ALGEBRA 2 · CLASSWORK

Find an Equation of an Inverse Function

SCORE / 25

01 Part A · Practice

Write $y = f(x)$, switch x and y, solve for y; the domain of f^{-1} is the range of f.

EXAMPLE

Find f^{-1} for $f(x) = \sqrt{x - 3}$.

1. Swap: $x = \sqrt{y - 3}$.
2. Square: $x^2 = y - 3$, so $y = x^2 + 3$.
3. Range of f is $y \geq 0$, so $f^{-1}(x) = x^2 + 3, x \geq 0$.

1 ●○○ Find $f^{-1}(x)$ for $f(x) = 2(x - 5)^3 - 3$.

2 ●○○ Find $f^{-1}(x)$ for $f(x) = 6x + 2$.

3 ●○○ For $f(x) = 9 - 3x$, find $f^{-1}(15)$.

4 ●○○ Find $f^{-1}(x)$ for $f(x) = \sqrt{x - 4} - 3$, and state its domain.

5 ●○○ Find $f^{-1}(x)$ for $f(x) = -5x - 9$.

6 ●○○ Find $f^{-1}(x)$ for $f(x) = 6x - 8$.

7 ●○○ Find $f^{-1}(x)$ for $f(x) = 3(x + 2)^3 - 4$.

8 ●○○ For $f(x) = -5x - 5$, find $f^{-1}(-30)$.

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