AP CALC FACTS TO REMEMBER

FOILing – put an example of foiling here.

Factoring - put an example of factoring a quadratic here.

Convert the radian measures to degrees.

Radians	Degrees
$\frac{\pi}{6}$	
$\frac{\pi}{4}$	
$\frac{\pi}{3}$	
$\frac{\pi}{2}$	
π	
$\frac{3\pi}{2}$	
2π	

Do you know the values of sine, cosine and tangent for certain angles?

	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$
$\sin\theta =$			
$\cos\theta =$			
$\tan\theta =$			

$\sin 0 =$ $\cos 0 =$

$\sin\frac{\pi}{2} =$ $\cos\frac{\pi}{2} =$

$\sin\pi =$ $\cos\pi =$

$\sin\frac{3\pi}{2} =$ $\cos\frac{3\pi}{2} =$

$\sin 2\pi =$ $\cos 2\pi =$

THINGS TO REMEBER

$\frac{1}{\cos x} = \sec x$ $\frac{1}{\sin x} = \csc x$ $\sin^2 x + \cos^2 x = 1$

EXPONENTS

$\sqrt{x} = x^{\frac{1}{2}}$	$\sqrt[3]{x^2} = x^{\frac{2}{3}}$	$\frac{1}{x} = x^{-1}$	$\frac{1}{x^2} = x^{-2}$

FINDING LIMITS

LIMIT DEFINITION OF THE DERIVATIVE

Derivative Rules

Derivative of a constant

Derivative of a constant times a function

Derivative of two functions added together

Derivative of a linear function

Derivative of a polynomial

Do you remember the product rule? If not, put the product rule below along with an example problem.
Do you remember the quotient rule? If not, put the quotient rule below along with an example problem.
Do you remember the chain rule? If not, put the chain rule below along with an example problem.

BASIC DERIVATIVES

$f(x)$	$f'(x)$
5	
x	
$3x$	
x^2	
$3x+5$	
$3x^2$	
$3x^2+5x-6$	
$\frac{1}{x}$	
$\frac{1}{x^2}$	
x^{-3}	
$\sqrt{x}$	
$\frac{1}{\sqrt{x}}$	
e^x	
2^x	
$4(2^x)$	
$\sin x$	
$\cos x$	
$\tan x$	
$\ln(x)$	

BASIC ANTIDERIVATIVES

$f(x)$	$F(x)$
5	
x	
$2x$	
x^2	
$3x+5$	
$3x^2$	
$3x^2+5x-6$	
$\frac{1}{x}$	
$\frac{1}{x^2}$	
x^{-3}	
$\sqrt{x}$	
$\frac{1}{\sqrt{x}}$	
e^x	
2^x	
$4\left(2^x\right)$	
$\sin x$	
$\cos x$	
$\sec^2 x$	

Meaning of f, its derivative and its second derivative

	What is it?	If…	then we know
f	The y-value of the original function f	$f < 0$	
		$f > 0$	
		$f = 0$	
f'	The slope of f	$f' < 0$	
		$f' > 0$	
		$f' = 0$	
f''	The change in the slope of f, we can also say this as whether f' is increasing or decreasing	$f'' < 0$	
		$f'' > 0$	
		$f'' = 0$	

If…	Then…
f is increasing	
f has a maximum	
f has a minimum	
f is constant	
f is decreasing	
f is concave up	
f has a point of inflection	
f is concave down	