MCR3U Formula Sheet

$y = mx + b$ $\qquad$ $y = ax^2 + bx + c$ $\qquad$ $y = a(x - h)^2 + k$

$g(x) = af[k(x - d)] + c$ $\qquad$ $f(x) = a(x - r)(x - s)$ $\qquad$ $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$x^2 + y^2 = r^2$ $\qquad$ $\sin \theta = \frac{y}{r}$ $\qquad$ $\cos \theta = \frac{x}{r}$

$\tan \theta = \frac{y}{x}$ $\qquad$ $a^2 = b^2 + c^2 - 2bc \cos A$ $\qquad$ $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

$t_n = t_{n-1} + d$ $\qquad$ $t_n = a + (n - 1)d$ $\qquad$ $t_n = t_{n-1}\, r$

$t_n = a\ r^{n-1}$ $\qquad$ $S_n = \frac{n}{2}(2a + (n - 1)d)$ $\qquad$ $S_n = \frac{a(r^n - 1)}{r - 1}$

$A = P(1 + rt)$ $\qquad$ $I = Prt$ $\qquad$ $A = P(1 + i)^n$

$PV = \frac{A}{(1 + i)^n}$ $\qquad$ $FV = R\left(\frac{(1 + i)^n - 1}{i}\right)$ $\qquad$ $PV = R\left(\frac{1 - (1 + i)^{-n}}{i}\right)$

Based on Definitions	Derived From Relationships	
Reciprocal Identities	Quotient Identities	Pythagorean Identities
$\csc\theta = \frac{1}{\sin\theta}$, where $\sin\theta \neq 0$	$\tan\theta = \frac{\sin\theta}{\cos\theta}$, where $\cos\theta \neq 0$	$\sin^2\theta + \cos^2\theta = 1$
$\sec\theta = \frac{1}{\cos\theta}$, where $\cos\theta \neq 0$	$\cot\theta = \frac{\cos\theta}{\sin\theta}$, where $\sin\theta \neq 0$	$1 + \tan^2\theta = \sec^2\theta$
$\cot\theta = \frac{1}{\tan\theta}$, where $\tan\theta \neq 0$		$1 + \cot^2\theta = \csc^2\theta$