

## Composition of Two Functions

WS #1

Choose the correct option.

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|--|--|
| 1) $f(x) = x^3 - 1$ ; $g(x) = x + 1$ . Find $f \circ g$ .        | 2) $f(x) = 5x^2 - 4$ ; $g(x) = 1 - x$ . Find $g \circ f$ . |
| a) $x^3$   | a) $-5x^2 + 5$   |
| b) $x^3 + 3x^2 + 3x$   | b) $5x^2 - 5$  |
| c) $x^3 + x^2 + x + 2$   | c) $5x^2 - 10x + 1$  |
| d) $x^3 + x + 1$   | d) $-x^2 - 1$  |
| 3) $f(x) = x^2 + 1$ ; $g(x) = 9x - 1$ . Find $g \circ f$ .       |  |
| a) $9x^2$  | a) $x^3 + x^2 + x + 6$                                     |
| b) $9x^2 - 2$  | b) $x^3 + 6$   |
| c) $9x^2 + 8$  | c) $x^3 + 5$   |
| d) $81x^2 - 18x + 2$   | d) $x^3 - 6$   |
| 5) $f(x) = x^2 + 2x + 1$ ; $g(x) = x + 3$ . Find $f \circ g$ .   |  |
| a) $x^2 + 2x + 2$  | a) $x^2 + 4x + 16$   |
| b) $x^2 + 4x + 2$  | b) $x^2 - 2x + 4$  |
| c) $x^2 + 2x + 3$  | c) $x^2 - 4x + 4$  |
| d) $x^2 + 8x + 16$   | d) $x^2 + 4x + 4$  |
| 7) $f(x) = 5x^2 - 13$ ; $g(x) = 3 - 2x$ . Find $f \circ g$ .     |  |
| a) $20x^2 - 60x + 32$  | a) $x^2 - 2x + 4$  |
| b) $10x^2 + 9$   | b) $x^2 - 4x + 4$  |
| c) $-4x^2 - 12x + 6$   | c) $x^2 - 2x$  |
| d) $-10x^2 + 9$  | d) $-x^2 - 2x$   |
| 9) $f(x) = x^2 - 4$ ; $g(x) = x + 5$ . Find $g \circ f$ .        |  |
| a) $x^2 - 4$   | a) $5x^2 + 10x + 41$                                       |
| b) $x^2 + 1$   | b) $25x^2 + 12x + 9$                                       |
| c) $x^2 + 10x + 24$  | c) $25x^2 + 20x + 11$                                      |
| d) $x^2 - 10x + 25$  | d) $x^2 + 10x + 10$  |
| 10) $f(x) = x^2 + 2x + 8$ ; $g(x) = 5x + 1$ . Find $f \circ g$ . |  |