Name

Derivative Rules - Natural Exponential Exponent Binomial (with Rule) to Derivative

1

Find the derivative f'(x) using the natural exponential rule and the chain rule.

$$\frac{d}{dx}e^u = e^u \cdot \frac{du}{dx}$$

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

A $f'(x) = 2(2x^3 - 3x)e^{2x^3-3x-1}$

B $f'(x) = 2e^{2x^3-3x} \cdot (2x^3 - 3x)$

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

D $f'(x) = 2e^{2x^3-3x}$

2

Find the derivative f'(x) using the natural exponential rule and the chain rule.

$$\frac{d}{dx}e^u = e^u \cdot \frac{du}{dx}$$

$$f(x) = 4e^{3x^4-2x^2}$$

A $f'(x) = 4(3x^4 - 2x^2)e^{3x^4-2x^2-1}$

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

C $f'(x) = 4e^{3x^4-2x^2} \cdot (3x^4 - 2x^2)$

D $f'(x) = 4e^{3x^4-2x^2} \cdot (12x^3 - 4x)$

3

Find the derivative f'(x) using the natural exponential rule and the chain rule.

$$\frac{d}{dx}e^u = e^u \cdot \frac{du}{dx}$$

$$f(x) = 4e^{3x^2-x}$$

A $f'(x) = 4e^{3x^2-x}$

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

C $f'(x) = 4e^{3x^2-x} \cdot (6x - 1)$

D $f'(x) = 4(3x^2 - x)e^{3x^2-x-1}$

4

Find the derivative f'(x) using the natural exponential rule and the chain rule.

$$\frac{d}{dx}e^u = e^u \cdot \frac{du}{dx}$$

$$f(x) = 2e^{2x^2-x}$$

A $f'(x) = 2e^{2x^2-x} \cdot (2x^2 - x)$

B $f'(x) = 2e^{2x^2-x} \cdot (4x - 1)$

C $f'(x) = 2(2x^2 - x)e^{2x^2-x-1}$

D $f'(x) = 2e^{2x^2-x}$

5

Find the derivative f'(x) using the natural exponential rule and the chain rule.

$$\frac{d}{dx}e^u = e^u \cdot \frac{du}{dx}$$

$$f(x) = 5e^{x^2-x}$$

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

B $f'(x) = 5e^{x^2-x} \cdot (2x - 1)$

C $f'(x) = 5(x^2 - x)e^{x^2-x-1}$

D $f'(x) = 5e^{x^2-x}$

6

Find the derivative f'(x) using the natural exponential rule and the chain rule.

$$\frac{d}{dx}e^u = e^u \cdot \frac{du}{dx}$$

$$f(x) = 3e^{3x^3-3x}$$

A $f'(x) = 3e^{3x^3-3x}$

B $f'(x) = 3e^{3x^3-3x} \cdot (3x^3 - 3x)$

C $f'(x) = 3(3x^3 - 3x)e^{3x^3-3x-1}$

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

7

Find the derivative f'(x) using the natural exponential rule and the chain rule.

$$\frac{d}{dx}e^u = e^u \cdot \frac{du}{dx}$$

$$f(x) = 4e^{2x^4-3x^2}$$

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

B $f'(x) = 4(2x^4 - 3x^2)e^{2x^4-3x^2-1}$

C $f'(x) = 4e^{2x^4-3x^2}$

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

8

Find the derivative f'(x) using the natural exponential rule and the chain rule.

$$\frac{d}{dx}e^u = e^u \cdot \frac{du}{dx}$$

$$f(x) = 3e^{3x^3-x}$$

A $f'(x) = 3e^{3x^3-x}$

B $f'(x) = 3e^{3x^3-x} \cdot (3x^3 - x)$

C $f'(x) = 3(3x^3 - x)e^{3x^3-x-1}$

D $f'(x) = 3e^{3x^3-x} \cdot (9x^2 - 1)$