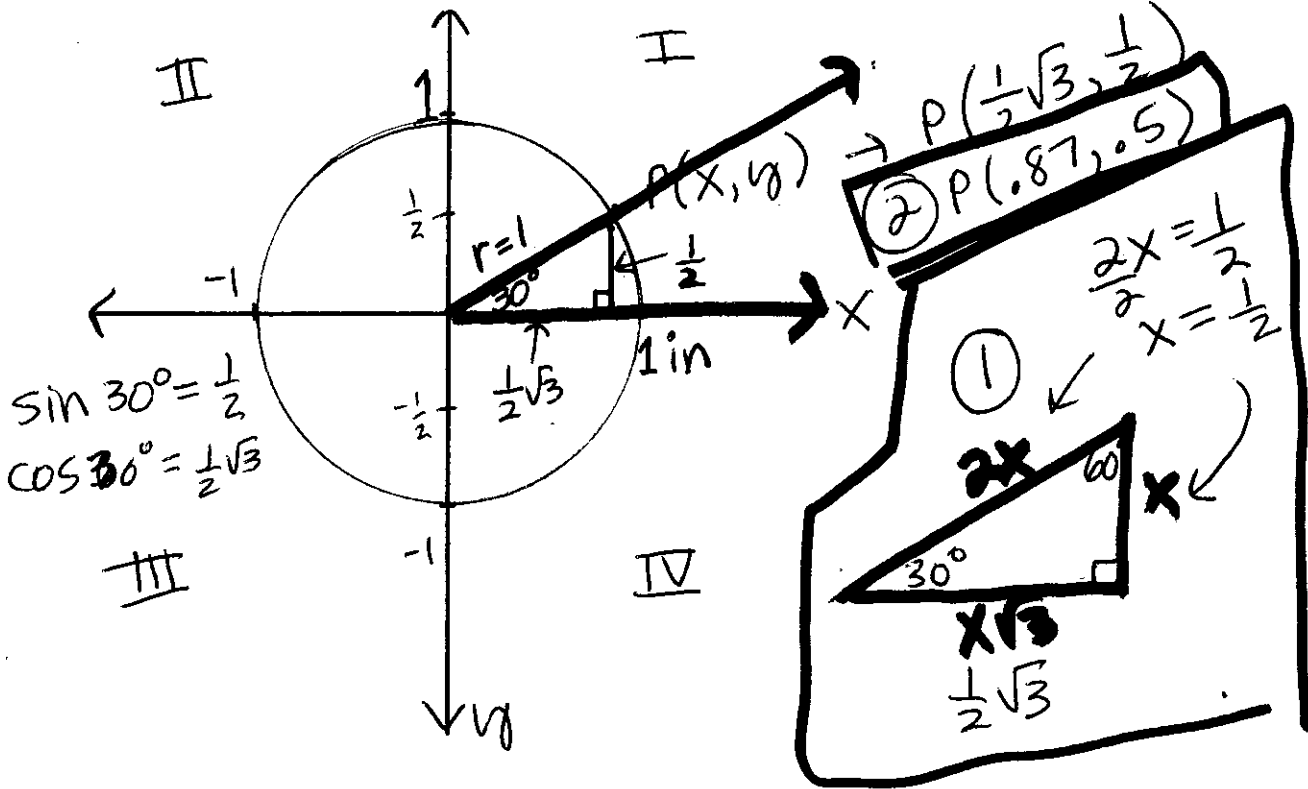


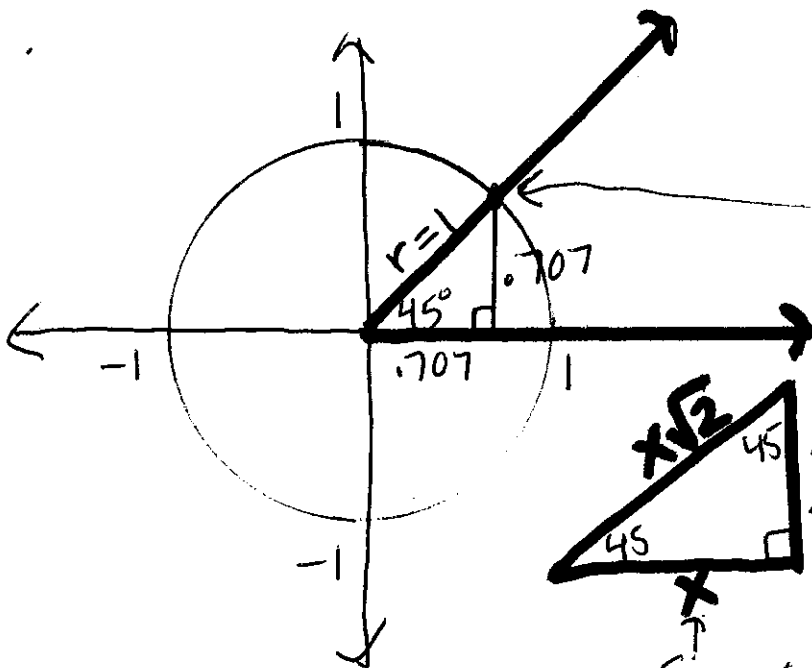
13.2 Notes Continued...



