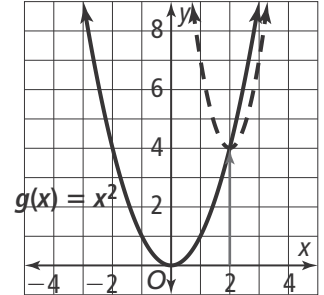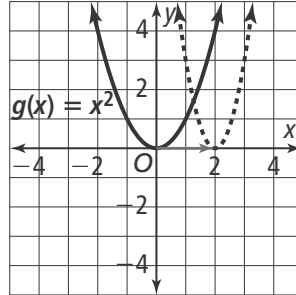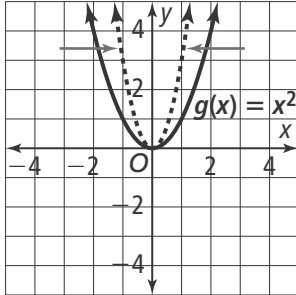# 8-2 Reteach to Build Understanding

Vertex Form of a Quadratic Function

1. a. These graphs show how the values of a, h, and k in the function
$f(x) = 3(x - 2)^2 + 4$ relates to the parent function $g(x) = x^2$.
Draw lines from each statement to the graph it describes.

| The value of k is 4, so the graph translates 4 units up. | The value of h is 2, so the graph translates 2 units right. | The value of a is 3, so the parabola is narrower. |

b. Write numbers in the blanks to complete each statement about $f(x)$.

The vertex of a parabola is (h, k). The vertex is located at (_____, _____).

The axis of symmetry is at $x = h$. The axis of symmetry is at $x =$ _____.

2. Martin incorrectly identified two of the key features of the graph of
$f(x) = -6(x + 2)^2 - 4$. Put an X next to any incorrect statements. Correct his errors.

a. The value of a is -6, so the graph opens down.

b. The value of h is -2, so the graph is translated 2 units left from the graph of the parent function.

c. The value of k is 4, so the graph is translated 4 units up from the graph of the parent function.

d. The vertex of $f(x)$ is located at $(-2, 4)$.

e. The axis of symmetry of $f(x)$ is at $x = -2$.

f. The value of a is -6, so the graph of the function is very narrow.