Student Name: _____ **Score:**

Derivatives of Inverse of Trigonometric Functions

Find the derivatives of inverse of trigonometric functions:

$y = 7\sin^{-1} 10x$

$y = \cos^{-1}(1 - 3x^2)$

$y = \tan^{-}$

$\text{c}^{-1} 2x$

$y = \frac{29}{4}$ c

$y = \sec^{-}$

$y = \sin^{-1}(2x + 1)$

$y = x^2 + \cos^{-1} x$

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Answer key

Derivatives of Inverse of Trigonometric Functions

$\frac{dy}{dx} = \frac{70}{\sqrt{1-100x^2}}$

$\frac{dy}{dx} = \frac{6x}{\sqrt{1-(1-3x^2)^2}}$ *or* $\frac{6}{\sqrt{6-9x^2}}$

$\frac{dy}{dx} = \frac{1}{1+x}$

$\frac{dy}{dx} =$

$\frac{dy}{dx} =$

$\frac{dy}{dx} =$

$\frac{dy}{dx} =$ $\sec^{-1} x$

$\frac{dy}{dx} = \frac{2}{\sqrt{1-(2x+1)^2}}$ *or* $\frac{1}{\sqrt{-x^2-x}}$

$\frac{dy}{dx} = 2x - \frac{1}{\sqrt{1-x^2}}$