Math 20-1 : Formula List

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

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

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

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

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

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

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

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

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

$$y = a\cdot x^2 + b\cdot x + c$$

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

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

$$x^m\cdot x^n = x^{m+n}$$

$$\frac{x^m}{x^n} = x^{m-n}$$

$$\left(x^m\right)^n = x^{mn}$$

$$x^{-m} = \frac{1}{x^m}$$

$$\sqrt[n]{x^m} = x^{\frac{m}{n}}$$

$$\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$$

$$\frac{a}{b}\cdot\frac{c}{d} = \frac{ac}{bd}$$

$$\frac{\frac{a}{b}}{\frac{c}{d}} = \frac{a}{b}\cdot\frac{d}{c}$$

$$|x| = \begin{cases} x \text{ if } x > 0 \\ -x \text{ if } x < 0 \end{cases}$$