

Section 2.6 WS

1. Let $f(x) = x^2 - 2x - 15$, and $g(x) = x + 3$.

a. $(f + g)(x)$

b. $(f - g)(x)$

c. $(fg)(x)$

d. $\left(\frac{f}{g}\right)(x)$

2. Let $f(x) = 2x + 8$, and $g(x) = x + 4$.

a. $(f + g)(x)$

b. $(f - g)(x)$

c. $(fg)(x)$

d. $\left(\frac{f}{g}\right)(x)$

3. Let $f(x) = x^3 - 2x^2 + 7x$, and $g(x) = x$.

a. $(f + g)(x)$

b. $(f - g)(x)$

c. $(fg)(x)$

d. $\left(\frac{f}{g}\right)(x)$

Evaluate the indicate function, where $f(x) = x^2 - 3x + 2$ and $g(x) = 2x - 4$.

4. $(f + g)(5)$

5. $(f + g)\left(\frac{1}{2}\right)$

6. $(f - g)(-3)$

7. $(f - g)(-1)$

Evaluate the indicate function, where $f(x) = x^2 - 3x + 2$ and $g(x) = 2x - 4$.

8. $(fg)(7)$

9. $\left(\frac{f}{g}\right)(-4)$

10. $\left(\frac{f}{g}\right)(11)$

11. $(fg)(-3)$

12. If $f(x) = 2x + 8$ and $g(x) = x + 4$, find the domain of $f + g$, $f - g$, fg , $\frac{f}{g}$.

13. If $f(x) = x^2 - 16$ and $g(x) = \sqrt{x + 4}$, find the domain of $f + g$, $f - g$, fg , $\frac{f}{g}$.

14. . If $f(x) = \sqrt{x + 8}$ and $g(x) = x^2 - 9$, find the domain of $f + g$, $f - g$, fg , $\frac{f}{g}$.

15. If $f(x) = 3x + 5$ and $g(x) = 2x - 7$, find $(f \circ g)(x)$ and $(g \circ f)(x)$.

16. If $f(x) = x^2 - 11x$ and $g(x) = x + 2$, find $(f \circ g)(x)$ and $(g \circ f)(x)$.

17. If $f(x) = -x^3 - 7$ and $g(x) = x + 1$, find $(f \circ g)(x)$ and $(g \circ f)(x)$.

Evaluate each composition function, where $f(x) = 2x - 3$, $g(x) = x^2 - 5x$, and $h(x) = 4 - 3x^2$.

18. $(g \circ f)(4)$ 19. $(f \circ g)(-3)$ 20. $(g \circ h)(0)$ 21. $(f \circ f)(8)$ 22. $(g \circ f)(2c)$