③ mode: Degrees

$\cos(30^\circ) = 0.87$  (x-value)

$\sin(30^\circ) = 0.5$  (y-value)



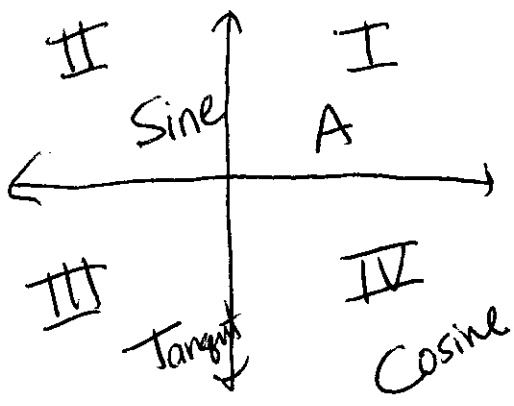
④ a.)  $P(x, y) = P(0.707, 0.707)$

$\frac{x\sqrt{2}}{\sqrt{2}} = \frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$

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

⑥  $\cos(45^\circ) = 0.707$  (x-coordinate)

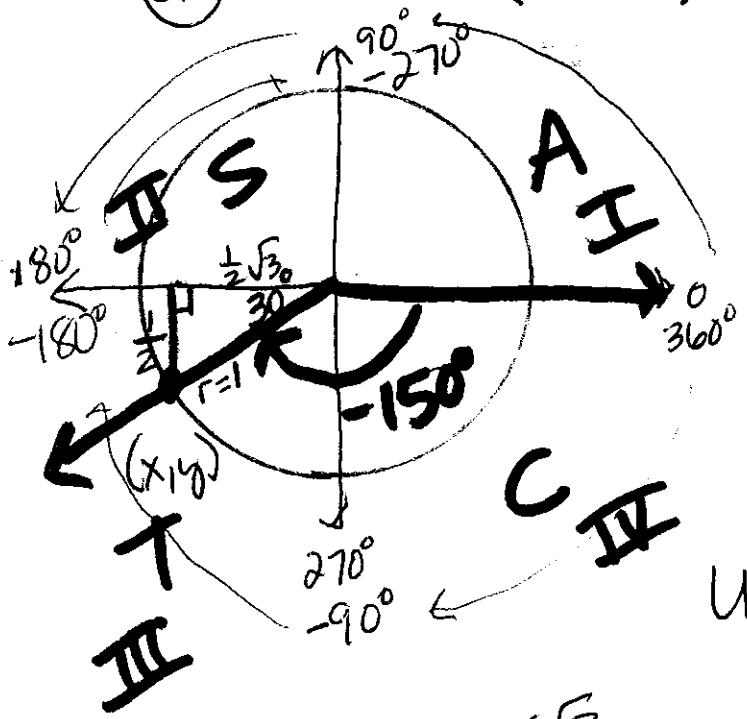
$\sin(45^\circ) = 0.707$  (y-coordinate)



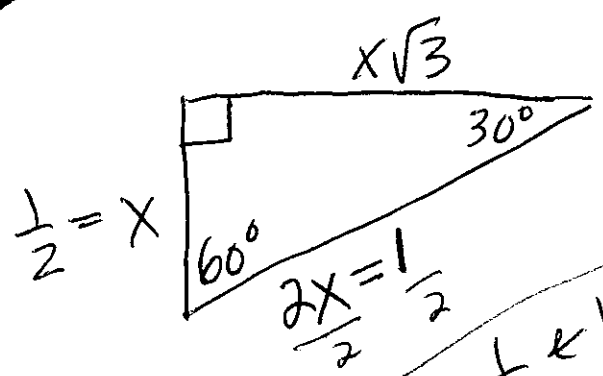
Find the exact values for Sine + Cosine. (no calculator)

(ex) cosine  $(-150^\circ)$

and  $\sin(-150^\circ)$



Always draw the leg of the triangle to the x-axis!  
 All the hypotenuses will be 1, because we are using the Unit Circle that has a radius of 1.



