Wednesday - October 29, 2014

(4) $\cos^2\beta - \sin^2\beta = 2\cos^2\beta - 1$

$-\cos^2\beta \qquad -\cos^2\beta$

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

$+1+\sin^2\beta \qquad +\sin^2\beta + 1$

$1 = \sin^2\beta + \cos^2\beta$ ✓

$1 = 1$ ✓

3.5

(17)

(25) $\dfrac{\tan x - \cot x}{\tan x + \cot x} \cdot \dfrac{\sin x \cos x}{\sin x \cos x}$

$= \dfrac{\sin^2 x - \cos^2 x}{\sin^2 x + \cos^2 x} = \dfrac{(\sin^2 x) - \cos^2 x}{1}$

$= (1 - \cos^2 x) - \cos^2 x$

$= 1 - 2\cos^2 x$

$\dfrac{\frac{1}{2}}{\frac{3}{4}} = \dfrac{1}{2} \cdot \dfrac{4}{3}$

~~2.11~~

3.17 $\csc\theta \tan\theta = \sec\theta$

$\dfrac{1}{\sin\theta} \cdot \dfrac{\sin\theta}{\cos\theta} = \dfrac{1}{\cos\theta}$

$\dfrac{1}{\cos\theta} = \dfrac{1}{\cos\theta}$ ✓

(18) $2 - \csc^2 z = 1 - \cot^2 z$

$-1 \qquad -1$

$1 - \csc^2 z = -\cot^2 z$

$+\csc^2 z \qquad +\csc^2 z$

$+\cot^2 z \qquad +\cot^2 z$

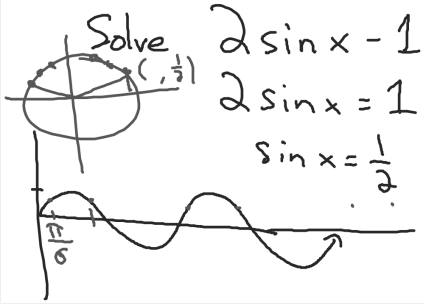
$1 + \cot^2 z = \csc^2 z$ ✓

U7 D3 - Solving Trig Eq

Solve $2\sin x - 1 = 0$

$2\sin x = 1$

$\sin x = \frac{1}{2}$



any integer

$x = \frac{\pi}{6} + 2\pi n$

$x = \frac{5\pi}{6} + 2\pi n$

Solve

$$\sin x + \sqrt{2} = -\sin x$$

$+\sin x \qquad +\sin x$

$$2\sin x + \sqrt{2} = 0$$

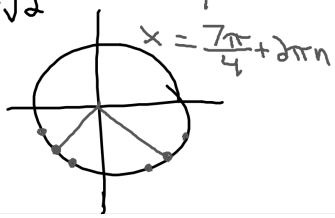
$-\sqrt{2}$

$$2\sin x = -\sqrt{2}$$

$$\sin x = -\frac{\sqrt{2}}{2}$$

$$x = \frac{5\pi}{4} + 2\pi n$$

$$x = \frac{7\pi}{4} + 2\pi n$$



Solve

$$3\tan^2 x - 1 = 0$$

$+1 \qquad +1$

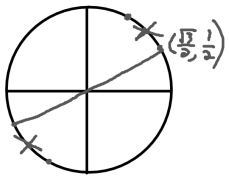
$$3\tan^2 x = 1$$

$$\tan^2 x = \frac{1}{3}$$

$$\tan x = \sqrt{\frac{1}{3}} = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$$

$$x = \frac{\pi}{6} + \pi n$$

$$x = \frac{7\pi}{6} + \pi n$$



$\frac{y}{x}$ (+)