



Derivative Rules - Multi Product General Exponential Trigonometric to Derivative

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

$$f(x) = (4 \cdot 9^x) (3 \cos(x))$$

$$A f'(x) = (4 \cdot 9^x \ln 9) (3 \cos(x)) \quad B f'(x) = (4 \cdot 9^x) (-3 \sin(x))$$

$$C f'(x) = (4 \cdot 9^x \ln 9) (3 \cos(x)) + (4 \cdot 9^x) (-3 \sin(x)) \quad D f'(x) = (4 \cdot 9^x \ln 9) (-3 \sin(x))$$

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

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

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

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

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

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

$$A f'(x) = (5^x \ln 5) (2 \cos(x)) \quad B f'(x) = (5^x \ln 5) (-2 \sin(x))$$

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

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

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

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

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

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

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

$$A f'(x) = (3 \cdot 5^x \ln 5) (-\sin(x)) \quad B f'(x) = (3 \cdot 5^x) (-\sin(x))$$

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

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

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

$$A f'(x) = (5 \cdot 7^x \ln 7) (\cos(x)) \quad B f'(x) = (5 \cdot 7^x \ln 7) (-\sin(x))$$

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

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

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

$$A f'(x) = (3^x \ln 3) (-\sin(x)) \quad B f'(x) = (3^x) (-\sin(x))$$

$$C f'(x) = (3^x \ln 3) (\cos(x)) + (3^x) (-\sin(x)) \quad D f'(x) = (3^x \ln 3) (\cos(x))$$

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

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

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

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