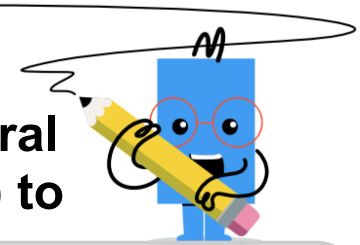
Name ______________________

Derivative Rules - Multi Quotient Natural Exponential Trigonometric (with Rule) to Derivative



1

Find the derivative f'(x) using the quotient, natural exponential, and trigonometric rules.

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

$f(x) = \frac{e^x}{4\cos(x)}$

A $f'(x) = \frac{(e^x)(4\cos(x)) - (e^x)(-4\sin(x))}{(4\cos(x))^2}$

B $f'(x) = \frac{(e^x)(4\cos(x)) - (e^x)(-4\sin(x))}{4\cos(x)}$

C $f'(x) = \frac{(e^x)(-4\sin(x)) - (e^x)(4\cos(x))}{(4\cos(x))^2}$

D $f'(x) = \frac{(e^x)(4\cos(x)) + (e^x)(-4\sin(x))}{(4\cos(x))^2}$

2

Find the derivative f'(x) using the quotient, natural exponential, and trigonometric rules.

$$\frac{d}{dx}\cos(x) = -\sin(x)$$

$$f(x) = \frac{5e^x}{5\cos(x)}$$

A $f'(x) = \frac{(5e^x)(5\cos(x)) - (5e^x)(-5\sin(x))}{5\cos(x)}$

B $f'(x) = \frac{(5e^x)(5\cos(x)) + (5e^x)(-5\sin(x))}{(5\cos(x))^2}$

C $f'(x) = \frac{(5e^x)(-5\sin(x)) - (5e^x)(5\cos(x))}{(5\cos(x))^2}$

D $f'(x) = \frac{(5e^x)(5\cos(x)) - (5e^x)(-5\sin(x))}{(5\cos(x))^2}$

3

Find the derivative f'(x) using the quotient, natural exponential, and trigonometric rules.

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

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

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

B $f'(x) = \frac{(3e^x)(2\sin(x)) + (3e^x)(2\cos(x))}{(2\sin(x))^2}$

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

D $f'(x) = \frac{(3e^x)(2\cos(x)) - (3e^x)(2\sin(x))}{(2\sin(x))^2}$

4

Find the derivative f'(x) using the quotient, natural exponential, and trigonometric rules.

$$\frac{d}{dx}e^x = e^x$$

$$f(x) = \frac{5e^x}{\sin(x)}$$

A $f'(x) = \frac{(5e^x)(\cos(x)) - (5e^x)(\sin(x))}{(\sin(x))^2}$

B $f'(x) = \frac{(5e^x)(\sin(x)) - (5e^x)(\cos(x))}{(\sin(x))^2}$

C $f'(x) = \frac{(5e^x)(\sin(x)) + (5e^x)(\cos(x))}{(\sin(x))^2}$

D $f'(x) = \frac{(5e^x)(\sin(x)) - (5e^x)(\cos(x))}{\sin(x)}$

5

Find the derivative f'(x) using the quotient, natural exponential, and trigonometric rules.

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

$f(x) = \frac{e^x}{2\cos(x)}$

A $f'(x) = \frac{(e^x)(-2\sin(x)) - (e^x)(2\cos(x))}{(2\cos(x))^2}$

B $f'(x) = \frac{(e^x)(2\cos(x)) - (e^x)(-2\sin(x))}{2\cos(x)}$

C $f'(x) = \frac{(e^x)(2\cos(x)) - (e^x)(-2\sin(x))}{(2\cos(x))^2}$

D $f'(x) = \frac{(e^x)(2\cos(x)) + (e^x)(-2\sin(x))}{(2\cos(x))^2}$

6

Find the derivative f'(x) using the quotient, natural exponential, and trigonometric rules.

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

$f(x) = \frac{5e^x}{4\cos(x)}$

A $f'(x) = \frac{(5e^x)(4\cos(x)) - (5e^x)(-4\sin(x))}{4\cos(x)}$

B $f'(x) = \frac{(5e^x)(-4\sin(x)) - (5e^x)(4\cos(x))}{(4\cos(x))^2}$

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

D $f'(x) = \frac{(5e^x)(4\cos(x)) - (5e^x)(-4\sin(x))}{(4\cos(x))^2}$

7

Find the derivative f'(x) using the quotient, natural exponential, and trigonometric rules.

$$\frac{d}{dx}e^x = e^x$$

$$f(x) = \frac{2e^x}{4\cos(x)}$$

A $f'(x) = \frac{(2e^x)(-4\sin(x)) - (2e^x)(4\cos(x))}{(4\cos(x))^2}$

B $f'(x) = \frac{(2e^x)(4\cos(x)) + (2e^x)(-4\sin(x))}{(4\cos(x))^2}$

C $f'(x) = \frac{(2e^x)(4\cos(x)) - (2e^x)(-4\sin(x))}{(4\cos(x))^2}$

D $f'(x) = \frac{(2e^x)(4\cos(x)) - (2e^x)(-4\sin(x))}{4\cos(x)}$

8

Find the derivative f'(x) using the quotient, natural exponential, and trigonometric rules.

$$\frac{d}{dx}\sin(x) = \cos(x)$$

$$f(x) = \frac{3e^x}{4\sin(x)}$$

A $f'(x) = \frac{(3e^x)(4\sin(x)) + (3e^x)(4\cos(x))}{(4\sin(x))^2}$

B $f'(x) = \frac{(3e^x)(4\sin(x)) - (3e^x)(4\cos(x))}{(4\sin(x))^2}$

C $f'(x) = \frac{(3e^x)(4\sin(x)) - (3e^x)(4\cos(x))}{4\sin(x)}$

D $f'(x) = \frac{(3e^x)(4\cos(x)) - (3e^x)(4\sin(x))}{(4\sin(x))^2}$