

Name: _____ Hour: _____

4.7 Combinations of Functions

Given the functions $f(x) = 9 - 3x$ and $g(x) = 5x - 7$, perform the indicated operations.

1. $f + g$

2. $f - g$

3. $g - f$

4. $f \cdot g$

5. $\frac{f}{g}$

6. $\frac{g}{f}$

Given the functions $f(x) = x^2 + 9$ and $g(x) = x - 9$, perform the indicated operations.

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

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

9. $(f \cdot g)(x)$

Given the functions $f(x) = 4x + 8$ and $g(x) = x + 3$, perform the indicated operations.

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

11. $(f \cdot g)(x)$

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

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

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

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

Given the functions $f(x) = 3x - 5$ and $g(x) = x - 10$, perform the indicated operations.

16. $f(-3)$

17. $g(22)$

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

19. $(g + f)(8)$

20. $\left(\frac{f}{g}\right)(7)$

21. $\left(\frac{g}{f}\right)(0)$

Given the functions $f(x) = x^2$ and $g(x) = 4x - 12$, perform the indicated operations.

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

23. $g(-1) - f(2)$

24. $(f + g)(1)$

25. $\left(\frac{g}{f}\right)(3)$

26. $\frac{f(2) + g(3)}{4}$

27. $\frac{5}{(f - g)(1)}$

Given the Function $g(x) = 2x^2 + 2$, perform the indicated operations.

28. $f + g$

29. $g - f$

