1. If $f(x) = 9 - x^2$ and $g(x) = 3 - x$, which is the rule of function $(f + g)(x)$?

   [A] $-x^2 + x + 6$ [B] $3 + x$ [C] $x^3 - 3x^2 - 9x + 27$ [D] $-x^2 - x + 12$

2. If $f(x) = 4 - x^2$ and $g(x) = 2 - x$, which is the rule of function $(f \cdot g)(x)$?

   [A] $-x^2 - x + 6$ [B] $-x^2 + x + 2$ [C] $x^3 - 2x^2 - 4x + 8$ [D] $2 + x$

3. If $f(x) = 16 - x^2$ and $g(x) = 4 - x$, which is the rule of function $\dfrac{f}{g}(x)$?

   [A] $x^3 - 4x^2 - 16x + 64$ [B] $-x^2 + x + 12$ [C] $-x^2 - x + 20$ [D] $4 + x$

4. If $f(x) = 25 - x^2$ and $g(x) = 5 - x$, which is the rule of function $(f - g)(x)$?

   [A] $x^3 - 5x^2 - 25x + 125$ [B] $5 + x$ [C] $-x^2 + x + 20$ [D] $-x^2 - x + 30$

5. If $f(x) = 1 - x^2$ and $g(x) = 1 - x$, which is the rule of function $(f + g)(x)$?

   [A] $x^3 - x^2 - x + 1$ [B] $-x^2 + x$ [C] $1 + x$ [D] $-x^2 - x + 2$

6. If $f(x) = 9 - x^2$ and $g(x) = 3 - x$, which is the rule of function $(f \cdot g)(x)$?

   [A] $-x^2 - x + 12$ [B] $3 + x$ [C] $x^3 - 3x^2 - 9x + 27$ [D] $-x^2 + x + 6$

7. If $f(x) = 4 - x^2$ and $g(x) = 2 - x$, which is the rule of function $\dfrac{f}{g}(x)$?

   [A] $x^3 - 2x^2 - 4x + 8$ [B] $-x^2 - x + 6$ [C] $-x^2 + x + 2$ [D] $2 + x$

8. If $f(x) = 16 - x^2$ and $g(x) = 4 - x$, which is the rule of function $(f - g)(x)$?

   [A] $-x^2 + x + 12$ [B] $4 + x$ [C] $x^3 - 4x^2 - 16x + 64$ [D] $-x^2 - x + 20$

9. If $f(x) = 25 - x^2$ and $g(x) = 5 - x$, which is the rule of function $(f + g)(x)$?

   [A] $-x^2 - x + 30$ [B] $5 + x$ [C] $-x^2 + x + 20$ [D] $x^3 - 5x^2 - 25x + 125$

10. If $f(x) = 1 - x^2$ and $g(x) = 1 - x$, which is the rule of function $(f \cdot g)(x)$?

   [A] $x^3 - x^2 - x + 1$ [B] $-x^2 - x + 2$ [C] $1 + x$ [D] $-x^2 + x$

11. If $f(x) = 9 - x^2$ and $g(x) = 3 - x$, which is the rule of function $\dfrac{f}{g}(x)$?

   [A] $3 + x$ [B] $-x^2 - x + 12$ [C] $-x^2 + x + 6$ [D] $x^3 - 3x^2 - 9x + 27$

12. If $f(x) = 4 - x^2$ and $g(x) = 2 - x$, which is the rule of function $(f - g)(x)$?

   [A] $x^3 - 2x^2 - 4x + 8$ [B] $2 + x$ [C] $-x^2 + x + 2$ [D] $-x^2 - x + 6$

13. If $f(x) = 16 - x^2$ and $g(x) = 4 - x$, which is the rule of function $(f + g)(x)$?

   [A] $4 + x$ [B] $x^3 - 4x^2 - 16x + 64$ [C] $-x^2 - x + 20$ [D] $-x^2 + x + 12$

14. If $f(x) = 25 - x^2$ and $g(x) = 5 - x$, which is the rule of function $(f \cdot g)(x)$?

