

If $g'(3) = 4$ and $h'(3) = -1$, find $f'(3)$ for $f(x) = 5g(x) + 3h(x) + 2$.

A) 19

B) 17

C) 23

D) 25

Use the product rule to find the derivative.

$$f(x) = (x^2 - 4x + 2)(2x^3 - x^2 + 4)$$

A) $f'(x) = 10x^4 - 36x^3 + 24x^2 + 4x - 16$

B) $f'(x) = 2x^4 - 32x^3 + 24x^2 + 4x - 16$

C) $f'(x) = 2x^4 - 36x^3 + 24x^2 + 4x - 16$

D) $f'(x) = 10x^4 - 32x^3 + 24x^2 + 4x - 16$

Use the quotient rule to find the derivative.

$$g(t) = \frac{t^2}{t - 11}$$

A) $g'(t) = \frac{t^2}{(t - 11)^2}$

B) $g'(t) = \frac{22t}{(t - 11)^2}$

C) $g'(t) = \frac{t^2 + 22t}{(t - 11)^2}$

D) $g'(t) = \frac{t^2 - 22t}{(t - 11)^2}$