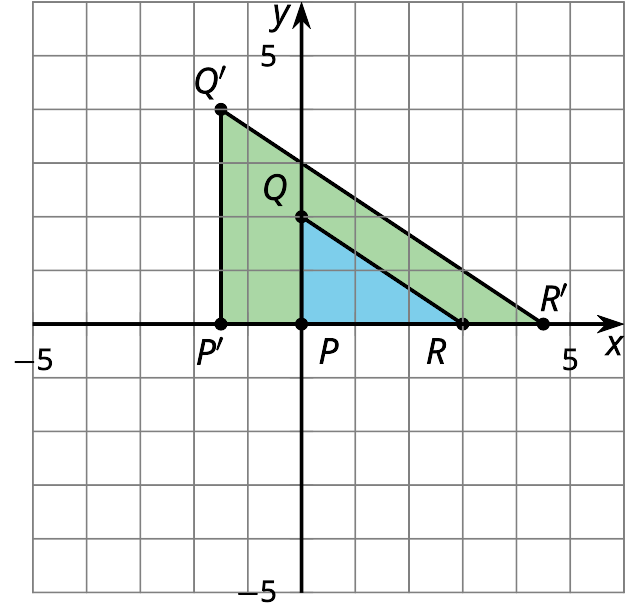
## Lesson 17: Parameters and Graphs

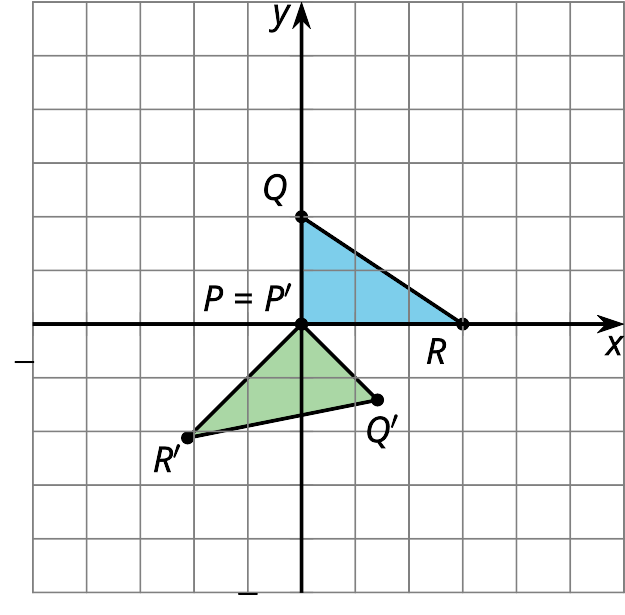
### 17.1: Which One Doesn’t Belong: Triangles

Each figure shows triangle , and its image after a transformation, . Which one doesn’t belong?

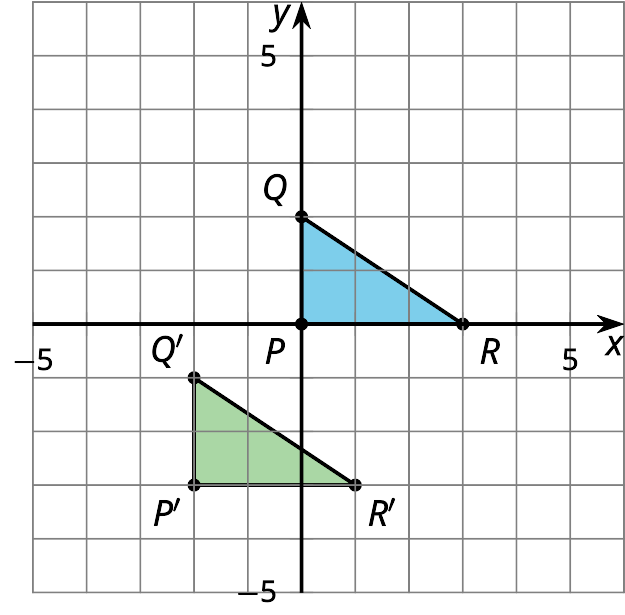
A



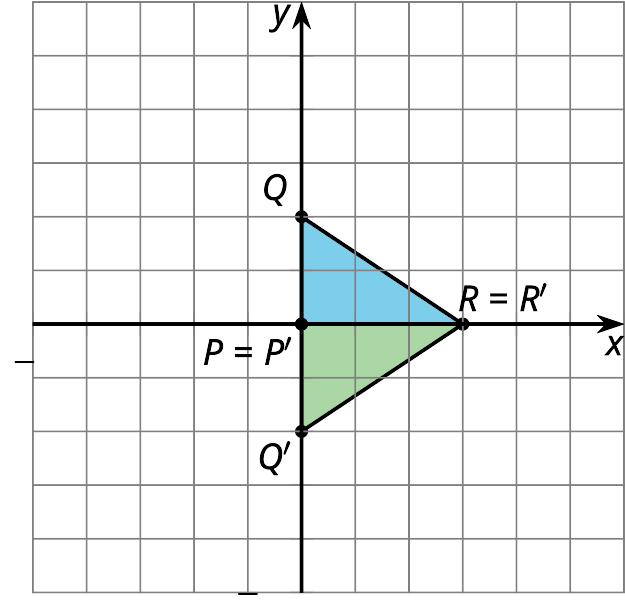
B



C



D



### 17.2: Describe the Change

1. Use graphing technology to graph each equation. Describe how each graph changes from the previous graph and draw a sketch of the change.

|  |  |  |
| --- | --- | --- |
| * equation | * description of change | * sketch of graph |
|  | * original graph | * Parabola in the x y plane. |
|  |  | * Parabola in the x y plane. |
|  |  | * Parabola in the x y plane. |

1. Describe the change in the given sketch and write an equation that you think would generate that change.

|  |  |  |
| --- | --- | --- |
| * equation | * description of change | * sketch of graph |
|  | * original graph | * Parabola in the x y plane. |
|  |  | * Two parabolas in the x y plane. |
|  |  | * Three parabolas in the x y plane. |

1. How would the graph of compare to the graph of ?

### 17.3: Select a Function

Let’s call the graph of “the original graph.”

Select the function that will affect the original graph in the way described.

1. Shift the vertex of the graph left 1 unit.
2. Shift the vertex of the graph up 1 unit.
3. Shift the vertex of the graph right 1 unit and up 1 unit.
4. Make the original graph narrower.
5. Make the original graph narrower, and shift the vertex 1 unit to the right.



© CC BY 2019 by Illustrative Mathematics