

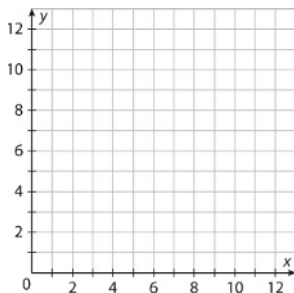
LESSON
10-1

Inverses of Simple Quadratic and Cubic Functions

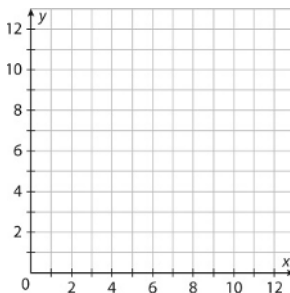
Practice and Problem Solving: A/B

Graph the function $f(x)$ for the domain $x \geq 0$. Then graph its inverse, $f^{-1}(x)$, and write a rule for the inverse function.

1. $f(x) = 0.25x^2$

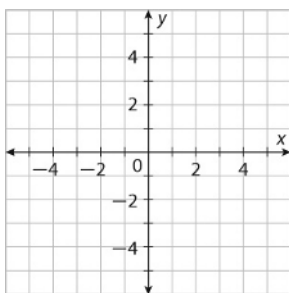


2. $f(x) = x^2 + 3$

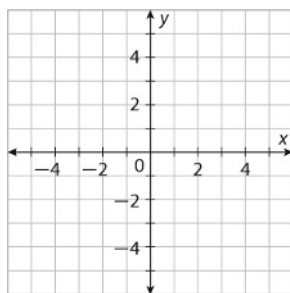


Graph the function $f(x)$. Then graph its inverse, $f^{-1}(x)$, and write a rule for the inverse function.

3. $f(x) = 0.5x^3$



4. $f(x) = x^3 - 2$



The function $d = 4.9t^2$ gives the distance, d , in meters, that an object dropped from a height will fall in t seconds. Use this for Problems 5–6.

5. Express t as a function of d .

6. Find the number of seconds it takes an object to fall 150 feet. Round to the nearest tenth of a second.

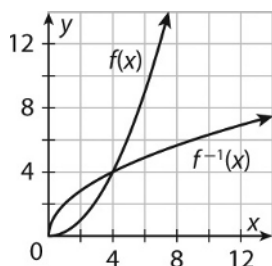
Unit 5 Radical Functions, Expressions, and Equations

MODULE 10 Radical Functions

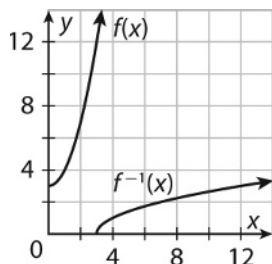
LESSON 10-1

Practice and Problem Solving: A/B

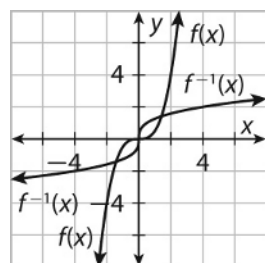
1. $f^{-1}(x) = 2\sqrt{x}$



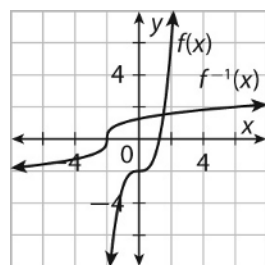
2. $f^{-1}(x) = \sqrt{x-3}$



3. $f^{-1}(x) = \sqrt[3]{2x}$



4. $f^{-1}(x) = \sqrt[3]{x+2}$



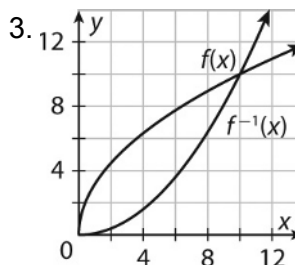
5. $t = \sqrt{\frac{d}{4.9}}$

6. 5.5 seconds

Practice and Problem Solving: C

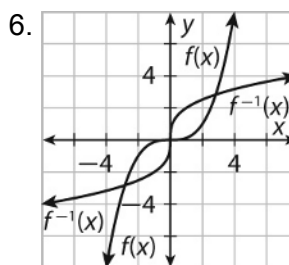
1. $f^{-1}(x) = \sqrt{10x}$

2. $f^{-1}(x) = \sqrt{\frac{x+7}{2}}$



4. $f^{-1}(x) = 2\sqrt[3]{x}$

5. $f^{-1}(x) = \frac{1}{3}\sqrt[3]{x+1}$



7. $a(T) = \sqrt[3]{T^2}$; $T(a) = \sqrt{a^3}$

8. $a(T) = \sqrt[3]{T^2} = \sqrt[3]{(247.9)^2} = \sqrt[3]{61454.41} \approx 39.5$. Pluto's mean distance from the Sun is approximately 39.5 astronomical units.

9. $T(a) = \sqrt{a^3} = \sqrt{(0.723)^3} \approx \sqrt{0.37793} \approx 0.61$. Venus's orbital period is approximately 0.61 years.