Ex.

$$2\cos^2 x + 7\cos x + 3 = 0$$

Let $m = \cos x$ (+6)

$$2m^2 + 7m + 3 = 0$$

$$2m^2 + 6m + 1m + 3 = 0$$

$$2m(m+3) + 1(m+3) = 0$$

$$(m+3)(2m+1) = 0$$

$m+3=0$ $\quad$ $2m+1=0$

$m = -3$ $\quad$ $m = -\frac{1}{2}$

$\cos x = -3$ $\quad$ $\cos x = -\frac{1}{2}$

$\emptyset$ $\quad$ (Ref 60, Q2,3)

$180° - \theta$, x, x, $180° + \theta$

$x = 120°, 240°$

Practice Problems:

Pages 212 - 214
#11 - 23

15. $y = 5.9 + 2.4\sin\left[\frac{\pi}{6}(t-3)\right]$

8300 sales in thousands

$8300 = 5.9 + 2.4\sin\left[\frac{\pi}{6}(t-3)\right]$

$\frac{8300 - 5.9}{2.4} = \frac{2.4\sin\left[\frac{\pi}{6}(t-3)\right]}{2.4}$

$= \sin\left[\frac{\pi}{6}(t-3)\right]$

$1 = \sin\left[\frac{\pi}{6}(t-3)\right]$

???

$\sin^{-1}(\sin x) = \sin^{-1}\left(\frac{1}{3}\right)$

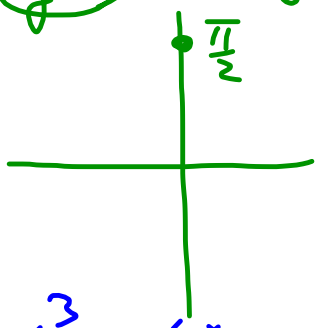
$x = \sin^{-1}\frac{1}{3}$

$\sin^{-1} 1 = \sin^{-1}\left(\sin\left(\frac{\pi}{6}(t-3)\right)\right)$

$\sin^{-1} 1 = \frac{\pi}{6}(t-3)$

$y = 1$

Radians



$\frac{\pi}{2} = \frac{\pi}{6}(t-3)$

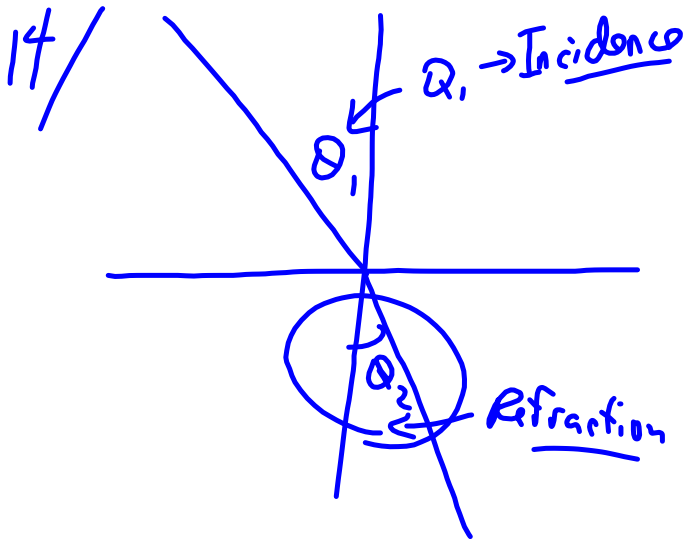
$\frac{3\pi}{\pi} = \frac{\pi(t-3)}{\pi}$

$3 = t-3$

$6 = t$

Jump

14/



$n_1 \sin\theta_1 = n_2 \sin\theta_2$

$1.0029 \sin 35^\circ = 1.33 \sin\theta_2$

$\sin\theta_2 = \dfrac{1.0029 \sin 35^\circ}{1.33}$

$\sin\theta_2 = 0.4325$

$\theta_2 = 25.6^\circ$

Unit Review... Unit Test: Thursday

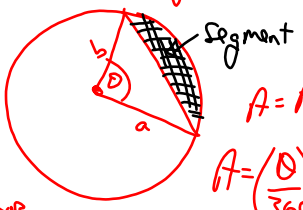
What topics have we covered??

1) Special Angles
2) CAST RULE
3) Radian Measure ⇒ Convert

Formula: $\theta = \frac{a}{r}$ } θ in Radians !!

Area of a Segment

* Pulley Systems
Arcs & Rotations
(Ratio)



$A = A_{Sector} - A_{Triangle}$

$A = \left(\frac{\theta}{360}\right)\pi r^2 - \frac{1}{2}ab\sin\theta$

Sector

$A = \left(\frac{\theta}{2\pi}\right)\pi r^2$

$A = \frac{\theta r^2}{2}$

OR

Radians

$A = \frac{\theta r^2}{2} - \frac{1}{2}ab\sin\theta$

⇒ Angular Velocity

$V_A = \frac{\theta}{t}$

Special Angles ⇒ Radians

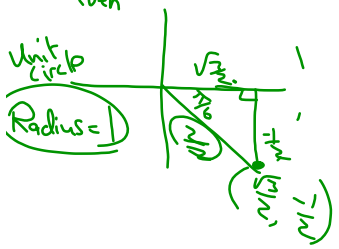
⇒ Unit Circle

Ex. $\sin\left(\frac{-37\pi}{6}\right)$ What would be the ordered pair on the unit circle?

$-\frac{36\pi}{6} - \frac{\pi}{6}$

$-6\pi - \frac{\pi}{6}$

↑ even ↑ CW



Trig. Equations

1) Linear
2) Quadratic or Multiple factors

⇒ Solutions over specific Domain
⇒ General Solutions

Pg. 215 Chapter Review

#1 – 23

omit: 18, 19, 22

Practice Test

#1-16

Attachments

Tutorial for SMART Response 2013.notebook