MATH 205 – Calculus I **SQ 3.10**

Name: _____ Date: _____

1. Fill in the following derivative rules:

$\frac{d}{dx}\sqrt{x} =$

$\frac{d}{dx}\csc x =$

$\frac{d}{dx}x^n =$

$\frac{d}{dx}\tan x =$

$\frac{d}{dx}\frac{1}{x} =$

$\frac{d}{dx}b^x =$

$\frac{d}{dx}\cot x =$

$\frac{d}{dx}\cos x =$

$\frac{d}{dx}x =$

$\frac{d}{dx}\sin x =$

$\frac{d}{dx}\sec x =$

$\frac{d}{dx}e^x =$

$\frac{d}{dx}\log_b x =$

$\frac{d}{dx}\ln x =$

$\frac{d}{dx}\text{arcsec}\, x =$

$\frac{d}{dx}\arcsin x =$

$\frac{d}{dx}\arccos x =$

$\frac{d}{dx}\arctan x =$

$\frac{d}{dx}\text{arccsc}\, x$

$\frac{d}{dx}\text{arccot}\, x =$

Instructions: Though calculators can be used for the entire daily question, all problems require you to show your work. Any answer without proper justification will receive ***ZERO*** credit. Only **EXACT** answers will receive full credit unless otherwise noted.

2. Determine $f'(x)$ for $f(x) = 3\sin^{-1}(4x^2 - 1)$

3. Determine $g''(x)$ for $g(x) = \arctan(7x^3)$