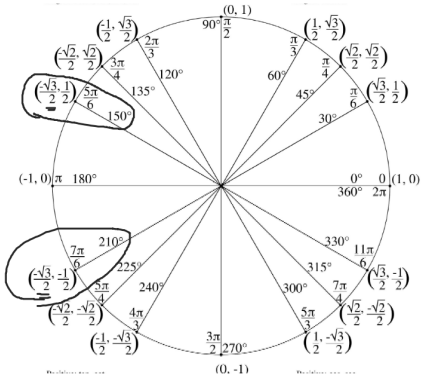
Use the given infomation to find the measure of all the angles θ that meet each condition.

θ in degrees $(0° \leq \theta \leq 360°)$

1. Cos $\theta = \dfrac{-\sqrt{3}}{2}$

Cos is an x-coordinate, which are negative in the 2nd and 3rd Quadrants.

θ = 150° and 210°



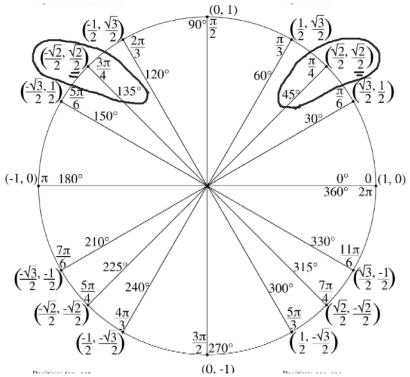
Use the given infomation to find the measure of all the angles θ that meet each condition.

θ in degrees $(0° \leq \theta \leq 360°)$

2. $\sin\theta = \dfrac{\sqrt{2}}{2}$

Sin is a y-coordinate, which are positive in the 1st and 2nd Quadrants.

θ = 45° and 135°



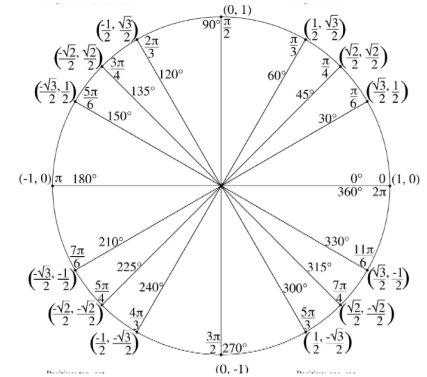
Use the given infomation to find the measure of all the angles θ that meet each condition.

θ in degrees $(0° \leq \theta \leq 360°)$

3. $\cos\theta = 1$

Cos is an x-coordinate, which are positive in the 1st and 4th Quadrants.

θ = 0° and 360°



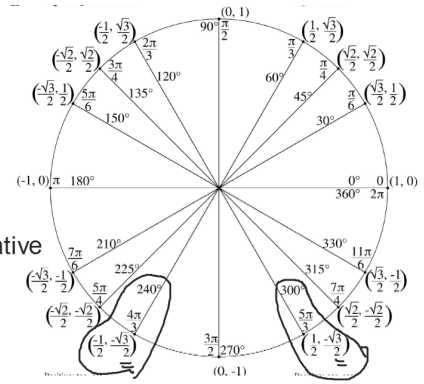
Use the given infomation to of all the angles θ that meet

θ in degrees $(0° \leq \theta \leq 360°)$

4. $\sin\theta = -\dfrac{\sqrt{3}}{2}$

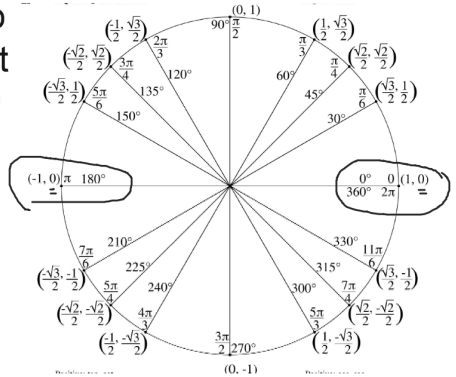
Sin is a y-coordinate, which are negative in the 3rd and 4th Quadrants.

