Name

Derivative Rules - Multi Chain General Exponential Trigonometric to Derivative

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

$$f(x) = (4 \cdot 7^x + 4\cos(x))^{-1}$$

A $f'(x) = -(4 \cdot 7^x + 4\cos(x))^{-2}$

B $f'(x) = -(4 \cdot 7^x + 4\cos(x))^{-2} \cdot (4 \cdot 7^x \ln 7 - 4\sin(x))$

C $f'(x) = (4 \cdot 7^x + 4\cos(x))^{-2} \cdot (4 \cdot 7^x \ln 7 - 4\sin(x))$

D $f'(x) = -(4 \cdot 7^x + 4\cos(x))^{-1} \cdot (4 \cdot 7^x \ln 7 - 4\sin(x))$

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

$$f(x) = (5 \cdot 3^x + 5\cos(x))^{-1}$$

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

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

C $f'(x) = -(5 \cdot 3^x + 5\cos(x))^{-1} \cdot (5 \cdot 3^x \ln 3 - 5\sin(x))$

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

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

$$f(x) = \frac{1}{(5 \cdot 4^x + \cos(x))}$$

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

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

C $f'(x) = -(5 \cdot 4^x + \cos(x))^{-1} \cdot (5 \cdot 4^x \ln 4 - \sin(x))$

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

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

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

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

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

C $f'(x) = 4(3 \cdot 9^x + \sin(x))^3$

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

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

$$f(x) = (8^x + 5\cos(x))^2$$

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

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

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

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

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

$$f(x) = (4 \cdot 7^x + 2\cos(x))^{-2}$$

A $f'(x) = -2(4 \cdot 7^x + 2\cos(x))^{-3}$

B $f'(x) = -2(4 \cdot 7^x + 2\cos(x))^{-3} \cdot (4 \cdot 7^x \ln 7 - 2\sin(x))$

C $f'(x) = -2(4 \cdot 7^x + 2\cos(x))^{-2} \cdot (4 \cdot 7^x \ln 7 - 2\sin(x))$

D $f'(x) = (4 \cdot 7^x + 2\cos(x))^{-3} \cdot (4 \cdot 7^x \ln 7 - 2\sin(x))$

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

$$f(x) = (4 \cdot 3^x + \cos(x))^{-1}$$

A $f'(x) = (4 \cdot 3^x + \cos(x))^{-2} \cdot (4 \cdot 3^x \ln 3 - \sin(x))$

B $f'(x) = -(4 \cdot 3^x + \cos(x))^{-1} \cdot (4 \cdot 3^x \ln 3 - \sin(x))$

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

D $f'(x) = -(4 \cdot 3^x + \cos(x))^{-2} \cdot (4 \cdot 3^x \ln 3 - \sin(x))$

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

$$f(x) = (4 \cdot 7^x + 2\cos(x))^{\frac{1}{2}}$$

A $f'(x) = \frac{1}{2}(4 \cdot 7^x + 2\cos(x))^{-\frac{1}{2}} \cdot (4 \cdot 7^x \ln 7 - 2\sin(x))$

B $f'(x) = \frac{1}{2}(4 \cdot 7^x + 2\cos(x))^{-\frac{1}{2}}$

C $f'(x) = \frac{1}{2}(4 \cdot 7^x + 2\cos(x))^{\frac{1}{2}} \cdot (4 \cdot 7^x \ln 7 - 2\sin(x))$

D $f'(x) = (4 \cdot 7^x + 2\cos(x))^{-\frac{1}{2}} \cdot (4 \cdot 7^x \ln 7 - 2\sin(x))$