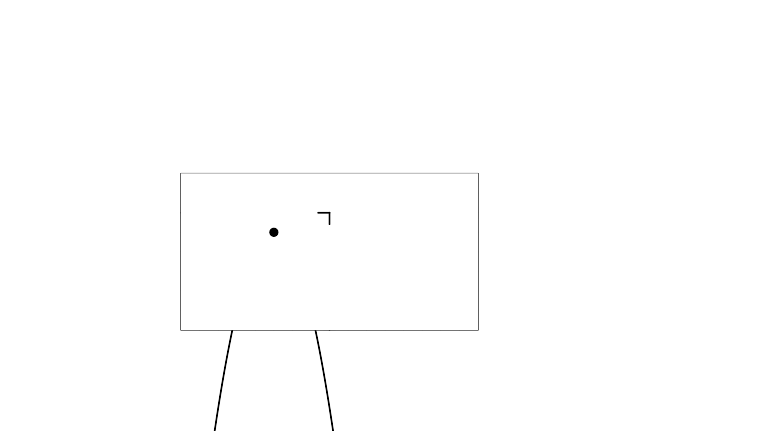
### Lesson 15 Practice Problems

1. Select **all** of the quadratic expressions in vertex form.
2. Here are two equations. One defines function and the other defines function .
   1. Show that the expressions defining and are equivalent.
   2. What is the vertex of the graph of ? Explain how you know.
   3. What are the -intercepts of the graph of ? Explain how you know.
3. Which equation is represented by the graph?

* 

1. For each equation, write the coordinates of the vertex of the graph that represents the equation.
2. For each function, write the coordinates of the vertex of its graph and tell whether the graph opens up or down.

|  |  |  |
| --- | --- | --- |
| * function | * coordinates of vertex | * graph opens up or down? |
|  |  |  |
|  |  |  |
|  |  |  |

