11 Pre-Calculus Formula Sheet

Arithmetic Sequences & Series:

$t_n = t_1 + d(n-1)$ $\quad S_n = \frac{n}{2}(t_1 + t_{n)}$ $\quad S_n = \frac{n}{2}[(2t_1 + d(n-1)]$

Geometric Sequences & Series:

$t_n = t_1 r^{n-1}$ $\quad S_n = \frac{t_1(1-r^n)}{1-r}$ $\quad S_n = \frac{rt_n - t_1}{r-1}$ $\quad S_\infty = \frac{t_1}{1-r}$

Quadratic Functions:

General/Standard Form: $y = ax^2 + bx + c$

Vertex Form: $y = a(x-p)^2 + q$

Factored Form: $y = (x-m)(x-n)$

Quadratic Formula: $x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$

Trigonometry:

Sine Law: $\frac{a}{SinA} = \frac{b}{SinB} = \frac{c}{SinC}$

Cosine Law: $a^2 = b^2 + c^2 - 2bcCosA$

$b^2 = a^2 + c^2 - 2acCosB$

$c^2 = a^2 + b^2 - 2abCosC$

Finance:

$I = Prt$ $\quad A = P + I$ $\quad A = P\left(1 + \frac{i}{n}\right)^{nt}$

"n" – number of compounding periods per year:
1 - Annually
2 - Semi-Annually
4 - Quarterly
12 - Monthly
24 - Semi-monthly
26 - Bi-weekly
52 - Weekly
365 - Daily