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If  $y = \sin x$   
then  $\frac{dy}{dx} = \cos x$   
If  $y = \cos x$   
then  $\frac{dy}{dx} = -\sin x$   
If  $y = \tan x$   
then  $\frac{dy}{dx} = \sec^2 x$   
If  $y = \cot x$   
then  $\frac{dy}{dx} = -\operatorname{cosec}^2 x$   
If  $y = \sec x$   
then  $\frac{dy}{dx} = \sec x \tan x$   
If  $y = \operatorname{cosec} x$   
then  $\frac{dy}{dx} = -\operatorname{cosec} x \cot x$

If  $y = \sin^{-1} x$   
then  $\frac{dy}{dx} = \frac{1}{\sqrt{1-x^2}}$   
If  $y = \cos^{-1} x$   
then  $\frac{dy}{dx} = \frac{-1}{\sqrt{1-x^2}}$   
If  $y = \tan^{-1} x$   
then  $\frac{dy}{dx} = \frac{1}{1+x^2}$   
If  $y = \cot^{-1} x$   
then  $\frac{dy}{dx} = \frac{-1}{1+x^2}$   
If  $y = \sec^{-1} x$   
then  $\frac{dy}{dx} = \frac{1}{x\sqrt{x^2-1}}$   
If  $y = \operatorname{cosec}^{-1} x$   
then  $\frac{dy}{dx} = \frac{1}{x\sqrt{x^2-1}}$

If  $y = \sin^{-1} x$

