ALGEBRA 2 · CLASSWORK

Understand Stretches and Compressions

SCORE / 25

01 Part A · Practice

$kf(x)$ stretches ($k > 1$) or compresses ($0 < k < 1$) vertically; $f(kx)$ compresses ($k > 1$) or stretches ($0 < k < 1$) horizontally.

EXAMPLE

$(4, 6)$ is on f. Find the point on $g(x) = f(2x)$ and on $h(x) = 3f(x)$.

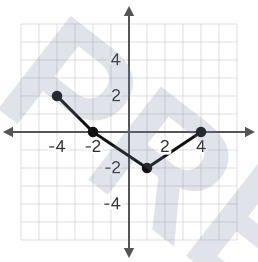
1. $f(2x)$: divide x by 2: $(2, 6)$.
2. $3f(x)$: multiply y by 3: $(4, 18)$.

1 ●○○ $(2, 4)$ is on the graph of f. Which point is on the graph of $g(x) = f(2x)$?

2 ●○○ $f(x) = x^2 - 5x - 4$. Write g, a horizontal compression by a factor of $\frac{1}{3}$ of f.

3 ●○○ Describe how $g(x) = 4\sqrt{x}$ changes the graph of $f(x) = \sqrt{x}$.

4 ●○○ The graph of f is shown. Graph $g(x) = \frac{1}{2}f(x)$. List the new points.



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