Name

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

1

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

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

$$f(x) = \frac{4 \cdot 8^x}{\cos(x)}$$

A $f'(x) = \frac{(4 \cdot 8^x \ln 8)(\cos(x)) - (4 \cdot 8^x)(-\sin(x))}{\cos(x)}$

B $f'(x) = \frac{(4 \cdot 8^x \ln 8)(\cos(x)) + (4 \cdot 8^x)(-\sin(x))}{(\cos(x))^2}$

C $f'(x) = \frac{(4 \cdot 8^x)(-\sin(x)) - (4 \cdot 8^x \ln 8)(\cos(x))}{(\cos(x))^2}$

D $f'(x) = \frac{(4 \cdot 8^x \ln 8)(\cos(x)) - (4 \cdot 8^x)(-\sin(x))}{(\cos(x))^2}$

2

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

$$\frac{d}{dx}a^x = a^x \ln a$$

$$f(x) = \frac{2 \cdot 6^x}{\cos(x)}$$

A $f'(x) = \frac{(2 \cdot 6^x)(-\sin(x)) - (2 \cdot 6^x \ln 6)(\cos(x))}{(\cos(x))^2}$

B $f'(x) = \frac{(2 \cdot 6^x \ln 6)(\cos(x)) + (2 \cdot 6^x)(-\sin(x))}{(\cos(x))^2}$

C $f'(x) = \frac{(2 \cdot 6^x \ln 6)(\cos(x)) - (2 \cdot 6^x)(-\sin(x))}{(\cos(x))^2}$

D $f'(x) = \frac{(2 \cdot 6^x \ln 6)(\cos(x)) - (2 \cdot 6^x)(-\sin(x))}{\cos(x)}$

3

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

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

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

A $f'(x) = \frac{(5 \cdot 4^x \ln 4)(\cos(x)) - (5 \cdot 4^x)(-\sin(x))}{(\cos(x))^2}$

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

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

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

4

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

$$\frac{d}{dx}a^x = a^x \ln a$$

$$f(x) = \frac{3 \cdot 5^x}{\cos(x)}$$

A $f'(x) = \frac{(3 \cdot 5^x \ln 5)(\cos(x)) - (3 \cdot 5^x)(-\sin(x))}{(\cos(x))^2}$

B $f'(x) = \frac{(3 \cdot 5^x \ln 5)(\cos(x)) + (3 \cdot 5^x)(-\sin(x))}{(\cos(x))^2}$

C $f'(x) = \frac{(3 \cdot 5^x \ln 5)(\cos(x)) - (3 \cdot 5^x)(-\sin(x))}{\cos(x)}$

D $f'(x) = \frac{(3 \cdot 5^x)(-\sin(x)) - (3 \cdot 5^x \ln 5)(\cos(x))}{(\cos(x))^2}$

5

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

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

$$f(x) = \frac{3 \cdot 6^x}{5\cos(x)}$$

A $f'(x) = \frac{(3 \cdot 6^x \ln 6)(5\cos(x)) - (3 \cdot 6^x)(-5\sin(x))}{5\cos(x)}$

B $f'(x) = \frac{(3 \cdot 6^x \ln 6)(5\cos(x)) - (3 \cdot 6^x)(-5\sin(x))}{(5\cos(x))^2}$

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

D $f'(x) = \frac{(3 \cdot 6^x \ln 6)(5\cos(x)) + (3 \cdot 6^x)(-5\sin(x))}{(5\cos(x))^2}$

6

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

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

$$f(x) = \frac{2 \cdot 6^x}{3\cos(x)}$$

A $f'(x) = \frac{(2 \cdot 6^x \ln 6)(3\cos(x)) - (2 \cdot 6^x)(-3\sin(x))}{(3\cos(x))^2}$

B $f'(x) = \frac{(2 \cdot 6^x)(-3\sin(x)) - (2 \cdot 6^x \ln 6)(3\cos(x))}{(3\cos(x))^2}$

C $f'(x) = \frac{(2 \cdot 6^x \ln 6)(3\cos(x)) - (2 \cdot 6^x)(-3\sin(x))}{3\cos(x)}$

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

7

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

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

$$f(x) = \frac{3 \cdot 6^x}{3\cos(x)}$$

A $f'(x) = \frac{(3 \cdot 6^x \ln 6)(3\cos(x)) - (3 \cdot 6^x)(-3\sin(x))}{3\cos(x)}$

B $f'(x) = \frac{(3 \cdot 6^x \ln 6)(3\cos(x)) - (3 \cdot 6^x)(-3\sin(x))}{(3\cos(x))^2}$

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

D $f'(x) = \frac{(3 \cdot 6^x)(-3\sin(x)) - (3 \cdot 6^x \ln 6)(3\cos(x))}{(3\cos(x))^2}$

8

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

$$\frac{d}{dx}a^x = a^x \ln a$$

$$f(x) = \frac{9^x}{5\cos(x)}$$

A $f'(x) = \frac{(9^x \ln 9)(5\cos(x)) + (9^x)(-5\sin(x))}{(5\cos(x))^2}$

B $f'(x) = \frac{(9^x \ln 9)(5\cos(x)) - (9^x)(-5\sin(x))}{5\cos(x)}$

C $f'(x) = \frac{(9^x)(-5\sin(x)) - (9^x \ln 9)(5\cos(x))}{(5\cos(x))^2}$

D $f'(x) = \frac{(9^x \ln 9)(5\cos(x)) - (9^x)(-5\sin(x))}{(5\cos(x))^2}$