   [A] $x^3 - 5x^2 - 25x + 125$ [B] $-x^2 - x + 30$ [C] $-x^2 + x + 20$ [D] $5 + x$

15. If $f(x) = 1 - x^2$ and $g(x) = 1 - x$, which is the rule of function $\dfrac{f}{g}(x)$?

   [A] $1 + x$ [B] $x^3 - x^2 - x + 1$ [C] $-x^2 - x + 2$ [D] $-x^2 + x$

16. If $f(x) = 9 - x^2$ and $g(x) = 3 - x$, which is the rule of function $(f - g)(x)$?

   [A] $x^3 - 3x^2 - 9x + 27$ [B] $-x^2 - x + 12$ [C] $-x^2 + x + 6$ [D] $3 + x$

17. If $f(x) = 4 - x^2$ and $g(x) = 2 - x$, which is the rule of function $(f + g)(x)$?

   [A] $2 + x$ [B] $-x^2 - x + 6$ [C] $-x^2 + x + 2$ [D] $x^3 - 2x^2 - 4x + 8$

18. If $f(x) = 16 - x^2$ and $g(x) = 4 - x$, which is the rule of function $(f \cdot g)(x)$?

   [A] $-x^2 + x + 12$ [B] $x^3 - 4x^2 - 16x + 64$ [C] $-x^2 - x + 20$ [D] $4 + x$

19. If $f(x) = 25 - x^2$ and $g(x) = 5 - x$, which is the rule of function $\dfrac{f}{g}(x)$?

   [A] $5 + x$ [B] $-x^2 + x + 20$ [C] $-x^2 - x + 30$ [D] $x^3 - 5x^2 - 25x + 125$

20. If $f(x) = 1 - x^2$ and $g(x) = 1 - x$, which is the rule of function $(f - g)(x)$?

   [A] $-x^2 + x$ [B] $1 + x$ [C] $-x^2 - x + 2$ [D] $x^3 - x^2 - x + 1$

21. If $f(x) = 81 - x^2$ and $g(x) = 9 - x$, which is the rule of the function $(f \cdot g)(x)$?

   [A] $9 + x$ [B] $-x^2 + x + 72$ [C] $-x^2 - x + 90$ [D] $x^3 - 9x^2 - 81x + 729$

22. If $f(x) = 81 - x^2$ and $g(x) = 9 - x$, which is the rule of the function $\left(\dfrac{f}{g}\right)(x)$?

   [A] $x^3 - 9x^2 - 81x + 729$ [B] $9 + x$ [C] $-x^2 + x + 72$ [D] $-x^2 - x + 90$

23. If $f(x) = 36 - x^2$ and $g(x) = 6 - x$, which is the rule of the function $(f - g)(x)$?

   [A] $6 + x$ [B] $x^3 - 6x^2 - 36x + 216$ [C] $-x^2 + x + 30$ [D] $-x^2 - x + 42$

24. If $f(x) = 64 - x^2$ and $g(x) = 8 - x$, which is the rule of the function $(f + g)(x)$?

   [A] $8 + x$ [B] $x^3 - 8x^2 - 64x + 512$ [C] $-x^2 - x + 72$ [D] $-x^2 + x + 56$

25. If $f(x) = 81 - x^2$ and $g(x) = 9 - x$, which is the rule of the function $(f - g)(x)$?

   [A] $-x^2 + x + 72$ [B] $-x^2 - x + 90$ [C] $9 + x$ [D] $x^3 - 9x^2 - 81x + 729$

26. If $f(x) = 36 - x^2$ and $g(x) = 6 - x$, which is the rule of the function $(f \cdot g)(x)$?

   [A] $x^3 - 6x^2 - 36x + 216$ [B] $-x^2 + x + 30$ [C] $-x^2 - x + 42$ [D] $6 + x$

27. If $f(x) = 36 - x^2$ and $g(x) = 6 - x$, which is the rule of the function $(f + g)(x)$?

   [A] $-x^2 + x + 30$ [B] $6 + x$ [C] $-x^2 - x + 42$ [D] $x^3 - 6x^2 - 36x + 216$

