Name

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

1

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

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

$$f(x) = (4 \cdot 5^x)(3\sin(x))$$

A $f'(x) = (4 \cdot 5^x \ln 5)(3\cos(x))$

B $f'(x) = (4 \cdot 5^x \ln 5)(3\sin(x))$

C $f'(x) = (4 \cdot 5^x)(3\cos(x))$

D $f'(x) = (4 \cdot 5^x \ln 5)(3\sin(x)) + (4 \cdot 5^x)(3\cos(x))$

2

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

$$\text{if } h(x) = f(x)\,g(x),\ h'(x) = f'(x)\,g(x) + f(x)\,g'(x)$$

$$f(x) = (4 \cdot 7^x)(5\cos(x))$$

A $f'(x) = (4 \cdot 7^x)(-5\sin(x))$

B $f'(x) = (4 \cdot 7^x \ln 7)(5\cos(x))$

C $f'(x) = (4 \cdot 7^x \ln 7)(-5\sin(x))$

D $f'(x) = (4 \cdot 7^x \ln 7)(5\cos(x)) + (4 \cdot 7^x)(-5\sin(x))$

3

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

$$\text{if } h(x) = f(x)\,g(x),\ h'(x) = f'(x)\,g(x) + f(x)\,g'(x)$$

$$f(x) = (6^x)(\cos(x))$$

A $f'(x) = (6^x \ln 6)(\cos(x)) + (6^x)(-\sin(x))$

B $f'(x) = (6^x)(-\sin(x))$

C $f'(x) = (6^x \ln 6)(\cos(x))$

D $f'(x) = (6^x \ln 6)(-\sin(x))$

4

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

$$\text{if } h(x) = f(x)\,g(x),\ h'(x) = f'(x)\,g(x) + f(x)\,g'(x)$$

$$f(x) = (2 \cdot 8^x)(2\cos(x))$$

A $f'(x) = (2 \cdot 8^x \ln 8)(2\cos(x)) + (2 \cdot 8^x)(-2\sin(x))$

B $f'(x) = (2 \cdot 8^x \ln 8)(2\cos(x))$

C $f'(x) = (2 \cdot 8^x)(-2\sin(x))$

D $f'(x) = (2 \cdot 8^x \ln 8)(-2\sin(x))$

5

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

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

$$f(x) = (2 \cdot 8^x)(5\sin(x))$$

A $f'(x) = (2 \cdot 8^x \ln 8)(5\sin(x)) + (2 \cdot 8^x)(5\cos(x))$

B $f'(x) = (2 \cdot 8^x)(5\cos(x))$

C $f'(x) = (2 \cdot 8^x \ln 8)(5\cos(x))$

D $f'(x) = (2 \cdot 8^x \ln 8)(5\sin(x))$

6

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

$$\text{if } h(x) = f(x)\,g(x),\ h'(x) = f'(x)\,g(x) + f(x)\,g'(x)$$

$$f(x) = (4 \cdot 9^x)(\cos(x))$$

A $f'(x) = (4 \cdot 9^x \ln 9)(-\sin(x))$

B $f'(x) = (4 \cdot 9^x)(-\sin(x))$

C $f'(x) = (4 \cdot 9^x \ln 9)(\cos(x))$

D $f'(x) = (4 \cdot 9^x \ln 9)(\cos(x)) + (4 \cdot 9^x)(-\sin(x))$

7

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

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

$$f(x) = (4 \cdot 3^x)(\cos(x))$$

A $f'(x) = (4 \cdot 3^x \ln 3)(-\sin(x))$

B $f'(x) = (4 \cdot 3^x \ln 3)(\cos(x)) + (4 \cdot 3^x)(-\sin(x))$

C $f'(x) = (4 \cdot 3^x \ln 3)(\cos(x))$

D $f'(x) = (4 \cdot 3^x)(-\sin(x))$

8

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

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

$$f(x) = (2 \cdot 9^x)(5\cos(x))$$

A $f'(x) = (2 \cdot 9^x \ln 9)(5\cos(x))$

B $f'(x) = (2 \cdot 9^x)(-5\sin(x))$

C $f'(x) = (2 \cdot 9^x \ln 9)(5\cos(x)) + (2 \cdot 9^x)(-5\sin(x))$

D $f'(x) = (2 \cdot 9^x \ln 9)(-5\sin(x))$