

Exercise 7

In Exercises 7–10, write a formula for $f \circ g \circ h$.

$$f(x) = x + 1, \quad g(x) = 3x, \quad h(x) = 4 - x$$

Solution

Evaluate the function composition.

$$\begin{aligned} f \circ g \circ h &= f(g(h(x))) \\ &= f(g(4 - x)) \\ &= f(3(4 - x)) \\ &= 3(4 - x) + 1 \\ &= 12 - 3x + 1 \\ &= 13 - 3x \end{aligned}$$