28. If $f(x) = 36 - x^2$ and $g(x) = 6 - x$, which is the rule of the function $\left(\dfrac{f}{g}\right)(x)$?

   [A] $-x^2 - x + 42$ [B] $6 + x$ [C] $-x^2 + x + 30$ [D] $x^3 - 6x^2 - 36x + 216$

29. If $f(x) = 64 - x^2$ and $g(x) = 8 - x$, which is the rule of the function $\left(\dfrac{f}{g}\right)(x)$?

   [A] $-x^2 - x + 72$ [B] $-x^2 + x + 56$ [C] $x^3 - 8x^2 - 64x + 512$ [D] $8 + x$

30. If $f(x) = 64 - x^2$ and $g(x) = 8 - x$, which is the rule of the function $(f \cdot g)(x)$?

   [A] $x^3 - 8x^2 - 64x + 512$ [B] $-x^2 + x + 56$ [C] $8 + x$ [D] $-x^2 - x + 72$

31. If $f(x) = 64 - x^2$ and $g(x) = 8 - x$, which is the rule of the function $(f - g)(x)$?

   [A] $-x^2 - x + 72$ [B] $x^3 - 8x^2 - 64x + 512$ [C] $8 + x$ [D] $-x^2 + x + 56$

32. If $f(x) = 49 - x^2$ and $g(x) = 7 - x$, which is the rule of the function $(f \cdot g)(x)$?

   [A] $-x^2 - x + 56$ [B] $x^3 - 7x^2 - 49x + 343$ [C] $7 + x$ [D] $-x^2 + x + 42$

33. If $f(x) = 49 - x^2$ and $g(x) = 7 - x$, which is the rule of the function $\left(\dfrac{f}{g}\right)(x)$?

   [A] $x^3 - 7x^2 - 49x + 343$ [B] $-x^2 + x + 42$ [C] $-x^2 - x + 56$ [D] $7 + x$

34. If $f(x) = 81 - x^2$ and $g(x) = 9 - x$, which is the rule of the function $(f + g)(x)$?

   [A] $x^3 - 9x^2 - 81x + 729$ [B] $9 + x$ [C] $-x^2 + x + 72$ [D] $-x^2 - x + 90$

35. If $f(x) = 49 - x^2$ and $g(x) = 7 - x$, which is the rule of the function $(f - g)(x)$?

   [A] $-x^2 + x + 42$ [B] $-x^2 - x + 56$ [C] $7 + x$ [D] $x^3 - 7x^2 - 49x + 343$

36. If $f(x) = 49 - x^2$ and $g(x) = 7 - x$, which is the rule of the function $(f + g)(x)$?

   [A] $x^3 - 7x^2 - 49x + 343$ [B] $-x^2 + x + 42$ [C] $-x^2 - x + 56$ [D] $7 + x$

37. If $f(x) = 16 - x^2$ and $g(x) = 4 - x$, find the rule of the function $(f - g)(x)$.

38. If $f(x) = 4 - x^2$ and $g(x) = 2 - x$, find the rule of the function $(f \cdot g)(x)$.

39. If $f(x) = 1 - x^2$ and $g(x) = 1 - x$, find the rule of the function $\dfrac{f}{g}(x)$.

40. If $f(x) = 9 - x^2$ and $g(x) = 3 - x$, find the rule of the function $(f + g)(x)$.

41. For the pair of functions, f and g, find $(f \circ g)(x)$ and $(g \circ f)(x)$.

$f(x) = 3 - 7x, \quad g(x) = x^2 - 1$

[A] $(f \circ g)(x) = x^2 - 7x - 2$
     $(g \circ f)(x) = -7x^2 + 8x$

[B] $(f \circ g)(x) = 49x^2 - 42x + 8$
     $(g \circ f)(x) = x^2 - 7x - 2$

