

Finding the Inverse of a Function Multiple Choice

1. What is the inverse of the function $y = 2x - 3$?

- 1) $y = \frac{x+3}{2}$ 3) $y = -2x + 3$
2) $y = \frac{x}{2} + 3$ 4) $y = \frac{1}{2x-3}$

2. If a function is defined by the equation $y = 3x + 2$, which equation defines the inverse of this function?

- 1) $x = \frac{1}{3}y + \frac{1}{2}$ 3) $y = \frac{1}{3}x - \frac{2}{3}$
2) $y = \frac{1}{3}x + \frac{1}{2}$ 4) $y = -3x - 2$

3. What is the inverse of $f(x) = 2x + 6$?

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

4. What is the inverse of the function $y = 4x + 5$?

- 1) $x = \frac{1}{4}y - \frac{5}{4}$ 3) $y = 4x - 5$
2) $y = \frac{1}{4}x - \frac{5}{4}$ 4) $y = \frac{1}{4x+5}$

5. What is the inverse of $f(x) = -6(x - 2)$?

- 1) $f^{-1}(x) = -2 - \frac{x}{6}$ 3) $f^{-1}(x) = \frac{1}{-6(x-2)}$
2) $f^{-1}(x) = 2 - \frac{x}{6}$ 4) $f^{-1}(x) = 6(x + 2)$

6. Given $f(x) = \frac{1}{2}x + 8$, which equation represents the inverse, $g(x)$?

1) $g(x) = 2x - 8$

3) $g(x) = -\frac{1}{2}x + 8$

2) $g(x) = 2x - 16$

4) $g(x) = -\frac{1}{2}x - 16$

7. If $f(x) = 12x - 4$, then the inverse function $f^{-1}(x)$ is

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

3) $f^{-1}(x) = \frac{x+4}{12}$

2) $f^{-1}(x) = \frac{x}{3} + 1$

4) $f^{-1}(x) = \frac{x}{12} + 4$

8. The inverse of the function $f(x) = \frac{x+1}{x-2}$ is

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

3) $f^{-1}(x) = \frac{x+1}{x-2}$

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

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

9. What is the inverse of $f(x) = \frac{x}{x+2}$, where $x \neq -2$?

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

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

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

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

*. Given the inverse function $f^{-1}(x) = \frac{2}{3}x + \frac{1}{6}$, which function represents $f(x)$?

1) $f(x) = -\frac{2}{3}x + \frac{1}{6}$

3) $f(x) = \frac{3}{2}x - \frac{1}{4}$

2) $f(x) = -\frac{3}{2}x + \frac{1}{4}$

4) $f(x) = \frac{3}{2}x - \frac{1}{6}$