Alan Tupaj	Derivatives of Trig Functions and Chain Rule
Vista Murrieta High School	AP Readiness Session 2
(Click on Teachers then Alan Tupaj)	Answers to examples posted on my website
Derivative Rules	<b>Examples</b> : For each function, find $f'(x)$
Derivatives of Trigonometric Functions:	
d	$f(x) = 3\cos x - 5\cot x$
$\frac{d}{dx}(\sin x) = \cos x$	
$\frac{d}{dx}(\cos x) = -\sin x$	
$\frac{d}{dx}(\tan x) = \sec^2 x$	$f(x) = \frac{x^2}{x + \sec x}$
$\frac{d}{dx}(\cot x) = -\csc^2 x$	
$\frac{d}{dx}(\sec x) = \sec x \tan x$	
$\frac{d}{dx}(\csc x) = -\csc x \cot x$	
Derivative of the composition of two	
functions	$f(x) = \sqrt{x^4 - 6x^2 + 3}$
Chain Rule:	$\int (x) - \sqrt{x} = 0x + 3$
$\frac{d}{dx}f(g(x)) = f'(g(x))g'(x)$	
	$f(x) = (x^3 - 5)^4(\tan(2x))$

Differentiate outside function first $f(x) = \cos(x^3)$	
Differentiate outside function first $f(x) = \cos(x^3)$	
$f(x) = \cos^3(x)$	
Multiple functions inside of functions $f(x) = 3\sin^4(x^3 - 2x)$	
Work from outside to inside	
Multiply by each derivative	