Name

Derivative Rules - Trigonometric Angle with Radical (with Rule) to Derivative

1

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

$\frac{d}{dx}\cos(u) = -\sin(u)\cdot\frac{du}{dx}$

$f(x) = 5\cos(2\sqrt{x})$

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

B $f'(x) = -5\sin(2\sqrt{x})\cdot\frac{1}{\sqrt{x}}$

C $f'(x) = -5\sin(2\sqrt{x})$

D $f'(x) = -5\sin(2\sqrt{x})\cdot(2\sqrt{x})$

2

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

$\frac{d}{dx}\sin(u) = \cos(u)\cdot\frac{du}{dx}$

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

A $f'(x) = 2\sin\left(\frac{1}{\sqrt{x}}\right)\cdot\left(-\frac{1}{\sqrt{x^3}}\right)$

B $f'(x) = 2\cos\left(\frac{1}{\sqrt{x}}\right)$

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

D $f'(x) = 2\cos\left(\frac{1}{\sqrt{x}}\right)\cdot\left(-\frac{1}{\sqrt{x^3}}\right)$

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D $f'(x) = 2\sin(2\sqrt{x})\cdot\frac{1}{\sqrt{x}}$

4

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

$\frac{d}{dx}\sin(u) = \cos(u)\cdot\frac{du}{dx}$

$f(x) = \sin\left(\frac{1}{\sqrt[3]{x}}\right)$

A $f'(x) = \cos\left(\frac{1}{\sqrt[3]{x}}\right)\cdot\left(\frac{1}{\sqrt[3]{x}}\right)$

B $f'(x) = \cos\left(\frac{1}{\sqrt[3]{x}}\right)$

C $f'(x) = \cos\left(\frac{1}{\sqrt[3]{x}}\right)\cdot\left(-\frac{1}{\sqrt[3]{x^4}}\right)$

D $f'(x) = \sin\left(\frac{1}{\sqrt[3]{x}}\right)\cdot\left(-\frac{1}{\sqrt[3]{x^4}}\right)$

5

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

$\frac{d}{dx}\sin(u) = \cos(u)\cdot\frac{du}{dx}$

$f(x) = 4\sin\left(\frac{1}{\sqrt[3]{x}}\right)$

A $f'(x) = 4\cos\left(\frac{1}{\sqrt[3]{x}}\right)\cdot\left(\frac{1}{\sqrt[3]{x}}\right)$

B $f'(x) = 4\sin\left(\frac{1}{\sqrt[3]{x}}\right)\cdot\left(-\frac{1}{\sqrt[3]{x^4}}\right)$

C $f'(x) = 4\cos\left(\frac{1}{\sqrt[3]{x}}\right)$

D $f'(x) = 4\cos\left(\frac{1}{\sqrt[3]{x}}\right)\cdot\left(-\frac{1}{\sqrt[3]{x^4}}\right)$

6

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

$\frac{d}{dx}\sin(u) = \cos(u)\cdot\frac{du}{dx}$

$f(x) = 4\sin\left(\frac{1}{\sqrt{x}}\right)$

A $f'(x) = 4\sin\left(\frac{1}{\sqrt{x}}\right)\cdot\left(-\frac{1}{\sqrt{x^3}}\right)$

B $f'(x) = 4\cos\left(\frac{1}{\sqrt{x}}\right)\cdot\left(\frac{1}{\sqrt{x}}\right)$

C $f'(x) = 4\cos\left(\frac{1}{\sqrt{x}}\right)\cdot\left(-\frac{1}{\sqrt{x^3}}\right)$

D $f'(x) = 4\cos\left(\frac{1}{\sqrt{x}}\right)$

7

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

$\frac{d}{dx}\cos(u) = -\sin(u)\cdot\frac{du}{dx}$

$f(x) = \cos\left(\frac{1}{\sqrt{x}}\right)$

A $f'(x) = -\sin\left(\frac{1}{\sqrt{x}}\right)\cdot\left(-\frac{1}{\sqrt{x^3}}\right)$

B $f'(x) = -\sin\left(\frac{1}{\sqrt{x}}\right)\cdot\left(\frac{1}{\sqrt{x}}\right)$

C $f'(x) = -\sin\left(\frac{1}{\sqrt{x}}\right)$

D $f'(x) = \cos\left(\frac{1}{\sqrt{x}}\right)\cdot\left(-\frac{1}{\sqrt{x^3}}\right)$

8

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

$\frac{d}{dx}\cos(u) = -\sin(u)\cdot\frac{du}{dx}$

$f(x) = 4\cos(\sqrt{x})$

A $f'(x) = -4\sin(\sqrt{x})\cdot(\sqrt{x})$

B $f'(x) = 4\cos(\sqrt{x})\cdot\frac{1}{\sqrt{x}}$

C $f'(x) = -4\sin(\sqrt{x})$

D $f'(x) = -4\sin(\sqrt{x})\cdot\frac{1}{\sqrt{x}}$