

Inverse Relations and Functions Exit Quiz

Multiple choices

1. Which of the following is the inverse of $f(x) = \frac{2x+4}{3}$
- a.) $h(x) = \frac{3}{2x+4}$ b.) $h(x) = \frac{3x-4}{2}$
- c.) $h(x) = \frac{2x-4}{3}$ d.) $h(x) = \frac{-2x-4}{3}$
2. If $f(x) = 2x + 5$, the value of $f^{-1}(7)$ is:
- a.) 1 b.) 7
- c.) $\frac{1}{2}$ d.) -1
3. If $f(x) = \frac{x-5}{4}$, the value of $f^{-1}(1)$ is:
- a.) 9 b.) 1
- c.) -1 d.) 4

4. Write the inverse of the given function as a set of ordered pairs.

x	1	2	0	-1
y	-1	-8	0	1

x				
y				

5. Show algebraically that f and g are inverse functions.

$$f(x) = 10 - 2x \quad g(x) = \frac{10 - x}{2}$$

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ANSWERS

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5. Show algebraically that f and g are inverse functions.

$$f(x) = 10 - 2x \quad g(x) = \frac{10 - x}{2}$$

$$f(g(x)) = 10 - 2 * g(x)$$

$$f(g(x)) = 10 - 2 * \frac{10 - x}{2}$$

$$f(g(x)) = 10 - 10 + x$$

$$f(g(x)) = \mathbf{x}$$

$$g(f(x)) = \frac{10 - f(x)}{2}$$

$$g(f(x)) = \frac{10 - (10 - 2x)}{2}$$

$$g(f(x)) = \frac{2x}{2}$$

$$g(f(x)) = \mathbf{x}$$