18. Assume f(x) = -2x + 8 and g(x) = 3x , what is the value of (g o f)(3)?

A: 6

B: x + 8

C: -10

D: 23

Solution $(gof)(3) = g(f(3)) = 3 \cdot f(3) = 3 \cdot (-2 \cdot 3 + 8) = 6$

Answer: A: 6

20. Let h(x) = (g o f)(x) = x^2/ x^2 + 1

Which of the following could be a possible decomposition of h(x)?

A: F(x) = x^2 ; g(x) = x

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x + 1

B: f(x) = x + 1; g(x) = x^2

C: f(x) = x + 1; g(x) = 1

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x^2

D: f(x) = x ;g(x) = x

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x + 1

Solution Supposing that "-------" means "/" (for example A: F(x) = x^2 ; g(x) = x/(x + 1)) we don't have the correct answer with the given h(x). Probably, the correct one is h(x)=x^2/ (x^2 + 1). In that case A is correct: $(g \: o \: f)(x) = \: g(f(x)) = \frac{f(x)}{f(x)+1} = \frac{x^2}{x^2+1} = h(x)$

Answer: A: $f(x) = x^2; g(x) = \frac{x}{x+1}$