Name

Derivative Rules - Trigonometric Angle with Power to Derivative

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

$$f(x) = 2\cos\left(x^4\right)$$

A $f'(x) = -2\sin\left(x^4\right)$	B $f'(x) = -2\sin\left(x^4\right) \cdot 4x^3$
C $f'(x) = 2\cos\left(x^4\right) \cdot 4x^3$	D $f'(x) = -2\sin\left(x^4\right) \cdot (x^4)$

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

$$f(x) = 4\cos\left(x^3\right)$$

A $f'(x) = 4\cos\left(x^3\right) \cdot 3x^2$	B $f'(x) = -4\sin\left(x^3\right) \cdot (x^3)$
C $f'(x) = -4\sin\left(x^3\right)$	D $f'(x) = -4\sin\left(x^3\right) \cdot 3x^2$

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

$$f(x) = 5\sin\left(x^2\right)$$

A $f'(x) = 5\cos\left(x^2\right) \cdot (x^2)$	B $f'(x) = 5\cos\left(x^2\right)$
C $f'(x) = 5\cos\left(x^2\right) \cdot 2x$	D $f'(x) = 5\sin\left(x^2\right) \cdot 2x$

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

$$f(x) = 4\cos\left(x^{-1}\right)$$

A $f'(x) = -4\sin\left(x^{-1}\right) \cdot (x^{-1})$	B $f'(x) = -4\sin\left(x^{-1}\right) \cdot (-x^{-2})$
C $f'(x) = -4\sin\left(x^{-1}\right)$	D $f'(x) = 4\cos\left(x^{-1}\right) \cdot (-x^{-2})$

5 Find the derivative f'(x) using the trigonometric rules and the chain rule. $f(x) = \cos\left(x^2\right)$

A $f'(x) = \cos\left(x^2\right) \cdot 2x$	B $f'(x) = -\sin\left(x^2\right) \cdot (x^2)$
C $f'(x) = -\sin\left(x^2\right)$	D $f'(x) = -\sin\left(x^2\right) \cdot 2x$

6 Find the derivative f'(x) using the trigonometric rules and the chain rule. $f(x) = \sin\left(x^{-2}\right)$

A $f'(x) = \cos\left(x^{-2}\right)$	B $f'(x) = \cos\left(x^{-2}\right) \cdot (-2x^{-3})$
C $f'(x) = \sin\left(x^{-2}\right) \cdot (-2x^{-3})$	D $f'(x) = \cos\left(x^{-2}\right) \cdot (x^{-2})$

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

$$f(x) = 5\sin\left(x^4\right)$$

A $f'(x) = 5\cos\left(x^4\right) \cdot (x^4)$	B $f'(x) = 5\cos\left(x^4\right)$
C $f'(x) = 5\cos\left(x^4\right) \cdot 4x^3$	D $f'(x) = 5\sin\left(x^4\right) \cdot 4x^3$

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

$$f(x) = 2\cos\left(x^2\right)$$

A $f'(x) = -2\sin\left(x^2\right) \cdot (x^2)$	B $f'(x) = 2\cos\left(x^2\right) \cdot 2x$
C $f'(x) = -2\sin\left(x^2\right) \cdot 2x$	D $f'(x) = -2\sin\left(x^2\right)$