Exercise 40

For the following exercises, use the values listed in Table 6 to evaluate or solve.

x	0	1	2	3	4	5	6	7	8	9
$f(x)$	8	0	7	4	2	6	5	3	9	1

Table 6

Solve $f^{-1}(x) = 7$.

Solution

To solve for x, apply f to both sides.

$$f(f^{-1}(x)) = f(7)$$

f and its inverse on the left side cancel out, leaving x.

$$x = f(7)$$

Look at the value of f corresponding to 7 in the table.

x	0	1	2	3	4	5	6	7	8	9
$f(x)$	8	0	7	4	2	6	5	3	9	1

Therefore, $x = 3$.