ALGEBRA 2 · CLASSWORK

Identify Transformations From an Equation

SCORE / 25

01 Part A · Practice

In $g(x) = af(b(x - h)) + k$: a stretches or reflects vertically, b horizontally, h moves right, k moves up.

EXAMPLE

Describe $g(x) = -3(x + 1)^2 + 4$ **from** $f(x) = x^2$**.**

1. $a = -3$: reflect across the x-axis, stretch by 3.
2. $x + 1 = x - (-1)$: left 1.
3. $+4$: up 4. Vertex $(-1, 4)$.

1 ●○○ Find the vertex of $g(x) = \frac{1}{2}|x - 4| - 4$ and tell whether it opens up or down.

2 ●○○ Describe the transformations from $f(x) = \sqrt{x}$ to $g(x) = 3\sqrt{x + 3} - 3$.

3 ●○○ Describe how the graph of $g(x) = 3f(x + 1) + 2$ is related to the graph of f.

4 ●○○ Describe how the graph of $g(x) = -f(x + 4) - 1$ is related to the graph of f.

5 ●○○ Describe the transformations from $f(x) = x^2$ to $g(x) = -2(x - 1)^2 - 2$.

6 ●○○ Find the vertex of $g(x) = -\frac{1}{2}(x + 4)^2 + 4$ and tell whether it opens up or down.

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Preview - the full worksheet and its answer key are at primeworksheet.com