

$$f(x) = \underline{x + 3} \text{ and } g(x) = \underline{x^2 + x - 1}.$$

$$[f \circ g](x) = f[\underline{g(x)}]$$

$$= f(\underline{x^2 + x - 1}) = (x^2 + x - 1) + \underline{3}$$

$$\cdot [f \circ g](x) = x^2 + x + 2$$

$$[g \circ f](x) = g[f(x)] = .$$

$$= g(\underline{x + 3}) = (x + 3)^2 + (x + 3) - 1$$

$$= (\underline{x + 3})(\underline{x + 3}) + (x + 3) - 1$$

$$= x^2 + \underline{3x} + \underline{3x} + \underline{9} + \underline{x} + \underline{3} - \underline{1}$$

$$[g \circ f](x) = x^2 + 7x + 11$$

$$f(x) = x^2 + 4$$

$$g(x) = x - 9$$

$$h(x) = 3x + 5$$

$$[f \circ g](3) = f[g(3)] = f(-6) = (-6)^2 + 4 = \boxed{40}$$

$$g(3) = 3 - 9 = -6$$

$$[h \circ g](-2) = h[g(-2)] = h(-11) = 3(-11) + 5 = \boxed{-28}$$

$$g(-2) = -2 - 9 = -11$$

$$f(x) = 4x + 2$$

$$g(x) = 2x^2 + 3x - 1$$

$$[g \circ f](3) = g[f(3)] = g(14) = 2(14)^2 + 3(14) - 1 = \boxed{433}$$

$$f(3) = 4(3) + 2 = 14$$

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| p. 389-390 | | | |
| 15-16, 28-31, 33-42, 46-47, 56-57 | | | |