Exercise 11

For the following exercises, use the functions $f(x) = 3 - 2x^2 + x$ and $g(x) = \sqrt{x}$ to find the composite functions.

$$(g \circ f)(1)$$

Solution

Evaluate $(g \circ f)(x)$ by plugging the formula for $f(x)$ where x is in the formula for $g(x)$.

$$(g \circ f)(x) = g(f(x))$$
$$= \sqrt{3 - 2x^2 + x}$$

Now plug in 1 for x.

$$(g \circ f)(1) = \sqrt{3 - 2(1)^2 + 1}$$
$$= \sqrt{3 - 2(1) + 1}$$
$$= \sqrt{2}$$