$\Rightarrow a^2 + b^2 = c^2$

$\downarrow \div c^2$

$\div \cos^2\theta$; $\div \sin^2\theta$

* $\sin^2\theta + \cos^2\theta = 1$
* $1 + \tan^2\theta = \sec^2\theta$
* $1 + \cot^2\theta = \operatorname{cosec}^2\theta$

நிறுவுக

1) $\cot A \sec A \sin A = 1$

$L.H.S = \cot A \cdot \sec A \cdot \sin A$

$= \frac{\cos A}{\sin A} \cdot \frac{1}{\cos A} \cdot \sin(A)$

$= 1$

$= R.H.S$ //

2) $\cot^2\theta \left(1 - \cos^2\theta\right) = \cos^2\theta$

$L.H.S = \left(\frac{\cos^2\theta}{\sin^2\theta}\right)\left(\sin^2\theta + \cos^2\theta - \cos^2\theta\right)$

$= \frac{\cos^2\theta}{\sin^2\theta} \times \sin^2\theta$

$= \cos^2\theta$

$= R.H.S$ //

3) $(1 - \cos^2\theta) \sec^2\theta = \tan^2\theta$

$L.H.S = \sin^2\theta \times \frac{1}{\cos^2\theta}$

$= \left(\frac{\sin\theta}{\cos\theta}\right)^2$

$= \tan^2\theta$

$= R.H.S$ //

4) $\tan\alpha \cdot \sqrt{1 - \sin^2\alpha} = \sin\alpha$

$L.H.S = \frac{\sin\alpha}{\cos\alpha} \cdot \sqrt{\cos^2\alpha}$

$= \frac{\sin\alpha}{\cos\alpha} \cdot \cos\alpha$

$= \sin\alpha$

$= R.H.S$ //

5) $\cos\alpha \cdot \operatorname{cosec}\alpha \cdot \cot\alpha = \cot^2\alpha$

$L.H.S = \cos\alpha \cdot \frac{1}{\sin\alpha} \cdot \cot\alpha$

$= \cot\alpha \cdot \cot\alpha$

$= \cot^2\alpha$

$= R.H.S$ //

* $\sin^2\theta + \cos^2\theta = 1$; $\theta = 10,000^\circ$

$\sin^2(10,000^\circ) + \cos^2(10,000^\circ) = 1$

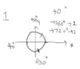
$\sin^2(280^\circ) + \cos^2(280^\circ) = 1$

$10,000^\circ = 360^\circ \times 27 + 280^\circ$

$360 \times 30 = 10800$

$28 \rightarrow 10080$

27



$90^\circ \rightarrow 450^\circ$

$0^\circ \rightarrow 360^\circ \rightarrow 720^\circ \rightarrow 1080^\circ \rightarrow 1440^\circ$

eg:-

less than 360°

1) $\sin(361^\circ) = \sin(1^\circ)$
2) $\sin(362^\circ) =$
3) $\sin(363^\circ) =$
4) $\sin(364^\circ) =$
5) $\sin(365^\circ) =$
6) $\sin(370^\circ) =$
7) $\sin(380^\circ) =$
8) $\sin(390^\circ) =$
9) $\sin(420^\circ) =$
10) $\sin(450^\circ) =$
11) $\sin(500^\circ) =$
12) $\sin(600^\circ) =$
13) $\sin(700^\circ) =$
14) $\sin(790^\circ) =$
15) $\sin(797^\circ) =$
16) $\sin(2255^\circ) =$
17) $\sin(1174^\circ) =$
18) $\sin(1543^\circ) =$
19) $\sin(1932^\circ) =$
20) $\sin(4321^\circ) =$