



Derivative Rules - Product Rule Negative Powers as Division (with Rule) to

Derivative

1 if $h(x) = f(x)g(x)$, $h'(x) = f'(x)g(x) + f(x)g'(x)$
 $f(x) = (-\frac{2}{x^2} - 5)(-3x)$

Find the derivative $f'(x)$ using the product rule.

A $f'(x) = (4x^{-3})(-3x)$ B $f'(x) = (4x^{-3})(-3)$ C $f'(x) = (4x^{-3})(-3x) - (-2x^{-2} - 5)(-3)$ D $f'(x) = (4x^{-3})(-3x) + (-2x^{-2} - 5)(-3)$

2 if $h(x) = f(x)g(x)$, $h'(x) = f'(x)g(x) + f(x)g'(x)$
 $f(x) = (\frac{5}{x^2} + 6)(-2x^2 + 5)$

Find the derivative $f'(x)$ using the product rule.

A $f'(x) = (-10x^{-3})(-2x^2 + 5) + (5x^{-2} + 6)(-4x)$ B $f'(x) = (-10x^{-3})(-2x^2 + 5) - (5x^{-2} + 6)(-4x)$ C $f'(x) = (-10x^{-3})(-2x^2 + 5)$ D $f'(x) = (-10x^{-3})(-4x)$

3 if $h(x) = f(x)g(x)$, $h'(x) = f'(x)g(x) + f(x)g'(x)$
 $f(x) = (-\frac{5}{x^3} + 5)(-2x)$

Find the derivative $f'(x)$ using the product rule.

A $f'(x) = (15x^{-4})(-2)$ B $f'(x) = (15x^{-4})(-2)$ C $f'(x) = (15x^{-4})(-2x)$ D $f'(x) = (15x^{-4})(-2x) + (-5x^{-3} + 5)(-2)$

4 if $h(x) = f(x)g(x)$, $h'(x) = f'(x)g(x) + f(x)g'(x)$
 $f(x) = (\frac{3}{x^2} + 6)(-4x^2)$

Find the derivative $f'(x)$ using the product rule.

A $f'(x) = (-6x^{-3})(-8x)$ B $f'(x) = (-6x^{-3})(-8x)$ C $f'(x) = (-6x^{-3})(-4x^2)$ D $f'(x) = (-6x^{-3})(-4x^2) - (3x^{-2} + 6)(-8x)$

5 if $h(x) = f(x)g(x)$, $h'(x) = f'(x)g(x) + f(x)g'(x)$
 $f(x) = (\frac{4}{x^3} - 4)(-3x^2 + 6)$

Find the derivative $f'(x)$ using the product rule.

A $f'(x) = (-12x^{-4})(-3x^2 + 6)$ B $f'(x) = (-12x^{-4})(-3x^2 + 6)$ C $f'(x) = (-12x^{-4})(-6x)$ D $f'(x) = (-12x^{-4})(-3x^2 + 6) + (4x^{-3} - 4)(-6x)$

6 if $h(x) = f(x)g(x)$, $h'(x) = f'(x)g(x) + f(x)g'(x)$
 $f(x) = (\frac{2}{x^2} - 2)(2x^2)$

Find the derivative $f'(x)$ using the product rule.

A $f'(x) = (-4x^{-3})(2x^2)$ B $f'(x) = (-4x^{-3})(2x^2)$ C $f'(x) = (-4x^{-3})(4x)$ D $f'(x) = (-4x^{-3})(2x^2) - (2x^{-2} - 2)(4x)$

7 if $h(x) = f(x)g(x)$, $h'(x) = f'(x)g(x) + f(x)g'(x)$
 $f(x) = (-\frac{5}{x^3} - 5)(5x^2 - 3)$

Find the derivative $f'(x)$ using the product rule.

A $f'(x) = (15x^{-4})(5x^2 - 3)$ B $f'(x) = (15x^{-4})(5x^2 - 3)$ C $f'(x) = (15x^{-4})(5x^2 - 3) - (-5x^{-3} - 5)(10x)$ D $f'(x) = (15x^{-4})(10x)$

8 if $h(x) = f(x)g(x)$, $h'(x) = f'(x)g(x) + f(x)g'(x)$
 $f(x) = (-\frac{2}{x^2} + 2)(-3x - 7)$

Find the derivative $f'(x)$ using the product rule.

A $f'(x) = (4x^{-3})(-3x - 7)$ B $f'(x) = (4x^{-3})(-3x - 7) - (-2x^{-2} + 2)(-3)$ C $f'(x) = (4x^{-3})(-3x - 7)$ D $f'(x) = (4x^{-3})(-3)$