NAME:_____

P.I. A2.A.44: Define the inverse of a function

1. Find the inverse of the relation $f(x) = 2x - 3$.

2. Find the inverse of the relation $f(x) = 3x + 6$.

3. Find the inverse of the relation $f(x) = 5x + 2$.

4. Write an equation for the inverse of $f(x) = \frac{x-6}{3}$.

5. Write an equation for the inverse of $f(x) = \frac{x+3}{2}$.

6. Write an equation for the inverse of $f(x) = \frac{x+2}{8}$.

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7. Which function is the inverse of $y = -2x + 3$?

[A] $y = 3x - 2$ [B] $y = \frac{x}{-2} - 3$

[C] $y = -\frac{1}{2}(x + 3)$ [D] $y = -\frac{1}{2}(x - 3)$

8. Find the inverse, $f^{-1}(x)$, of the function $f(x) = \frac{2 + 3x}{4 + 3x}$, if it exists.

[A] $\frac{-4x + 2}{3x - 3}$ [B] $\frac{3 + 2x}{3 + 4x}$

[C] $\frac{3x + 4}{3x + 2}$ [D] $f^{-1}(x)$ does not exist.

9. Determine the equation for the inverse function of $y = (x - 9)^3 - 2$.

[A] $y = \sqrt[3]{x - 7}$ [B] $y = \sqrt[3]{x + 2} + 9$

[C] $y = \sqrt[3]{x + 9} + 2$

[D] none of these

10. Determine the equation for the inverse function of $y = (x + 9)^3 - 4$.

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

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

[3] $f^{-1}(x) = \frac{x-2}{5}$

[4] $f^{-1}(x) = 3x+6$

[5] $f^{-1}(x) = 2x-3$

[6] $f^{-1}(x) = 8x-2$

[7] D

[8] A

[9] B

[10] $y = \sqrt[3]{x+4} - 9$