Practice 14

Finding the Inverse of a Functions

Find the inverse of the one-to-one function.

1) $f(x) = -6x - 8$ 1) _____

A) $f^{-1}(x) = \frac{-6x + 8}{-6}$

B) $f^{-1}(x) = \frac{x + 8}{-6}$

C) $f^{-1}(x) = \frac{y + 8}{-6}$

D) $f^{-1}(x) = \frac{x - 8}{-6}$

2) $f(x) = \frac{4x - 1}{7}$ 2) _____

A) $f^{-1}(x) = \frac{7}{4x + 1}$ B) $f^{-1}(x) = \frac{7}{4x - 1}$ C) $f^{-1}(x) = \frac{7x + 1}{4}$ D) $f^{-1}(x) = \frac{7x - 1}{4}$

3) $f(x) = (x - 4)^3$ 3) _____

A) $f^{-1}(x) = \sqrt[3]{x} + 64$

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

C) $f^{-1}(x) = \sqrt{x} + 4$

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

4) $f(x) = \sqrt{x - 6}$ 4) _____

A) $f^{-1}(x) = x^2 + 6$ B) $f^{-1}(x) = x + 6$ C) $f^{-1}(x) = \frac{1}{x^2 + 6}$ D) $f^{-1}(x) = x^2 - 6$

5) $f(x) = \sqrt[3]{x - 2}$ 5) _____

A) $f^{-1}(x) = x^3 + 4$ B) $f^{-1}(x) = x^3 + 2$ C) $f^{-1}(x) = x + 2$ D) $f^{-1}(x) = \frac{1}{x^3 + 2}$

6) $f(x) = \frac{5}{3x - 4}$ 6) _____

A) $f^{-1}(x) = -\frac{4}{3} - \frac{5}{3x}$

B) $f^{-1}(x) = \frac{3x - 4}{5}$

C) $f^{-1}(x) = \frac{5}{3x} + \frac{4}{3}$

D) $f^{-1}(x) = \frac{5}{3y} + \frac{4}{3}$

Show that the given two functions are inverses of each other. Assume $x > 0$.

7) $f(x) = 6x$ $g(x) = \frac{x}{6}$

8) $f(x) = \sqrt{x}$ $h(x) = x^2$

9) $f(x) = \frac{x + 7}{2}$ $g(x) = 2x + 7$ $h(x) = \frac{x - 2}{7}$

Answer Key
Testname: 14_FINDING THE INVERSE OF A FUNCTIONS

1) B
2) C
3) B
4) A
5) B
6) C
7) f(x) and g(x)
8) f(x) and h(x)
9) None