Exercise 68

For the following exercises, use the function values for f and g shown in Table 4 to evaluate the expressions.

x	$f(x)$	$g(x)$
-3	11	-8
-2	9	-3
-1	7	0
0	5	1
1	3	0
2	1	-3
3	-1	-8

Table 4

$$(g \circ f)(2)$$

Solution

Note that
$$(g \circ f)(2) = g(f(2)).$$
Notice from the table that $f(2) = 1$ and $g(1) = 0$, so $g(f(2)) = g(1) = 0$. Therefore,
$$(g \circ f)(2) = 0.$$