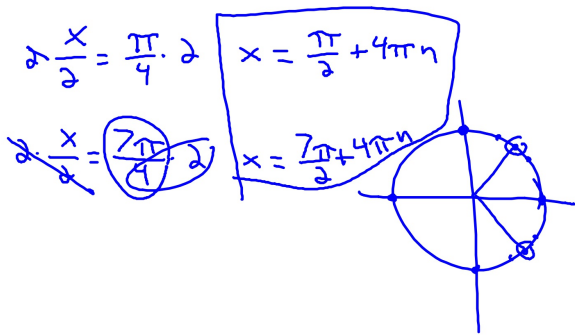
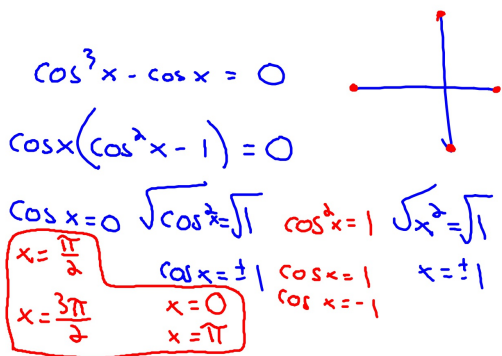


Monday - November 17, 2014

(67) $\cos \frac{x}{2} = \frac{\sqrt{2}}{2}$



(41) $\cos^3 x = \cos x$ $[0, 2\pi)$
 $-\cos x = -\cos x$



$\cos^3 x = \cos x$ $x = \cos x$

$x^3 = x \quad x^3 - x = 0$

$\cos x = -1 \quad x(x^2 - 1) = 0$

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

$\cos x = 1$

- $x = 0$
- $x = \frac{\pi}{2}$
- $x = \pi$
- $x = \frac{3\pi}{2}$

(42) $2 \sin^2 x = 2 + \cos x$ $[0, 2\pi)$

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

~~$2 - 2\cos^2 x = 2 + \cos x$~~
 ~~$-2\cos^2 x = \cos x$~~
 $+2\cos^2 x \quad +2\cos^2 x$



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

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

- $\cos x = 0 \quad x = \frac{\pi}{2}, \frac{3\pi}{2}$
- $2\cos x + 1 = 0 \quad \cos x = -\frac{1}{2} \quad x = \frac{2\pi}{3}, \frac{4\pi}{3}$
- $\cos x = -\frac{1}{2}$