

Calculus 1 - Find the derivative for the following functions.

Name _____

Find the derivative for the following functions

1) $g(x) = 2 \cot x$

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

3) $y = 3x^{-4} \sec x$

$g'(x) = -2 \csc^2 x$

$f'(x) = -\pi \csc x \cdot \cot x$

$y' = -12x^{-5} \sec x + 3x^{-4} \sec x \tan x$

4) $h(t) = 3 \sec t \sin t$

5) $y = x^3 \cos x$

6) $y = \frac{5 \sin x}{x}$

$h'(t) = 3 \sec t \tan t \sin t + 3 \sec t \cdot \cos t$

$y' = \frac{x \cdot 5 \cos x - 5 \sin x \cdot 1}{x^2} = \frac{5x \cos x - 5 \sin x}{x^2}$

$= 3 \sec t \tan t \sin t + 3$
 $= 3 \tan^2 t + 3$

$y' = 3x^2 \cos x - x^3 \sin x$

7) $f(x) = \cos x \tan x$

8) $g(x) = \frac{\cos x}{\csc x} = \frac{-\sin x + \cos x \cot x}{\csc x}$

9) $y = (2x^2 - 6x) \tan x$

$f'(x) = -\sin x \tan x + \cos x \sec^2 x$

$g'(x) = \frac{-\csc x \sin x + \cos x \csc x \cot x}{\csc^2 x}$

$y' = (4x - 6) \tan x + (2x^2 - 6x) \sec^2 x$

$= -\sin x \tan x + \sec x$
simplify

Calculus 1 - Find the derivative for the following functions.

Name _____

Find the derivative for the following functions

1) $g(x) = 2 \cot x$

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

3) $y = 3x^{-4} \sec x$

4) $h(t) = 3 \sec t \sin t$

5) $y = x^3 \cos x$

6) $y = \frac{5 \sin x}{x}$

7) $f(x) = \cos x \tan x$

8) $g(x) = \frac{\cos x}{\csc x}$

9) $y = (2x^2 - 6x) \tan x$

Calculus 1 - Find the derivative for the following functions.

Name _____

Find the derivative for the following functions

1) $g(x) = 2 \cot x$

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

3) $y = 3x^{-4} \sec x$

4) $h(t) = 3 \sec t \sin t$

5) $y = x^3 \cos x$

6) $y = \frac{5 \sin x}{x}$

7) $f(x) = \cos x \tan x$

8) $g(x) = \frac{\cos x}{\csc x}$

9) $y = (2x^2 - 6x) \tan x$