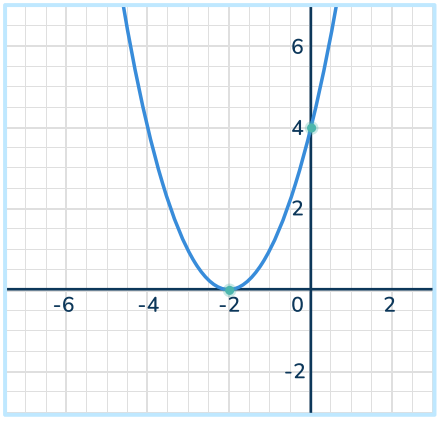
Answer

15 Does the graphs of the quadratic equations, $y = x^2$ and $y = -x^2$ have a solution



Answer

Answers

Question number	Question	Answers	Standard
1	Using the graph below, to determine the solution(s) to the quadratic equation, $y = x^2 - 2x + 1$ 	The solution is $x = 1$	HSA-REI.B.4
2	Find the solutions of the equation $x^2 + 4x + 4 = 0$ using the graph below. 	The only solution is $x = -2$.	HSA-REI.B.4

Solving Quadratic Equations By Graphing Worksheet | Grades 9 to 12 | Answers

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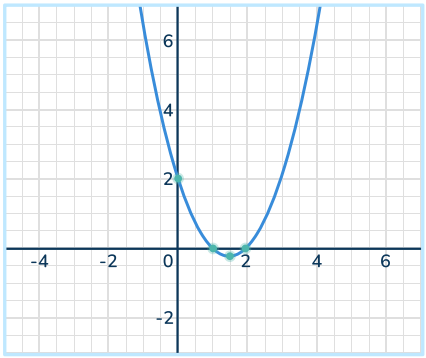
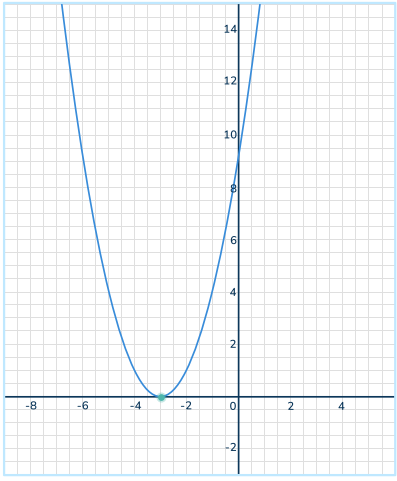
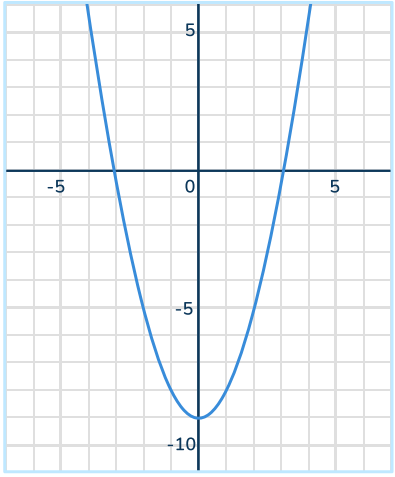
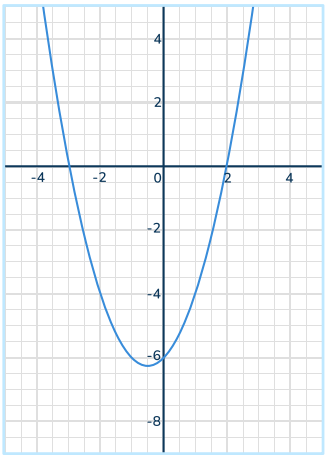
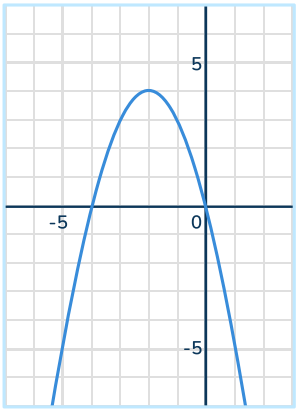
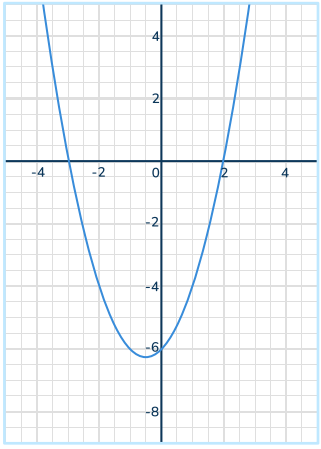
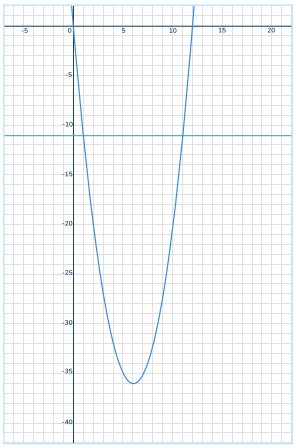
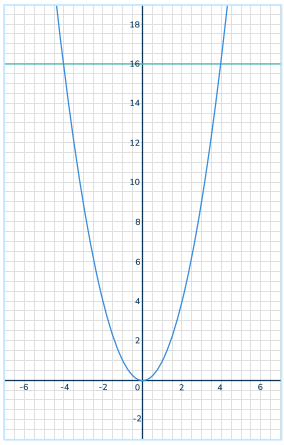
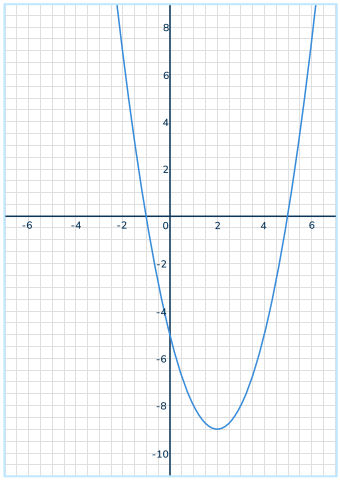
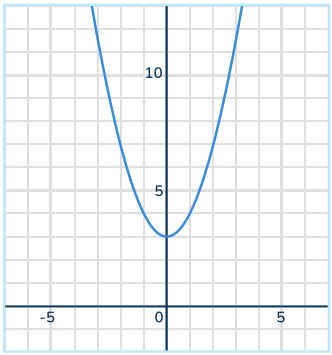
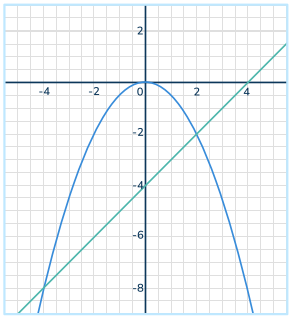
3	Find the solutions of the equation $x^2 - 3x + 2 = 0$ using the graph below. 	The solutions are $x = 1$ and $x = 2$.	HSA-REI.B.4
4	Find the solutions of the equation $x^2 + 6x + 9 = 0$ using the graph below. 	The solution is $x = -3$.	HSA-REI.B.4
5	Find the solutions of the equation $y = x^2 - 9$ using the graph below. 	The solutions are $x = 3, x = -3$	HSA-REI.B.4