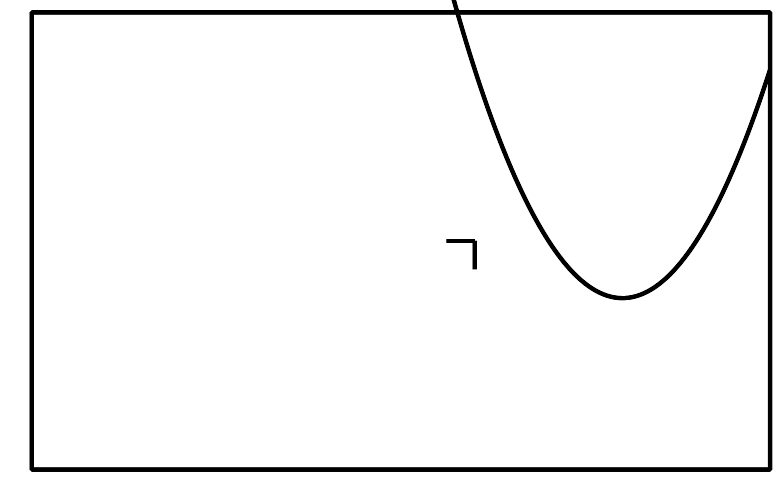
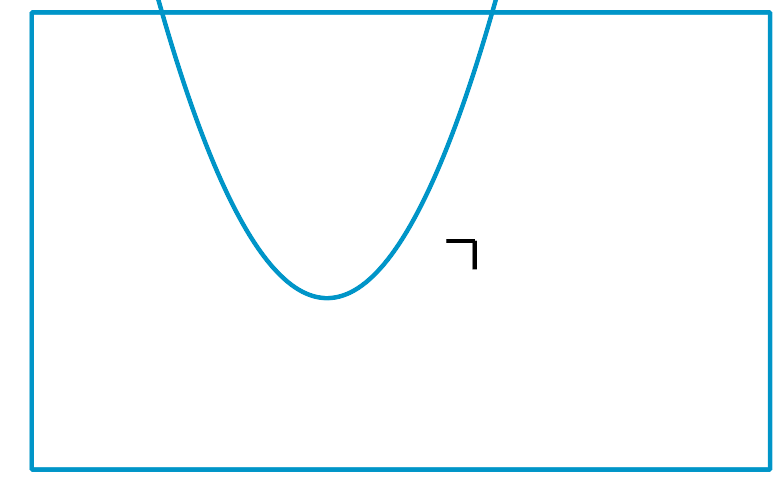
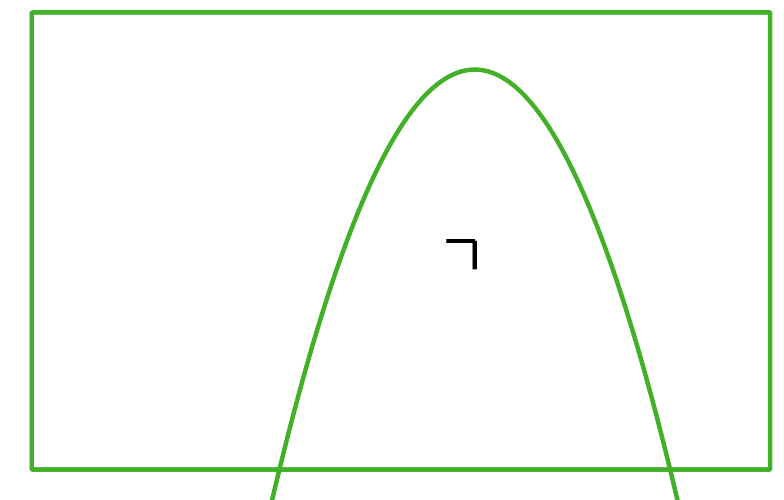
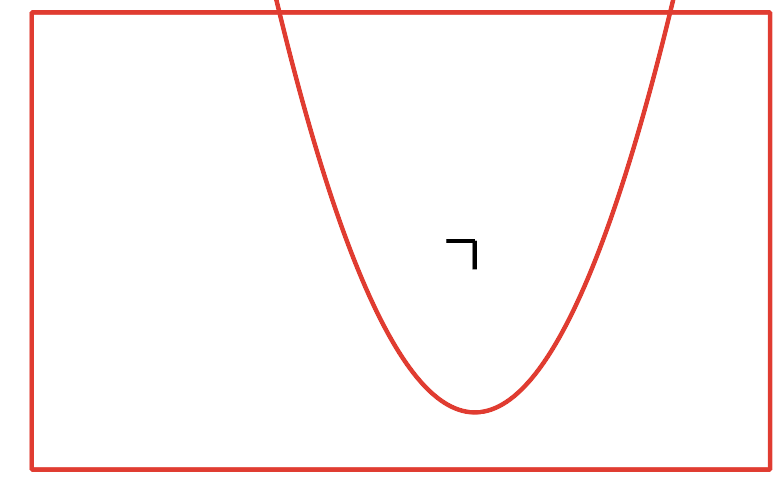
1. Here is a graph that represents .
   1. Describe what would happen to the graph if the original equation were modified as follows:
   * 
   1. Sketch the graph of the equation on the same coordinate plane as .

* (From Unit 6, Lesson 12.)

1. Noah is going to put $2,000 in a savings account. He plans on putting the money in an account and leaving it there for 5 years. He can put the money in an account that pays 1% interest monthly, an account that pays 6% interest every six months, or an account that pays 12% interest annually.

* Which account will give him the most money in his account at the end of the 5 years?
* (From Unit 5, Lesson 16.)

1. Here are four graphs. Match each graph with a quadratic equation that it represents.

* Graph A
* 
* Graph B
* 
* Graph C
* 
* Graph D
* 
  1. Graph A
  2. Graph B
  3. Graph C
  4. Graph D
* (From Unit 6, Lesson 12.)

1. The table shows some input and output values of function . Describe a possible rule for the function by using words or by writing an equation.

|  |  |
| --- | --- |
|  |  |
| * -3 | * -8 |
| * 0 | * -2 |
| * 4 | * 6 |
| * 10 | * 18 |

* (From Unit 4, Lesson 5.)



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