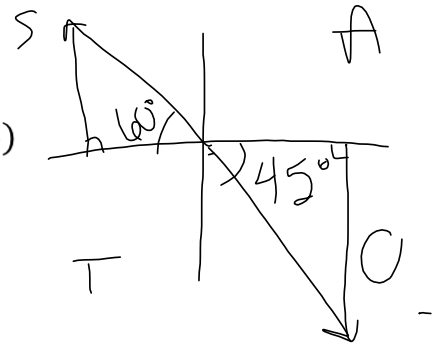
Trig Review

MCR 3U

Example 1



- Determine the exact value of $(sin120)(\cos 60)(tan315)$

$$= \left(\frac{\sqrt{3}}{2}\right)\left(\frac{1}{2}\right)\left(\frac{-1}{1}\right)$$

$$= \boxed{\frac{-\sqrt{3}}{4}}$$

Example 2

- Prove that $\tan(x) + \frac{1}{\tan(x)} = \frac{1}{\sin(x)\cos(x)}$

LS

$= \frac{\sin x}{\cos x} + \frac{1}{\frac{\sin x}{\cos x}}$

$= \frac{\sin x}{\cos x} + \frac{\cos x}{\sin x}$

$= \frac{\sin^2 x + \cos^2 x}{\sin x \cos x}$

$= \frac{1}{\sin x \cos x}$

$\Rightarrow \frac{\sin^2 x}{\cos x \sin x} + \frac{\cos^2 x}{\sin x \cos x}$

$= \frac{\sin^2 x + \cos^2 x}{\sin x \cos x}$

RS

$= \frac{1}{\sin x \cos x}$

$\therefore LS = RS.$

Example 3

- Prove that $\frac{\sin^2 x}{1-\cos x} = 1 + \cos x$

$* \sin^2 x + \cos^2 x = 1$

$\sin^2 x = 1 - \cos^2 x$

LS

$= \frac{1-\cos^2 x}{1-\cos x}$

$\sqrt{1} = 1$

$\sqrt{\cos^2 x} = \cos x$

$= \frac{(1+\cos x)(1-\cos x)}{1-\cos x}$

$= 1 + \cos x$

RS

$1 + \cos x$

$\therefore LS = RS$

Test Review

- Page 276-277, #1,3-7,9-10,13-15
- Page 278, 1-6,10,12,13
- Review your notes, especially the examples for 3D Trig… ☺