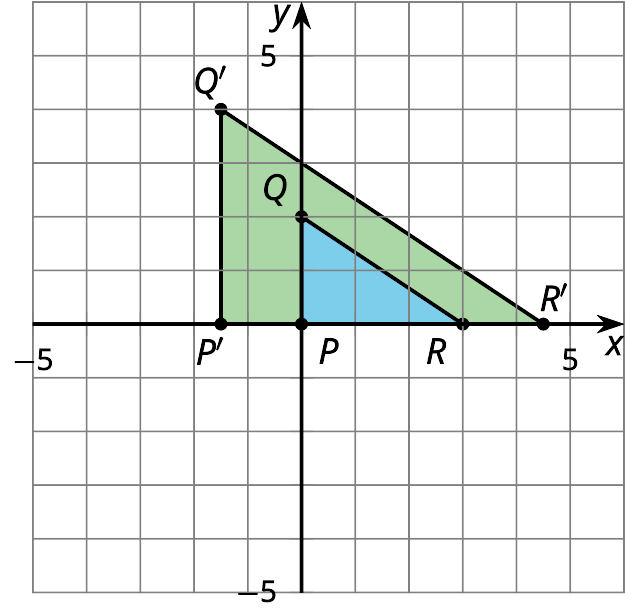
## Unit 6 Lesson 17: Parameters and Graphs

### 1 Which One Doesn’t Belong: Triangles (Warm up)

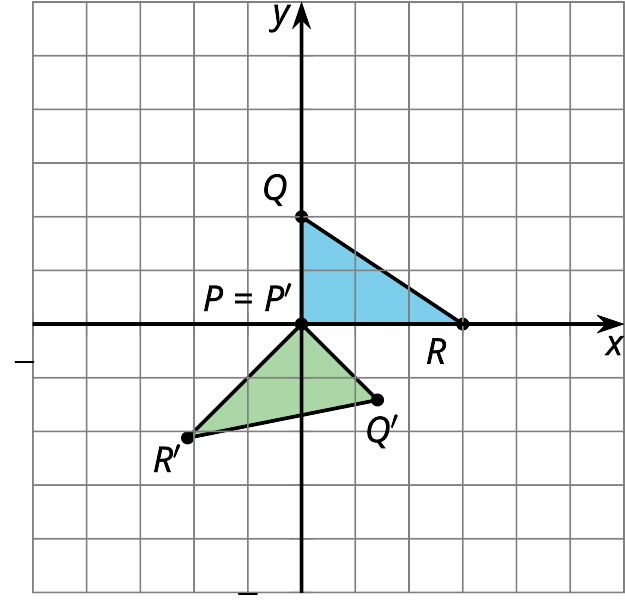
#### Student Task Statement

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

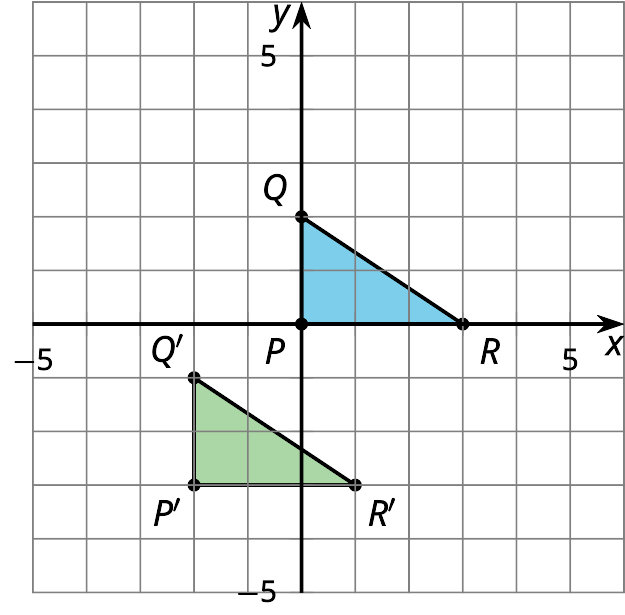
A



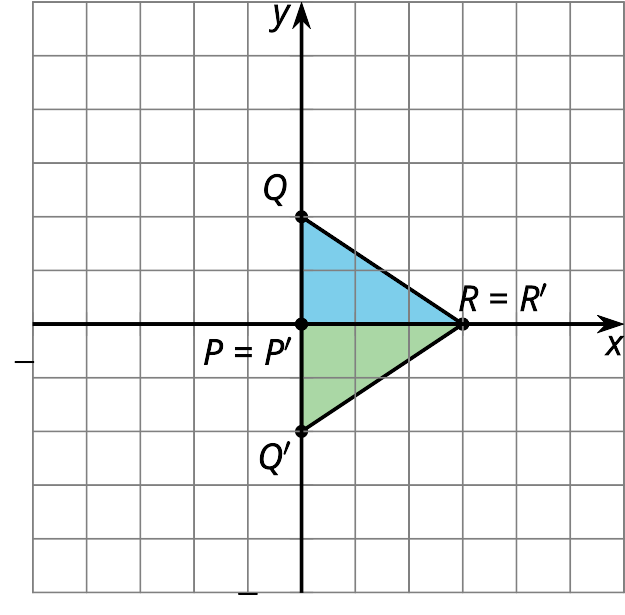
B



C



D



### 2 Describe the Change

#### Student Task Statement

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 ?

### 3 Select a Function

#### Student Task Statement

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.



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