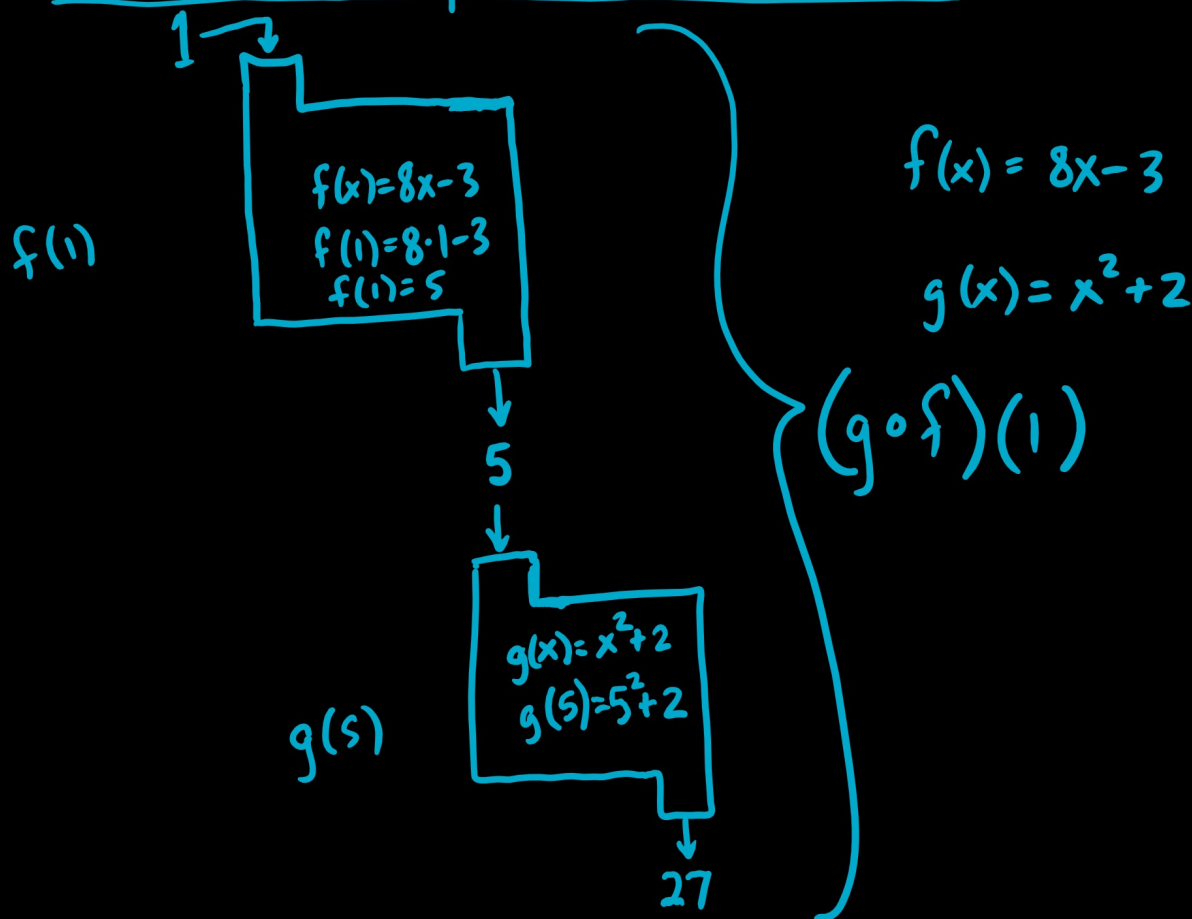


Section 8.4 Composition of Functions



Composition: $(f \circ g)(x) = f(g(x))$

ex: $f(x) = 7x - 3$

$$g(x) = 5 + 9x$$

$$\begin{aligned}(f \circ g)(10) &= f(g(10)) \\ &= f(\underbrace{5 + 9 \cdot 10}) \\ &= f(95) \\ &= 7 \cdot 95 - 3 \\ &= 662\end{aligned}$$

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

$$= g(7 \cdot 2 - 3)$$

$$= g(11)$$

$$= 5 + 9 \cdot 11 = 104$$

$$\begin{aligned}(f \circ g)(x) &= f(g(x)) = f(\underline{5+9x}) = 7(5+9x) - 3 \\ &= 35 + 63x - 3 \\ &= 63x + 32\end{aligned}$$

$$f(x) = 7x - 3$$

$$g(x) = 5 + 9x$$

$$\begin{aligned}(g \circ f)(x) &= g(f(x)) = g(7x - 3) \\ &= 5 + 9(7x - 3) \\ &= 5 + 63x - 27 \\ &= 63x - 22\end{aligned}$$

p593-594

1-13 odd

45-48 all

51-54 all