

6.1.9.d

$$(f \circ g)(4) = f(g(4)) = f(2) = -2.$$

6.1.11.c

$$(f \circ f)(1) = f(f(1)) = f(2(1)) = f(2) = 2(2) = 4.$$

6.1.35.b

$$\begin{aligned}(g \circ f)(x) &= g\left(\frac{3}{x-1}\right) \\ &= \frac{2}{\frac{3}{x-1}} \\ &= \frac{2(x-1)}{3} \text{ for } x-1 \neq 0 \\ &= \frac{2}{3}x - \frac{2}{3} \text{ for } x \neq 1.\end{aligned}$$

Then

$$\text{dom}(g \circ f) = \{x \mid x \neq 1\} = (-\infty, 1) \cup (1, \infty).$$