θ = 240° and 300°



Use the given infomation to of all the angles θ that meet

θ in degrees $(0° \le \theta \le 360°)$



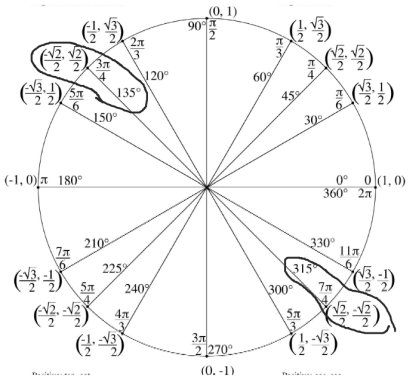
5. $\sin\theta = 0$

Cos is a y-coordinate, and y is 0 when on the x-axis.

θ = 0°, 180° and 210°

Use the given infomation to find the measure of all the angles θ that meet each condition.

θ in degrees $(0° \le \theta \le 360°)$



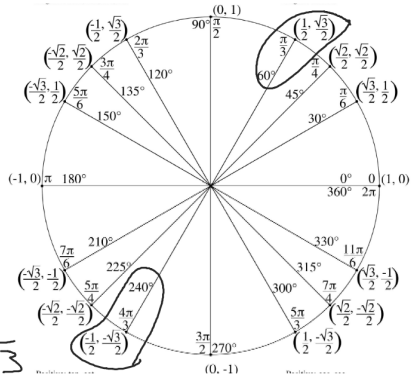
6. $\tan\theta = -1$

Tan is the ratio of y/x. This will only equal -1 if x and y are opposites.

θ = 135° and 315°

Use the given infomation to find the measure of all the angles θ that meet each condition.

θ in degrees $(0° \le \theta \le 360°)$



7. $\tan\theta = \sqrt{3}$

since $\frac{y}{x}$ reduced to $\sqrt{3}$

it had to start as

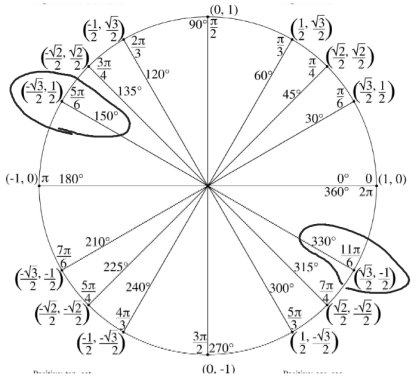
$\frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}}$ or $\frac{\frac{-\sqrt{3}}{2}}{-\frac{1}{2}}$ ← the y-coord had to have $\sqrt{3}$

θ = 60° & 240°

& x & y must have the same sign (Quad I & III)

Use the given infomation to find the measure of all the angles θ that meet each condition.

θ in degrees $(0° \le \theta \le 360°)$



8. $\tan\theta = -\frac{\sqrt{3}}{3}$

$\frac{y}{x}$ reduced to $\frac{-\sqrt{3}}{3}$ which is the result of rationalizing $\frac{1}{\sqrt{3}}$

θ = 150° & 330°

therefore, x had to have $\sqrt{3}$ & to be negative x & y had to have opposite signs. (Quad II & IV)

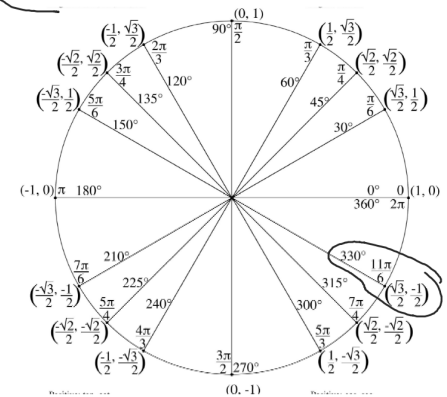
9. Given $Cos\theta > 0$ and $Sin\theta = -\frac{1}{2}$ find θ

x is pos

y is neg

Quadrant IV where y-coord is $-\frac{1}{2}$

$\theta = 330°$



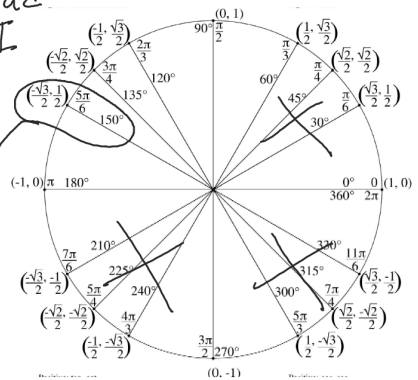
10. Given $90° \le \theta \le 180°$ Quad II

