

Basic trig derivatives

1. $D\{\sin x\} = \cos x$
2. $D\{\cos x\} = -\sin x$
3. $D\{\tan x\} = \sec^2 x$
4. $D\{\sec x\} = \sec x \tan x$
5. $D\{\csc x\} = -\csc x \cot x$
6. $D\{\cot x\} = -\csc^2 x$

○ *PROBLEM 1* : Differentiate $y = 3 \sin x - 4 \cos x$.

○ *PROBLEM 2* : Differentiate $y = x^3 \tan x$.

○ *PROBLEM 3* : Differentiate $f(x) = \frac{\cos x}{1 + \sin x}$.

○ *PROBLEM 4* : Differentiate $y = \csc x \cot x$.

○ *PROBLEM 5* : Differentiate $y = \frac{\sin^2 x}{\cos^2 x}$.

○ *PROBLEM 6* : Differentiate $y = \sin(2x) + \cos^2 x$.