



Derivative Rules - Quotient Rule Positive Powers to Derivative

1 Find the derivative $f'(x)$ using the quotient rule. $f(x) = \frac{-3x^3 + 6}{-3x - 3}$

A $f'(x) = \frac{(-9x^2)(-3x-3) - (-3x^3+6)(-3)}{(-3x-3)^2}$

B $f'(x) = \frac{(-9x^2)(-3x-3) - (-3x^3+6)(-3)}{(-3x-3)^2}$

C $f'(x) = \frac{(-9x^2)(-3x-3) + (-3x^3+6)(-3)}{(-3x-3)^2}$

D $f'(x) = \frac{(-3x^3+6)(-3) - (-9x^2)(-3x-3)}{(-3x-3)^2}$

2 Find the derivative $f'(x)$ using the quotient rule. $f(x) = \frac{3x^2 - 6}{-4x^2 - 4}$

A $f'(x) = \frac{(6x)(-4x^2-4) - (3x^2-6)(-8x)}{(-4x^2-4)^2}$

B $f'(x) = \frac{(6x)(-4x^2-4) + (3x^2-6)(-8x)}{(-4x^2-4)^2}$

C $f'(x) = \frac{(3x^2-6)(-8x) - (6x)(-4x^2-4)}{(-4x^2-4)^2}$

D $f'(x) = \frac{(6x)(-4x^2-4) - (3x^2-6)(-8x)}{(-4x^2-4)^2}$

3 Find the derivative $f'(x)$ using the quotient rule. $f(x) = \frac{5x^4 + 5}{2x}$

A $f'(x) = \frac{(20x^3)(2x) + (5x^4 + 5)(2)}{(2x)^2}$

B $f'(x) = \frac{(20x^3)(2x) - (5x^4 + 5)(2)}{(2x)^2}$

C $f'(x) = \frac{(5x^4 + 5)(2) - (20x^3)(2x)}{(2x)^2}$

D $f'(x) = \frac{(20x^3)(2x) - (5x^4 + 5)(2)}{(2x)^2}$

4 Find the derivative $f'(x)$ using the quotient rule. $f(x) = \frac{-4x^4 + 3}{-2x - 5}$

A $f'(x) = \frac{(-16x^3)(-2x-5) - (-4x^4+3)(-2)}{(-2x-5)^2}$

B $f'(x) = \frac{(-16x^3)(-2x-5) + (-4x^4+3)(-2)}{(-2x-5)^2}$

C $f'(x) = \frac{(-16x^3)(-2x-5) - (-4x^4+3)(-2)}{(-2x-5)^2}$

D $f'(x) = \frac{(-4x^4+3)(-2) - (-16x^3)(-2x-5)}{(-2x-5)^2}$

5 Find the derivative $f'(x)$ using the quotient rule. $f(x) = \frac{3x^4 + 6}{3x + 6}$

A $f'(x) = \frac{(12x^3)(3x+6) - (3x^4+6)(3)}{(3x+6)^2}$

B $f'(x) = \frac{(3x^4+6)(3) - (12x^3)(3x+6)}{(3x+6)^2}$

C $f'(x) = \frac{(12x^3)(3x+6) - (3x^4+6)(3)}{(3x+6)^2}$

D $f'(x) = \frac{(12x^3)(3x+6) + (3x^4+6)(3)}{(3x+6)^2}$

6 Find the derivative $f'(x)$ using the quotient rule. $f(x) = \frac{-5x^2 - 6}{-5x^2 + 2}$

A $f'(x) = \frac{(-10x)(-5x^2+2) - (-5x^2-6)(-10x)}{(-5x^2+2)^2}$

B $f'(x) = \frac{(-10x)(-5x^2+2) - (-5x^2-6)(-10x)}{(-5x^2+2)^2}$

C $f'(x) = \frac{(-10x)(-5x^2+2) + (-5x^2-6)(-10x)}{(-5x^2+2)^2}$

D $f'(x) = \frac{(-5x^2-6)(-10x) - (-10x)(-5x^2+2)}{(-5x^2+2)^2}$

7 Find the derivative $f'(x)$ using the quotient rule. $f(x) = \frac{2x^3 - 5}{-3x}$

A $f'(x) = \frac{(6x^2)(-3x) - (2x^3-5)(-3)}{(-3x)^2}$

B $f'(x) = \frac{(6x^2)(-3x) + (2x^3-5)(-3)}{(-3x)^2}$

C $f'(x) = \frac{(6x^2)(-3x) - (2x^3-5)(-3)}{(-3x)^2}$

D $f'(x) = \frac{(2x^3-5)(-3) - (6x^2)(-3x)}{(-3x)^2}$

8 Find the derivative $f'(x)$ using the quotient rule. $f(x) = \frac{3x^3 - 6}{-4x - 4}$

A $f'(x) = \frac{(9x^2)(-4x-4) - (3x^3-6)(-4)}{(-4x-4)^2}$

B $f'(x) = \frac{(9x^2)(-4x-4) - (3x^3-6)(-4)}{(-4x-4)^2}$

C $f'(x) = \frac{(9x^2)(-4x-4) + (3x^3-6)(-4)}{(-4x-4)^2}$

D $f'(x) = \frac{(9x^2)(-4x-4) - (3x^3-6)(-4)}{(-4x-4)^2}$