Exercise 7

For the following exercises, determine whether the functions are one-to-one.

$$f(x) = -3x + 5$$

Solution

To determine whether the given function is one-to-one, try to find its inverse. Switch x and y in the equation.

$$x = -3y + 5$$

Solve for y.

$$x - 5 = -3y$$

$$\frac{x-5}{-3} = y$$

Therefore, the given function has an inverse,

$$f^{-1}(x) = \frac{x-5}{-3},$$

which means it's one-to-one.