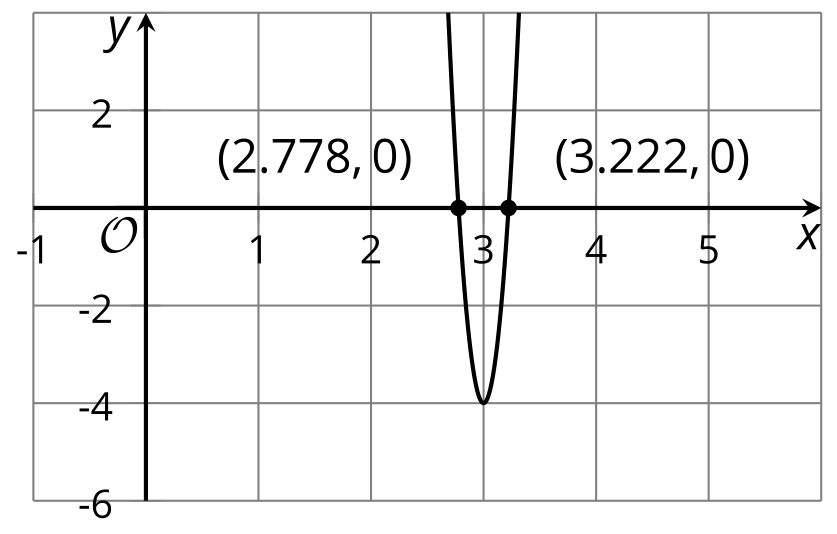
### Lesson 20 Practice Problems

1. Decide whether each number is rational or irrational.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| * 10 |  |  |  | * -3 |  |  |



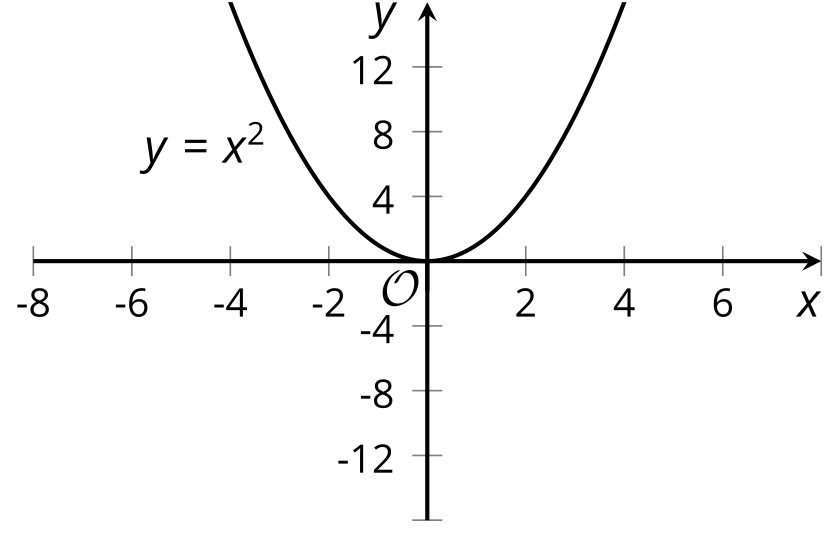
1. Here are the solutions to some quadratic equations. Select **all** solutions that are rational.
2. Solve each equation. Then, determine if the solutions are rational or irrational.
3. Here is a graph of the equation .
   1. Based on the graph, what are the solutions to the equation ?
   * 
   1. Can you tell whether they are rational or irrational? Explain how you know.
   2. Solve the equation using a different method and say whether the solutions are rational or irrational. Explain or show your reasoning.
4. Match each equation to an equivalent equation with a perfect square on one side.

* (From Unit 7, Lesson 13.)

1. To derive the quadratic formula, we can multiply  by an expression so that the coefficient of  is a perfect square and the coefficient of  is an even number.
   1. Which expression, , , or , would you multiply by to get started deriving the quadratic formula?
   2. What does the equation look like when you multiply both sides by your answer?

* (From Unit 7, Lesson 19.)

1. Here is a graph that represents .

* On the same coordinate plane, sketch and label the graph that represents each equation:
* 
* (From Unit 6, Lesson 12.)

1. Which quadratic expression is in vertex form?

* (From Unit 6, Lesson 15.)

1. Function is defined by the expression .
   1. Evaluate .
   2. Explain why is undefined.
   3. Give a possible domain for .

* (From Unit 4, Lesson 10.)



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