If $Cos\theta = -\frac{\sqrt{3}}{2}$ find $Sin\theta$

x-coord is $-\frac{\sqrt{3}}{2}$

$\theta = 150°$

$\sin 150° = \frac{1}{2}$



You can now finish Hwk #6.

Practice Sheet: Using the Unit Circle

Due Monday, February 26

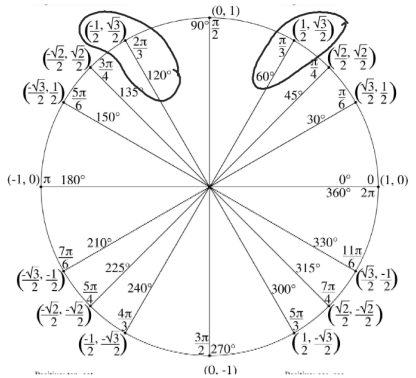
We are also done with all the material for the 1st Test.

the test will be the week we return from break.

Given $Sin\theta = \frac{\sqrt{3}}{2}$ find all possible values of θ from $0°$ to $360°$

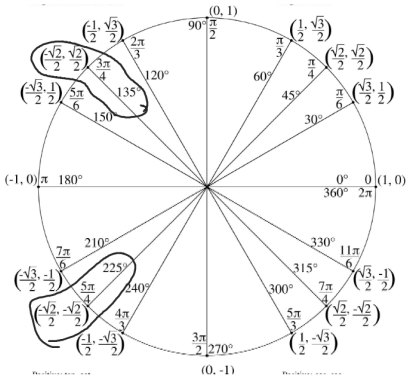
y coord $= \frac{\sqrt{3}}{2}$

$\theta = 60° \text{ & } 120°$



Given $Cos\theta = -\frac{\sqrt{2}}{2}$ find all possible values of θ from $0°$ to $360°$

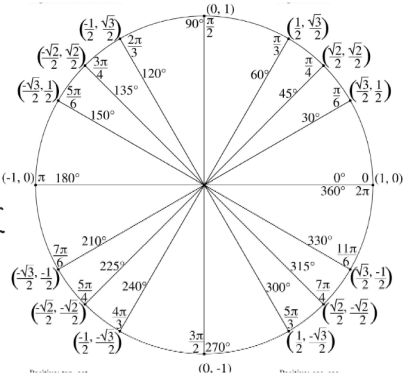
x-coord $= -\frac{\sqrt{2}}{2}$



$\theta = 135° \text{ & } 225°$

Solve for θ

$\text{Cos}(2\theta) = \frac{1}{2}$



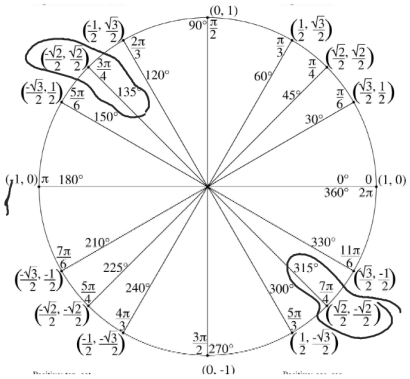
$\text{Cos } 60° = \frac{1}{2}$ & $\text{Cos } 300° = \frac{1}{2}$

$2\theta = 60°$ $\quad 2\theta = 300°$

$\theta = 30° \text{ & } 150°$

Solve for θ

$\text{Tan}\left(\frac{\theta}{3}\right) = -1$



$\text{Tan } 135° = -1$ & $\text{Tan } 315° = -1$

$\frac{\theta}{3} = 135°$ $\quad \frac{\theta}{3} = 315°$

$\theta = 405° \text{ & } 945°$