APPENDIX.

FORMULAS, &c.

$\log 10 = 1$, $\log 1 = 0$, $\log 0 = -\infty$.

$\log (ab) = \log a + \log b$.

$\log \frac{a}{b} = \log a - \log b$.

$\log a^n = n \log a$.

$\log \sqrt[n]{a} = \frac{1}{n} \log a$.

Any trigonometrical ratio of an angle is the co-ratio of the complement.

$\sin A = \frac{1}{\text{cosec } A}$, $\tan A = \frac{1}{\cot A}$, $\cos A = \frac{1}{\sec A}$, $\tan A = \frac{\sin A}{\cos A}$

$$\sin^2 A + \cos^2 A = 1.$$

$$\sin 30° = \tfrac{1}{2}, \cos 30° = \frac{\sqrt{3}}{2}, \tan 45° = 1.$$

As the angle changes from 0 to 90°

sin increases from..... 0 to 1 ;	L sin increases from $-\infty$ to 10
tan .... 0 ... ∞ ;	L tan .... $-\infty$ .. $+\infty$
sec .... 1 ... ∞ ;	L sec .... 10 .. $+\infty$
cos decreases..... 1 ... 0 ;	L cos decreases..... 10 .. $-\infty$
cot .... ∞ ... 0 ;	L cot ..... $+\infty$ .. $-\infty$
cosec .... ∞ ... 1 ;	L cosec ..... $+\infty$ .. 10

$$L \tan 45° = 10 = L \cot 45°.$$

In a right-angled triangle, C the right angle,

$a = c \sin A$; $a = b \tan A$; $b = c \cos A$; $b = a \cot A$; $c = b \sec A$;
$c = a \text{ cosec } A$.