Some Basic Derivative Formulas

Here are some formulas that let us compute derivatives without having to go through the process of using a computer microscope. First some general rules:

Function	Derivative
$cf(x)$	$cf'(x)$
$f(x) + g(x)$	$f'(x) + g'(x)$
$f(x)g(x)$	$f'(x)g(x) + f(x)g'(x)$
$\dfrac{f(x)}{g(x)}$	$\dfrac{f'(x)g(x) - f(x)g'(x)}{(g(x))^2}$
$f(g(x))$	$f'(g(x))g'(x)$

And here is a table that you should memorize:

Function	Derivative
cx^p	cpx^{p-1}
$\sin(x)$	$\cos(x)$
$\cos(x)$	$-\sin(x)$
$\tan(x)$	$\sec^2(x)$
$\cot(x)$	$-\csc^2(x)$
$\sec(x)$	$\sec(x)\tan(x)$
$\csc(x)$	$-\csc(x)\cot(x)$
b^x	$\ln(b)b^x$
e^x	e^x