



Derivative Rules - Trigonometric Angle with Coefficient to Derivative

1 Find the derivative $f'(x)$ using the trigonometric rules and the chain rule.

$$f(x) = 5 \sin(2x)$$

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

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

C $f'(x) = 10 \cos(2x)$

D $f'(x) = 10 \sin(2x)$

2 Find the derivative $f'(x)$ using the trigonometric rules and the chain rule.

$$f(x) = 4 \cos(2x)$$

A $f'(x) = -8 \sin(2x)$

B $f'(x) = -4 \sin(2x) \cdot (2x)$

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

D $f'(x) = -4 \sin(2x)$

3 Find the derivative $f'(x)$ using the trigonometric rules and the chain rule.

$$f(x) = 5 \sin\left(\frac{1}{2}\pi x\right)$$

A $f'(x) = 5 \cos\left(\frac{1}{2}\pi x\right) \cdot \left(\frac{1}{2}\pi x\right)$

B $f'(x) = \frac{5}{2}\pi \sin\left(\frac{1}{2}\pi x\right)$

C $f'(x) = \frac{5}{2}\pi \cos\left(\frac{1}{2}\pi x\right)$

D $f'(x) = 5 \cos\left(\frac{1}{2}\pi x\right)$

4 Find the derivative $f'(x)$ using the trigonometric rules and the chain rule.

$$f(x) = \sin\left(\frac{2}{3}x\right)$$

A $f'(x) = \cos\left(\frac{2}{3}x\right)$

B $f'(x) = \frac{2}{3} \cos\left(\frac{2}{3}x\right)$

C $f'(x) = \cos\left(\frac{2}{3}x\right) \cdot \left(\frac{2}{3}x\right)$

D $f'(x) = \frac{2}{3} \sin\left(\frac{2}{3}x\right)$

5 Find the derivative $f'(x)$ using the trigonometric rules and the chain rule.

$$f(x) = 3 \sin\left(\frac{2}{3}x\right)$$

A $f'(x) = 3 \cos\left(\frac{2}{3}x\right) \cdot \left(\frac{2}{3}x\right)$

B $f'(x) = 2 \cos\left(\frac{2}{3}x\right)$

C $f'(x) = 2 \sin\left(\frac{2}{3}x\right)$

D $f'(x) = 3 \cos\left(\frac{2}{3}x\right)$

6 Find the derivative $f'(x)$ using the trigonometric rules and the chain rule.

$$f(x) = \cos(2\pi x)$$

A $f'(x) = -\sin(2\pi x)$

B $f'(x) = -\sin(2\pi x) \cdot (2\pi x)$

C $f'(x) = 2\pi \cos(2\pi x)$

D $f'(x) = -2\pi \sin(2\pi x)$

7 Find the derivative $f'(x)$ using the trigonometric rules and the chain rule.

$$f(x) = 5 \sin\left(\frac{1}{3}\pi x\right)$$

A $f'(x) = 5 \cos\left(\frac{1}{3}\pi x\right)$

B $f'(x) = \frac{5}{3}\pi \cos\left(\frac{1}{3}\pi x\right)$

C $f'(x) = 5 \cos\left(\frac{1}{3}\pi x\right) \cdot \left(\frac{1}{3}\pi x\right)$

D $f'(x) = \frac{5}{3}\pi \sin\left(\frac{1}{3}\pi x\right)$

8 Find the derivative $f'(x)$ using the trigonometric rules and the chain rule.

$$f(x) = 4 \sin(2x)$$

A $f'(x) = 4 \cos(2x)$

B $f'(x) = 4 \cos(2x) \cdot (2x)$

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

D $f'(x) = 8 \sin(2x)$