Exercise 35

For the following exercises, use the values listed in Table 1.

x	0	1	2	3	4	5	6	7	8
$f(x)$	1	3	5	7	9	11	13	15	17

Table 1

Given $f(x) = -2x + 11$, find $f^{-1}(x)$.

Solution

To find the inverse, switch x with y in the given equation.

$$x = -2y + 11$$

Solve for y.

$$x - 11 = -2y$$

$$\frac{x - 11}{-2} = y$$

Therefore, the inverse function is

$$f^{-1}(x) = \frac{x - 11}{-2}.$$