INFORMATION SHEET

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

$$\sum_{i=1}^{n} 1 = n$$

$$T_n = a + (n-1)d$$

$$T_n = ar^{n-1}$$

$$S_n = \frac{a(r^n - 1)}{r - 1}$$
; $r \neq 1$

$$f'(x) = \lim_{h \to 0} \frac{f(x+h) - f(x)}{h}$$

$$A = P(1 + ni)$$

$$A = P(1+i)^n$$

$$F = x \left\lceil \frac{\left(1+i\right)^n - 1}{i} \right\rceil$$

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$y = mx + c$$

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

$$(x-a)^2 + (y-b)^2 = r^2$$

$$\sum_{i=1}^{n} i = \frac{n(n+1)}{2}$$

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

$$T_n = ar^{n-1}$$
 $S_n = \frac{a(r^n - 1)}{r - 1}$; $r \ne 1$ $S_{\infty} = \frac{a}{1 - r}$; $-1 < r < 1$

$$A = P(1-ni)$$

$$A = P(1-i)^n$$

$$P = x \left\lceil \frac{1 - \left(1 + i\right)^{-n}}{i} \right\rceil$$

$$M\left(\frac{X_1+X_2}{2}; \frac{Y_1+Y_2}{2}\right)$$

$$y-y_1=m(x-x_1)$$

$$m = \tan \theta$$

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

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

area
$$\triangle ABC = \frac{1}{2}ab.sinC$$

$$\sin(\alpha + \beta) = \sin\alpha.\cos\beta + \cos\alpha.\sin\beta$$

$$\sin(\alpha - \beta) = \sin\alpha \cdot \cos\beta - \cos\alpha \cdot \sin\beta$$

$$cos(\alpha + \beta) = cos \alpha.cos \beta - sin \alpha.sin \beta$$

$$\cos(\alpha + \beta) = \cos\alpha.\cos\beta - \sin\alpha.\sin\beta \qquad \cos(\alpha - \beta) = \cos\alpha.\cos\beta + \sin\alpha.\sin\beta$$

$$\cos 2\alpha = \begin{cases} \cos^2 \alpha - \sin^2 \alpha \\ 1 - 2\sin^2 \alpha \\ 2\cos^2 \alpha - 1 \end{cases}$$

$$\sin 2\alpha = 2\sin \alpha . \cos \alpha$$

$$\overline{x} = \frac{\sum fx}{n}$$

$$\sigma^2 = \frac{\sum_{i=1}^n (x_i - \overline{x})^2}{n}$$

$$P(A) = \frac{n(A)}{n(S)}$$

$$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$$

$$\hat{y} = a + bx$$

$$b = \frac{\sum (x - \overline{x})(y - \overline{y})}{\sum (x - \overline{x})^2}$$