



# Transformations of a Quadratic Function

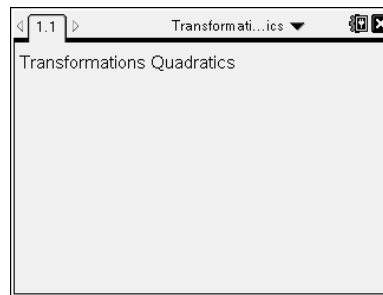
## Student Activity

Name \_\_\_\_\_



Class \_\_\_\_\_

Open the TI-Nspire document *Transformations\_Quadratics.tns*.

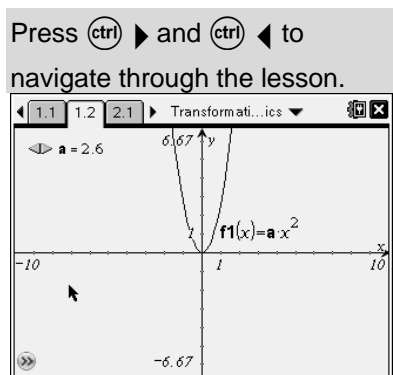
In this activity, you will explore transformations of a quadratic function.



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**Step 1:** Use the slider to change the value of the parameter variable. To do so, move the cursor so that it hovers above the  button on the slider. Press  to click on one of the arrows. Observe the changes in the graph. Press **(esc)**.

**Step 2:** Observe the graph as you grab the slider and move **a** to the following values: 5, 1, 0.2, 0, -0.2, -1, and -5.



Answer these questions.

1. What do you observe about the vertex of each of the parabolas?
2. How does the value of **a** affect whether the graph opens up or down?
3. How does the value of **a** affect the shape of the graph?



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## Student Activity

Name \_\_\_\_\_

Class \_\_\_\_\_

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**Step 3:** Observe the graph as you click on the slider and have **c** become the following values:  
4, 2, 0, -2, and -4.

**Answer these questions.**

4. What did you observe about the vertex of each of the parabolas?
  
  
  
  
  
  
  
  
  
  
5. How does the value of **c** affect the shape and whether the graph opens up or down? Explain.
  
  
  
  
  
  
  
  
  
  
6. How does the value of **c** affect the graph?