

# Composition of Three Functions

Choose the correct choice that best describes  $f \circ (g \circ h)$ .

1)  $f(x) = x - 4$ ;  $g(x) = 3x - 2$ ;  $h(x) = (x+2)^2$ .

- a)  $3x^2 + 12x + 6$
- b)  $9x^2 - 72x + 144$
- c)  $3x^2 - 12x + 4$
- d)  $3x^2 - 12x - 12$

2)  $f(x) = 4x + 8$ ;  $g(x) = x^2 + 2x + 1$ ;  $h(x) = x - 4$ .

- a)  $4x^2 + 8x - 8$
- b)  $4x^2 + 8x + 8$
- c)  $4x^2 - 24x + 44$
- d)  $4x^2 - 4x - 44$

3)  $f(x) = x^2 - 4x + 4$ ;  $g(x) = x^2 - 2x + 1$ ;  $h(x) = x^2 - 2x + 1$ .

- a)
- b)
- c)
- d)

# Preview

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5)  $f(x) = x^2 - 4x + 4$ ;  $g(x) = x^2 - 2x + 1$ ;  $h(x) = x^2 - 2x + 1$ .

- a)
- b)
- c)
- d)

7)  $f(x) = x^2 - 4x + 4$ ;  $g(x) = x^2 - 2x + 1$ ;  $h(x) = x^2 - 2x + 1$ .

- a)

b)  $2x^2 - 54x - 12$

c)  $108x^2 - 54x - 329$

d)  $108x^2 - 54x + 12$

b)  $9x^2 + 3x - 18$

c)  $3x^2 - 3x - 58$

d)  $9x^2 + 18$

9)  $f(x) = 11x - 2$ ;  $g(x) = x + 4$ ;  $h(x) = x^2 - 5x - 3$ .

a)  $11x^2 - 30x + 9$

b)  $11x^2 + 55x + 9$

c)  $11x^2 - 55x + 9$

d)  $-11x^2 - 5$

10)  $f(x) = x^2 + 2x + 5$ ;  $g(x) = 2x + 1$ ;  $h(x) = x - 6$ .

a)  $4x^2 - 40x + 121$

b)  $4x^2 - 40x + 104$

c)  $2x^2 + 4x + 5$

d)  $4x^2 - 40x - 121$