

Pre-Calculus 11 Formula Sheet

A. Sequences and Series

$$t_n = t_1 + (n-1)d$$

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

$$S_n = \frac{n}{2}(t_1 + t_n)$$

$$t_n = t_1 \cdot r^{n-1}$$

$$S_n = \frac{t_1(r^n - 1)}{r - 1}$$

$$S_n = \frac{r \cdot t_n - t_1}{r - 1}$$

$$S_\infty = \frac{t_1}{1 - r}$$

B. Trigonometry

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$a^2 = b^2 + c^2 - 2bc \cdot \cos A$$

$$b^2 = a^2 + c^2 - 2ac \cdot \cos B$$

$$c^2 = a^2 + b^2 - 2ab \cdot \cos C$$

C. Quadratics

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

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

$$y = ax^2 + bx + c$$

D. Linear Functions

$$y = mx + b$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$