[C] $(f \circ g)(x) = x^2 - 7x + 2$
     $(g \circ f)(x) = -7x^2 + 10$

[D] $(f \circ g)(x) = -7x^2 + 10$
     $(g \circ f)(x) = 49x^2 - 42x + 8$

42. For the pair of functions, f and g, find $(g \circ f)(x)$ and $(f \circ g)(x)$.

$f(x) = 4 - 5x, \quad g(x) = 5x - 7$

[A] $(g \circ f)(x) = -25x + 13$
     $(f \circ g)(x) = -25x + 39$

[B] $(g \circ f)(x) = -3$
     $(f \circ g)(x) = -25x + 13$

[C] $(g \circ f)(x) = 3$
     $(f \circ g)(x) = 25x + 13$

[D] $(g \circ f)(x) = 25x - 13$
     $(f \circ g)(x) = -3$

43. For the pair of functions, f and g, find $(f \circ g)(x)$ and $(g \circ f)(x)$.

$f(x) = 6 + 3x, \quad g(x) = x^2 - 2$

[A] $(f \circ g)(x) = x^2 + 3x + 4$
     $(g \circ f)(x) = 3x^2$

[B] $(f \circ g)(x) = 3x^2$
     $(g \circ f)(x) = 9x^2 + 36x + 34$

[C] $(f \circ g)(x) = x^2 + 3x - 4$
     $(g \circ f)(x) = 3x^2 + 34x$

[D] $(f \circ g)(x) = 9x^2 + 36x + 34$
     $(g \circ f)(x) = x^2 + 3x - 4$

44. For the pair of functions, f and g, find $(g \circ f)(x)$ and $(f \circ g)(x)$.

$f(x) = 2 + 4x, \quad g(x) = x - 1$

[A] $(g \circ f)(x) = -4x - 1$
     $(f \circ g)(x) = 5x + 1$

[B] $(g \circ f)(x) = 5x + 1$
     $(f \circ g)(x) = 4x + 1$

[C] $(g \circ f)(x) = 4x + 1$
     $(f \circ g)(x) = 4x - 2$

[D] $(g \circ f)(x) = -5x - 1$
     $(f \circ g)(x) = -4x + 1$

45. For the pair of functions, f and g, find $(f \circ g)(x)$ and $(g \circ f)(x)$.

$f(x) = 5 + 6x, \ g(x) = 2x - 4$

[A] $(f \circ g)(x) = 12x - 19$
$(g \circ f)(x) = 12x + 6$

[B] $(f \circ g)(x) = 8x + 1$
$(g \circ f)(x) = 12x - 19$

[C] $(f \circ g)(x) = -12x + 19$
$(g \circ f)(x) = 8x + 1$

[D] $(f \circ g)(x) = -8x - 1$
$(g \circ f)(x) = -12x - 19$

46. For the pair of functions, f and g, find $(f \circ g)(x)$ and $(g \circ f)(x)$.

$f(x) = 3 + 2x, \ g(x) = 5x + 3$

[A] $(f \circ g)(x) = -7x - 6$
$(g \circ f)(x) = -10x + 9$

[B] $(f \circ g)(x) = 10x + 9$
$(g \circ f)(x) = 10x + 18$

[C] $(f \circ g)(x) = -10x - 9$
$(g \circ f)(x) = 7x + 6$

[D] $(f \circ g)(x) = 7x + 6$
$(g \circ f)(x) = 10x + 9$

47. For the pair of functions, f and g, find $(g \circ f)(x)$ and $(f \circ g)(x)$.

$f(x) = 6 + 5x, \ g(x) = x^2 + 2$

[A] $(g \circ f)(x) = 5x^2 + 16$
$(f \circ g)(x) = x^2 + 5x - 8$

[B] $(g \circ f)(x) = 25x^2 + 60x + 38$
$(f \circ g)(x) = 5x^2 + 16$

[C] $(g \circ f)(x) = x^2 + 5x + 8$
$(f \circ g)(x) = 25x^2 + 60x + 38$

[D] $(g \circ f)(x) = x^2 + 5x - 8$
