Exercise 201

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

$$f(x) = 5x - 7, \ g(x) = \frac{x+5}{7}$$

Solution

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

$$f \circ g = f(g(x)) = f\left(\frac{x+5}{7}\right) = 5\left(\frac{x+5}{7}\right) - 7 = \frac{5x+25}{7} - 7 \neq x$$

Therefore, f and g are not inverses; they are not reflections of one another about the line $y = x$.