ALGEBRA 2 · CLASSWORK · ADVANCED

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 $f(x) = -(x + 5)^3 + 4$.

2 ●○○ Find $f^{-1}(x)$ for $f(x) = 2\sqrt{x + 2} - 3$, and state its domain.

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

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

5 ●○○ For $f(x) = 5x + 5$, find $f^{-1}(-10)$.

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

7 ●○○ Find $f^{-1}(x)$ for $f(x) = \dfrac{4}{x - 2} - 5$.

8 ●○○ Find $f^{-1}(x)$ for $f(x) = 3\sqrt{x - 6} - 3$, and state its domain.

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