

7.1 - COMBINATIONS OF FUNCTIONS

Evaluate the functions $f(x) = 2x + 1$ & $g(x) = (x - 3)^2$ for the specified values.

1. $(f + g)(5)$
2. $(g - f)(4)$
3. $(fg)(-2)$
4. $\left(\frac{g}{f}\right)(-3)$

Evaluate each expression using the given function table of $f(x)$ & $g(x)$.

5. $f(4) + g(-1)$

x	-1	0	1	2	3	4
$f(x)$	-4	-1	2	5	8	11

6. $-2f(3)g(2)$

7. $[g(4)]^2 + f(0)$

x	-1	0	1	2	3	4
$g(x)$	4	1	0	1	4	9

8. $g(3) \div f(1)$

Evaluate each expression using the graph of $y = f(x)$ & $y = g(x)$ shown in the figure.

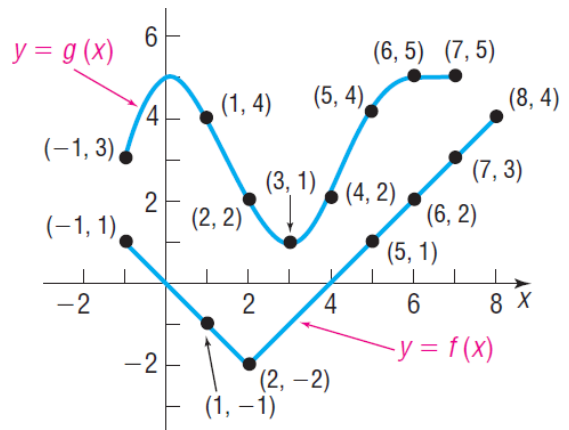
9. $f(2) + g(-1)$

10. $-2f(5) + g(7)$

11. $[f(6)]^2 \div g(1)$

12. $g(2) - f(4) + g(6)$

13. $g(5) \div f(8)$



Let $f(x) = x + 2$, $g(x) = x^3$, $h(x) = \sqrt{x - 1}$, $j(x) = 2x^2 - x - 3$, & $k(x) = 3x - x^2$. Find a simplified formula for the function.

14. $f(x) + j(x) + k(x)$

15. $k(x) - j(x)$

16. $[h(x)]^2 + f(x)$

17. $k(x) \cdot f(x)$

18. $\frac{g(x)}{k(x)}$

19. $g(x) \cdot k(x) - j(x)$