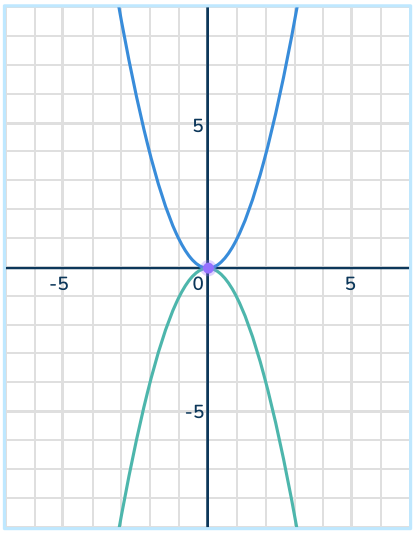
Solving Quadratic Equations By Graphing Worksheet | Grades 9 to 12 | Answers

Question number	Question	Answers	Standard
6	Find the solutions of the equation $x^2 + x - 6 = 0$ using the graph below. 	The solutions are $x = -3$ and $x = 2$.	HSA-REI.B.4
7	Use the graph of the quadratic equation, $y = -x^2 - 4x$, to find the solution(s) to the quadratic. 	The solutions are $x = 0$ and $x = -4$	HSA-REI.B.4
8	Find the solutions of the equation $x^2 + x - 6 = 0$ using the graph below. 	The solutions are $x = -3$ and $x = 2$.	HSA-REI.B.4

Question number	Question	Answers	Standard
9	Determine the solutions of the equation $x^2 - 12x = -11$ using the graph below. 	The solutions are $x = 1$ and $x = 11$	HSA-REI.B.4
10	Find the solutions of the equation $x^2 = 16$ using the graph below. 	The solutions are $x = -4$ and $x = 4$.	HSA-REI.B.4
11	Find the solutions of the equation $x^2 - 4x - 5 = 0$ using the graph below. 	The solutions are $x = -1$ and $x = 5$.	HSA-REI.B.4

Solving Quadratic Equations By Graphing Worksheet | Grades 9 to 12 | Answers

Question number	Question	Answers	Standard
12	Leigh Ann uses the graph of the quadratic, $y = x^2 + 3$, to find the solution to the quadratic. She claims that the solution is $x = 3$. Is her claim correct and if not, what is the solution? 	Leigh Ann is not correct because the solution(s) to a quadratic are the x-intercepts. This quadratic does not have any x-intercepts so there is no real solution to this quadratic equation.	HSA-REI.B.4
13	Ian uses the graph below to determine the solutions to the equation $x - 4 = -\frac{1}{2}x^2$. He says that the solution is $x = 0$ because that is the x-intercept of the parabola. Is he correct? 	Ian is not correct because the way you use the graph to find the solution of the equation, $x - 4 = -\frac{1}{2}x^2$, is to look for where the line and the parabola intersect. In this case, the line intersects the parabola at (-4, -8) and (2, -2), so the solutions are x = -4 and x = 2	HSA-REI.B.4
14	Explain why the x-intercepts are the same as the solutions to a quadratic equation.	The x-intercepts are the solutions or roots to a quadratic equation because those are the values that make the y-value 0.	HSA-REI.B.4

Question number	Question	Answers	Standard
15	Does the graphs of the quadratic equations, $y = x^2$ and $y = -x^2$ have a solution? 	Yes, there is a solution and it's at 0, $x = 0$ is the solution.	HSA-REI.B.4

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