Trig Identities

$tan(x) = \frac{sin(x)}{cos(x)}$, $csc(x) = \frac{1}{sin(x)}$, $sec(x) = \frac{1}{cos(x)}$
$sin^2(x) + cos^2(x) = 1$, $tan^2(x) + 1 = sec^2(x)$
$cot^2(x) + 1 = csc^2(x)$, $sin(2\theta) = 2sin(\theta)cos(\theta)$
$cos(2\theta) = cos^2(\theta) - sin^2(\theta)$
$tan(2\theta) = \frac{2tan(\theta)}{1-tan^2(\theta)}$, $sin^2(x) = \frac{1-cos(2x)}{2}$
$cos^2(x) = \frac{1+cos(2x)}{2}$

Derivatives

$d(sinx) = cosx$, $d(cosx) = -sinx$, $d(tanx) = sec^2x$
$d(secx) = secxtanx$, $d(cscx) = -cscxcotx$
$d(cotx) = -csc^2x$
$d(sin^{-1}x) = \frac{1}{\sqrt{1-x^2}}$, $d(cos^{-1}x) = \frac{-1}{\sqrt{1-x^2}}$
$d(tan^{-1}x) = \frac{1}{1+x^2}$, $d(sec^{-1}x) = \frac{1}{|x|\sqrt{x^2-1}}$
$d(csc^{-1}x) = \frac{-1}{|x|\sqrt{x^2-1}}$, $d(cot^{-1}x) = \frac{-1}{1+x^2}$

Integrals

$\int sinx = -cosx + C$, $\int cosx = sinx + C$, $\int tanx = -ln|cosx| + C$, $\int secx = ln|secx + tanx| + C$, $\int cscx = -ln|cscx + cotx| + C$, $\int cotx = ln|sinx| + C$, $\int sec^2x = tanx + C$, $\int csc^2x = -cotx+C$, $\int secxtanx = secx+C$, $\int cscxcotx = -cscx + C$, $\int tan^2x = tanx - x + C$, $\int cot^2x = -cotx - x + C$, $\int tanx = -ln|cosx| + C$, $\int cotx = ln|sinx| + C$, $\int \frac{1}{a^2+x^2} = \frac{1}{a}tan^{-1}(\frac{x}{a}) + C$, $\int \frac{1}{\sqrt{a^2+x^2}} = ln|x + \sqrt{a^2+x^2}| + C$, $\int \frac{1}{\sqrt{a^2-x^2}} = sin^{-1}(\frac{x}{a}) + C$, $\int \frac{1}{x^2-a^2} = \frac{1}{2a}ln|\frac{x-a}{x+a}| + C$