5. $(\cos x+1)^2-(\cos x-1)^2$

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

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

$4\cos x$

8. $\sin^2 x+\cos^2 x+\tan^2 x$

$1 + \tan^2 x$

$1 + \frac{\sin^2 x}{\cos^2 x}$

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

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

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

10. $\dfrac{1+\cot^2\theta}{1+\tan^2\theta}$

$\dfrac{1+\cot^2\theta}{\sec^2\theta}$

$\dfrac{1+\dfrac{\cos^2\theta}{\sin^2\theta}}{\dfrac{1}{\cos^2\theta}}$

$\cos^2\theta\left(\dfrac{\sin^2\theta}{\sin^2\theta}+\dfrac{\cos^2\theta}{\sin^2\theta}\right)$

$\cos^2\theta\left(\dfrac{\sin^2\theta+\cos^2\theta}{\sin^2\theta}\right)$

$\cot^2\theta$

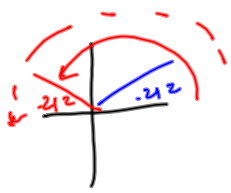
$0 \le \theta < 2\pi$

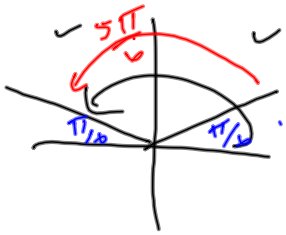
$0.21 = \sin\theta$

$\sin\theta = \dfrac{1}{2}$

$\sin^{-1}(0.21) = \theta$

$0.212 = \theta$





QI: 0.212

QII: $\pi - .212$, 2.93

QI: $\dfrac{\pi}{6}$

QII: $\dfrac{5\pi}{6}$

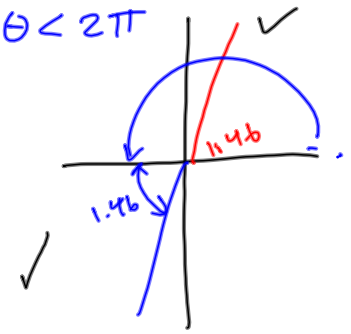
$3.88 = -5 + \tan\theta$

$8.88 = \tan\theta$

$\tan^{-1}(8.88) = \theta$

$1.46 = \theta$

$0 \le \theta < 2\pi$



QI

1.46

Q III

$\pi + 1.46$

4.60

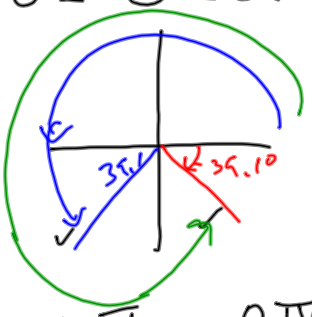
$3.88 = -5 + \tan\theta$

$-0.63 = \sin\theta$

$\sin^{-1}(-.63) = \theta$

$-39.1° = \theta$

$0 \leq \theta < 360°$



QIII

219.1°

QIV

~~-39.1~~

360° - 39.1

320.9

$4\cos\theta = 3.48$

$2\sec^2 x - 3 = 0$

$2\sec^2 x = 3$

$\sec^2 x = \frac{3}{2}$

$\cos^2 x = \frac{2}{3}$

$\cos x = \pm\sqrt{\frac{2}{3}}$

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

$x = 35.3°$

$0 \le \theta < 360°$

QI	QII	QIII	QIV
35.3	180−35.3 = 144.7	215.3	324.7

$\tan^2\alpha + 4\tan\alpha + 4 = 0$

$(\tan\alpha + 2)(\tan\alpha + 2) = 0$

$\tan\alpha + 2 = 0$ or $\tan\alpha + 2 = 0$

$\tan\alpha = -2$

$\alpha = \tan^{-1}(-2)$

$\alpha = -63.4$

$x^2 + 4x + 4 = 0$

$(x + 2)(x + 2) =$

$0 \le \alpha < 360$

Q2	Q4
180 − 63.4 = 116.6°	360 − 63.4 = 296.6°

$$\cos^2\alpha + 5\cos\alpha + 4 = 0$$

$(\cos\alpha + 1)(\cos\alpha + 4)$

$\cos\alpha + 1 = 0$

$\cos\alpha = -1$

$\alpha = 180$

$\cos\alpha + 4 = 0$

$\cos\alpha = -4$

$\alpha = \cos^{-1}(-4)$

No Sol