$(f \circ g)(x) = 25x^2 + 16x + 60$

48. For the pair of functions, f and g, find $(f \circ g)(x)$ and $(g \circ f)(x)$.

$f(x) = 2 + 3x, \ g(x) = 2x - 2$

[A] $(f \circ g)(x) = 5x$
$(g \circ f)(x) = 6x - 4$

[B] $(f \circ g)(x) = -6x + 4$
$(g \circ f)(x) = 5x$

[C] $(f \circ g)(x) = 6x - 4$
$(g \circ f)(x) = 6x + 2$

[D] $(f \circ g)(x) = -5x$
$(g \circ f)(x) = -6x - 4$

49. For the pair of functions, f and g, find $(g \circ f)(x)$ and $(f \circ g)(x)$.
$f(x) = 5 - 4x, \ g(x) = x^2 + 4$

[A] $(g \circ f)(x) = x^2 - 4x + 9$
$(f \circ g)(x) = 16x^2 - 40x + 29$

[B] $(g \circ f)(x) = 16x^2 - 40x + 29$
$(f \circ g)(x) = -4x^2 - 11$

[C] $(g \circ f)(x) = x^2 - 4x - 9$
$(f \circ g)(x) = 16x^2 - 11x - 40$

[D] $(g \circ f)(x) = -4x^2 - 11$
$(f \circ g)(x) = x^2 - 4x - 9$

50. For the pair of functions, f and g, find $(f \circ g)(x)$ and $(g \circ f)(x)$.
$f(x) = 1 - 6x, \ g(x) = 5x - 4$

[A] $(f \circ g)(x) = -x - 3$
$(g \circ f)(x) = -30x + 25$

[B] $(f \circ g)(x) = -30x + 25$
$(g \circ f)(x) = -30x + 1$

[C] $(f \circ g)(x) = x + 3$
$(g \circ f)(x) = 30x + 25$

[D] $(f \circ g)(x) = 30x - 25$
$(g \circ f)(x) = -x - 3$

51. For the pair of functions, f and g, find $(g \circ f)(x)$ and $(f \circ g)(x)$.
$f(x) = 3 + 2x, \ g(x) = 5x + 6$

52. For the pair of functions, f and g, find $(f \circ g)(x)$ and $(g \circ f)(x)$.
$f(x) = 6 + 3x, \ g(x) = x^2 + 3$

53. For the pair of functions, f and g, find $(g \circ f)(x)$ and $(f \circ g)(x)$.
$f(x) = 1 + 7x, \ g(x) = x - 2$

54. For the pair of functions, f and g, find $(f \circ g)(x)$ and $(g \circ f)(x)$.
$f(x) = 5 + 6x, \ g(x) = x^2 - 1$

55. For the pair of functions, f and g, find $(g \circ f)(x)$ and $(f \circ g)(x)$.
$f(x) = 2 + x, \ g(x) = 4x - 7$

56. For the pair of functions, f and g, find $(f \circ g)(x)$ and $(g \circ f)(x)$.
$f(x) = 4 + 5x, \ g(x) = x^2 - 4$

57. For the pair of functions, f and g, find $(f \circ g)(x)$ and $(g \circ f)(x)$.

$f(x) = 3 - 4x, \quad g(x) = 3x - 1$

58. For the pair of functions, f and g, find $(g \circ f)(x)$ and $(f \circ g)(x)$.

$f(x) = 6 + 2x, \quad g(x) = x^2 - 1$

59. For the pair of functions, f and g, find $(f \circ g)(x)$ and $(g \circ f)(x)$.

$f(x) = 1 + 3x, \quad g(x) = 2x - 7$

60. For the pair of functions, f and g, find $(g \circ f)(x)$ and $(f \circ g)(x)$.

$f(x) = 5 - 7x, \quad g(x) = x^2 - 2$