$\cos 2x + \cos x = 0$

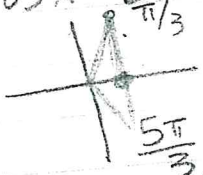
$2\cos^2 x - 1 + \cos x = 0$

$2\cos^2 x + \cos x - 1 = 0$

$(2\cos x - 1)(\cos x + 1) = 0$

$2\cos x = 1 \qquad \cos x = -1$

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



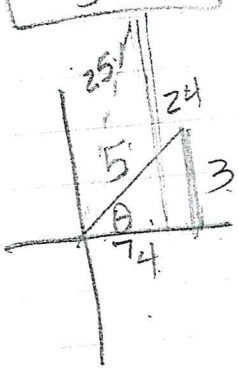
$\pi + 2\pi n$

$\frac{\pi}{3} + 2\pi n$, $\frac{5\pi}{3} + 2\pi n$

$2x^2 + x - 1 = 0$

$(2x-1)(x+1) = 0$

$2x^2 + x - 1$



$\sin\theta = \frac{3}{5}$

$\cos\theta = \frac{4}{5}$

$\tan\theta = \frac{3}{4}$

$\sin 2\theta = 2\sin\theta\cos\theta$

$= 2 \cdot \frac{3}{5} \cdot \frac{4}{5}$

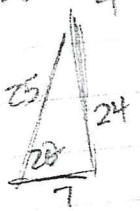
$= \frac{24}{25}$

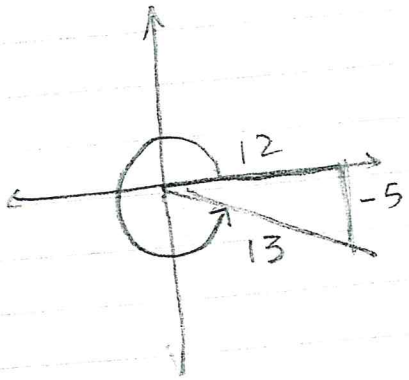
$\cos 2\theta = \frac{7}{25}$

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

$\frac{16}{25} - \frac{9}{25} = \frac{7}{25}$

$\tan 2\theta = \frac{24}{7}$





I

25 | 24 | 7

$\cos\theta = \frac{7}{25}$

$\sin = \frac{24}{25}$

$\tan = \frac{24}{7}$

$\theta/2$

5 | 3 | 4

$\sin\frac{\theta}{2} = \frac{3}{5}$

$\cos\frac{\theta}{2} = \frac{4}{5}$

$\tan\frac{\theta}{2} = \frac{3}{4}$

$\sin = \sqrt{\frac{1-\cos\theta}{2}}$ $\cos\sqrt{\frac{1+\cos\theta}{2}}$

$\tan =$

23) $\tan u = \frac{3}{5}$

$\sqrt{34}$ | 3 | 5 $\sqrt{34}5^2$

44) $\cot u = 3$ $\tan u = \frac{1}{3}$

$\cos u = \frac{-3}{\sqrt{10}}$ $\sin u = \frac{-1}{\sqrt{10}}$ $\tan = \frac{1}{3}$

-3 | -1 | $\sqrt{10}$

$1^2 + 3^2 = c^2$

$1 + 9 = c^2$

$c = \sqrt{10}$

$\sin\frac{u}{2} = -\sqrt{\frac{1-\cos u}{2}}$

$= -\sqrt{\frac{1+\frac{3}{\sqrt{10}}}{2}}$

$= -\sqrt{\frac{\frac{10}{10}+\frac{3\sqrt{10}}{10}}{2}}$

$= -\sqrt{\frac{\frac{10+3\sqrt{10}}{10}}{2}}$ $= -\sqrt{\frac{10+3\sqrt{10}}{20}}$

$= -\frac{1}{2}\sqrt{\frac{10+3\sqrt{10}}{5}}$