

Exercise 200

For the following exercises, use composition to determine which pairs of functions are inverses.

$$f(x) = 8x + 3, \quad g(x) = \frac{x - 3}{8}$$

Solution

Take the composition of f and g and see if it results in x .

$$f \circ g = f(g(x)) = f\left(\frac{x - 3}{8}\right) = 8\left(\frac{x - 3}{8}\right) + 3 = (x - 3) + 3 = x$$

Therefore, f and g are inverses; they are reflections of one another about the line $y = x$.

