

GRAPHING QUADRATICS IN VERTEX FORM

Includes:

- Notes
- Video Notes
- Practice

Summary: How can you sketch the graph of $g(x) = a(x-h)^2 + k$ from the graph of $f(x) = x^2$?

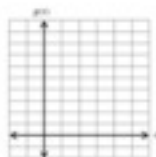
$$g(x) = a(x-h)^2 + k$$

- The graph of $f(x) = x^2$ will _____ if a is greater than 1.
- The graph of $f(x) = x^2$ will _____ if a is between 0 and 1.
- The graph of $f(x) = x^2$ will _____ if a is negative.
- The graph of $f(x) = x^2$ will _____ if h is positive.
- The graph of $f(x) = x^2$ will _____ if h is negative.

If $a = k$,

If $a = -k$,

the equation is $y = a(x-h)^2 + k$.



NAME _____ DATE _____

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Graphing $f(x) = x^2 + k$

- If k is positive, the graph of $f(x) = x^2$ is translated k units _____.
- If k is negative, the graph of $f(x) = x^2$ is translated $|k|$ units _____.

1. Graph $h(x) = x^2 + 3$

What is the translation?

2. Graph $h(x) = x^2 - 3$

What is the translation?

Graphing $f(x) = (x-h)^2$

- If $a = k$, the graph of $f(x) = x^2$ is translated $|k|$ units _____.
- If $a = -k$, the graph of $f(x) = x^2$ is translated $|k|$ units _____.

3. Graph $h(x) = (x-2)^2$

What is the translation?

4. Graph $h(x) = (x+2)^2$

What is the translation?

