



Derivative Rules - Multi Trigonometric Natural and General Exponential to Derivative

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

$$f(x) = 4 \cos(x) + e^x + 4 \cdot 2^x$$

$$A f'(x) = -4 \sin(x) + e^x + 4 \cdot 2^x \quad B f'(x) = -4 \sin(x) + e^x + 4 \cdot 2^x \ln 2$$

$$C f'(x) = 4 \sin(x) + e^x + 4 \cdot 2^x \ln 2 \quad D f'(x) = 4 \cos(x) + e^x + 4 \cdot 2^x$$

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

$$f(x) = \sin(x) + 2e^x + 9^x$$

$$A f'(x) = \cos(x) + 2e^x + 9^x \ln 9 \quad B f'(x) = \sin(x) + 2e^x + 9^x$$

$$C f'(x) = \cos(x) + 2e^x + 9^x \quad D f'(x) = -\cos(x) + 2e^x + 9^x \ln 9$$

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

$$f(x) = 2 \sin(x) + 2e^x + 6^x$$

$$A f'(x) = 2 \sin(x) + 2e^x + 6^x \quad B f'(x) = -2 \cos(x) + 2e^x + 6^x \ln 6$$

$$C f'(x) = 2 \cos(x) + 2e^x + 6^x \quad D f'(x) = 2 \cos(x) + 2e^x + 6^x \ln 6$$

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

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

$$A f'(x) = -4 \sin(x) + e^x + 4 \cdot 5^x \quad B f'(x) = -4 \sin(x) + e^x + 4 \cdot 5^x \ln 5$$

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

5 $f(x) = 5 \cos(x) + 3e^x + 5 \cdot 8^x$

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

A	B	C	D
$f'(x) = -5 \sin(x) + 3e^x + 5 \cdot 8^x$	$f'(x) = 5 \sin(x) + 3e^x + 5 \cdot 8^x \ln 8$	$f'(x) = 5 \cos(x) + 3e^x + 5 \cdot 8^x$	$f'(x) = -5 \sin(x) + 3e^x + 5 \cdot 8^x \ln 8$

6 $f(x) = 3 \sin(x) + 2e^x + 3 \cdot 5^x$

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

A	B	C	D
$f'(x) = 3 \cos(x) + 2e^x + 3 \cdot 5^x$	$f'(x) = 3 \sin(x) + 2e^x + 3 \cdot 5^x$	$f'(x) = 3 \cos(x) + 2e^x + 3 \cdot 5^x \ln 5$	$f'(x) = -3 \cos(x) + 2e^x + 3 \cdot 5^x \ln 5$

7 $f(x) = 5 \cos(x) + 2e^x + 3 \cdot 8^x$

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

A	B	C	D
$f'(x) = 5 \cos(x) + 2e^x + 3 \cdot 8^x$	$f'(x) = -5 \sin(x) + 2e^x + 3 \cdot 8^x \ln 8$	$f'(x) = -5 \sin(x) + 2e^x + 3 \cdot 8^x$	$f'(x) = 5 \sin(x) + 2e^x + 3 \cdot 8^x \ln 8$

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

$$f(x) = \sin(x) + 3e^x + 4 \cdot 6^x$$

$$A f'(x) = \sin(x) + 3e^x + 4 \cdot 6^x \quad B f'(x) = \cos(x) + 3e^x + 4 \cdot 6^x \ln 6$$

$$C f'(x) = -\cos(x) + 3e^x + 4 \cdot 6^x \ln 6 \quad D f'(x) = \cos(x) + 3e^x + 4 \cdot 6^x$$