

# Math 2315 - Calculus 2

Quiz #8 - 2017.02.08

Solutions

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Compute the following derivative:  $\frac{d}{dx} \tan^{-1}(\sin(3x))$

We use the chain rule here:

$$\begin{aligned} \frac{d}{dx} \tan^{-1}(\sin(3x)) &= \frac{1}{1 + \sin^2(3x)} \cdot \frac{d}{dx} \sin(3x) \\ &= \frac{3 \cos(3x)}{1 + \sin^2(3x)} \end{aligned}$$