Name

Derivative Rules - Quotient Rule Positive Powers (with Rule) to Derivative

1 Find the derivative f'(x) using the quotient rule.

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

$f(x) = \frac{2x^3+2}{2x+3}$

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

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

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

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

2 Find the derivative f'(x) using the quotient rule.

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

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

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

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

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

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

3 Find the derivative f'(x) using the quotient rule.

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

$f(x) = \frac{-3x^3-2}{-3x}$

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

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

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

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

4 Find the derivative f'(x) using the quotient rule.

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

$f(x) = \frac{2x^3+4}{2x}$

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

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

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

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

5 Find the derivative f'(x) using the quotient rule.

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

$f(x) = \frac{-2x^3+7}{-5x^2+4}$

A $f'(x) = \frac{(-6x^2)(-5x^2+4)+(-2x^3+7)(-10x)}{(-5x^2+4)^2}$

B $f'(x) = \frac{(-2x^3+7)(-10x)-(-6x^2)(-5x^2+4)}{(-5x^2+4)^2}$

C $f'(x) = \frac{(-6x^2)(-5x^2+4)-(-2x^3+7)(-10x)}{(-5x^2+4)^2}$

D $f'(x) = \frac{(-6x^2)(-5x^2+4)-(-2x^3+7)(-10x)}{(-5x^2+4)}$

6 Find the derivative f'(x) using the quotient rule.

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

$f(x) = \frac{4x^2-5}{3x+7}$

A $f'(x) = \frac{(8x)(3x+7)-(4x^2-5)(3)}{(3x+7)}$

B $f'(x) = \frac{(8x)(3x+7)-(4x^2-5)(3)}{(3x+7)^2}$

C $f'(x) = \frac{(4x^2-5)(3)-(8x)(3x+7)}{(3x+7)^2}$

D $f'(x) = \frac{(8x)(3x+7)+(4x^2-5)(3)}{(3x+7)^2}$

7 Find the derivative f'(x) using the quotient rule.

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

$f(x) = \frac{-2x^2-4}{-5x^2+6}$

A $f'(x) = \frac{(-2x^2-4)(-10x)-(-4x)(-5x^2+6)}{(-5x^2+6)^2}$

B $f'(x) = \frac{(-4x)(-5x^2+6)+(-2x^2-4)(-10x)}{(-5x^2+6)^2}$

C $f'(x) = \frac{(-4x)(-5x^2+6)-(-2x^2-4)(-10x)}{(-5x^2+6)^2}$

D $f'(x) = \frac{(-4x)(-5x^2+6)-(-2x^2-4)(-10x)}{(-5x^2+6)}$

8 Find the derivative f'(x) using the quotient rule.

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

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

A $f'(x) = \frac{(10x)(5x^2+4)+(5x^2-4)(10x)}{(5x^2+4)^2}$

B $f'(x) = \frac{(10x)(5x^2+4)-(5x^2-4)(10x)}{(5x^2+4)}$

C $f'(x) = \frac{(5x^2-4)(10x)-(10x)(5x^2+4)}{(5x^2+4)^2}$

D $f'(x) = \frac{(10x)(5x^2+4)-(5x^2-4)(10x)}{(5x^2+4)^2}$