$x = \frac{1}{2}$  ← leg next to  $60^\circ$   
 $x = \frac{1}{2}\sqrt{3}$  leg next to  $30^\circ$

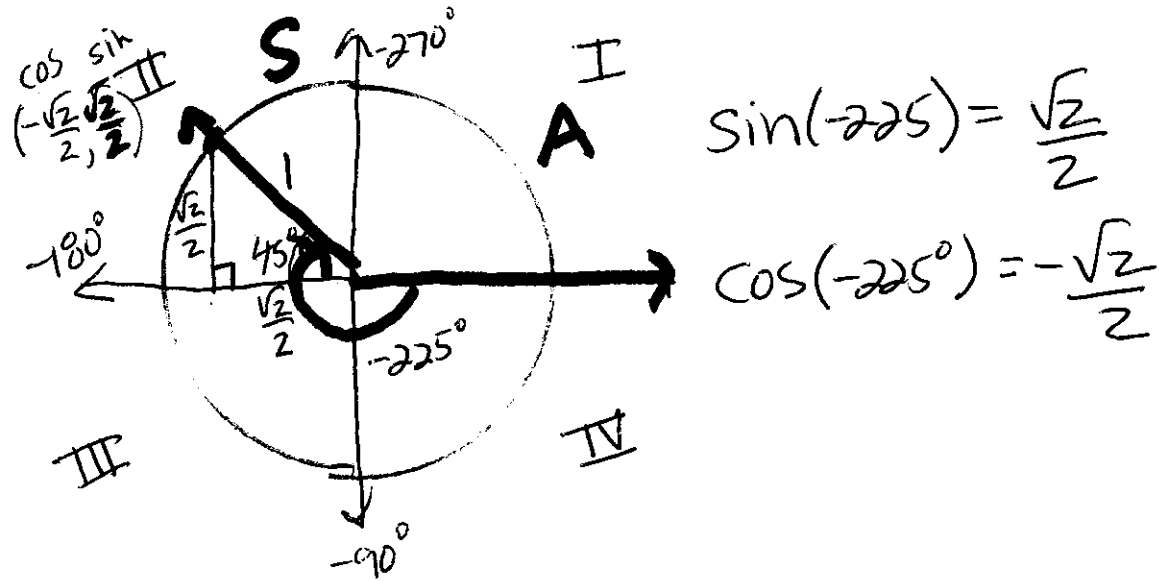
$(-\frac{1}{2}\sqrt{3}, -\frac{1}{2})$   
 $x, y$

x-coord. = cosine  
 y-coord. = sine

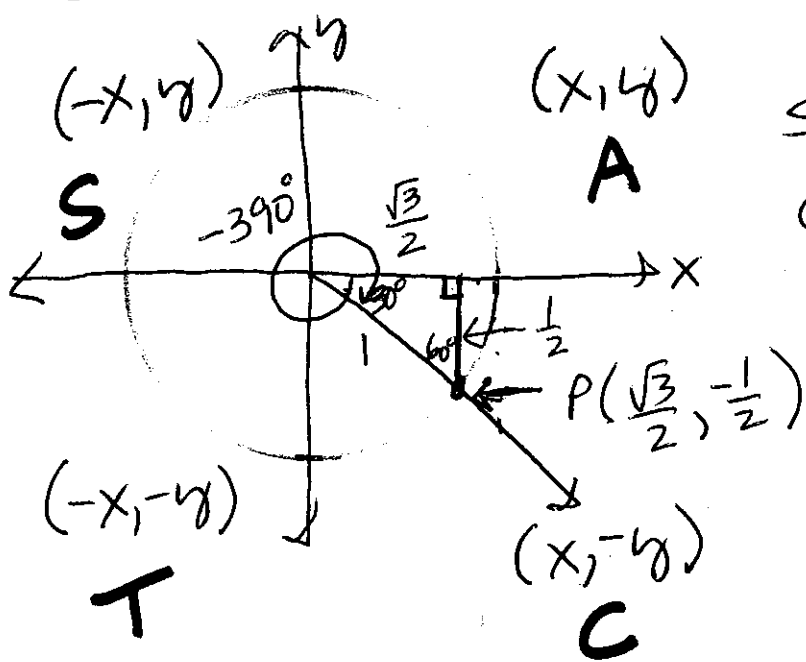
$$\cos(-150)^\circ = -\frac{1}{2}\sqrt{3}$$

$$\sin(-150)^\circ = -\frac{1}{2}$$

(ex)  $\sin(-225^\circ)$  and  $\cos(-225^\circ)$



(ex)  $\sin(-390^\circ)$  +  $\cos(-390^\circ)$

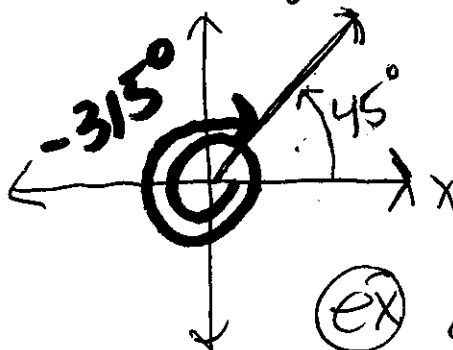


$\sin(-390) = -.50$   
 $\cos(-390) = .87$

Find a positive + negative coterminal  $\angle$ .

(ex)  $-675^\circ$

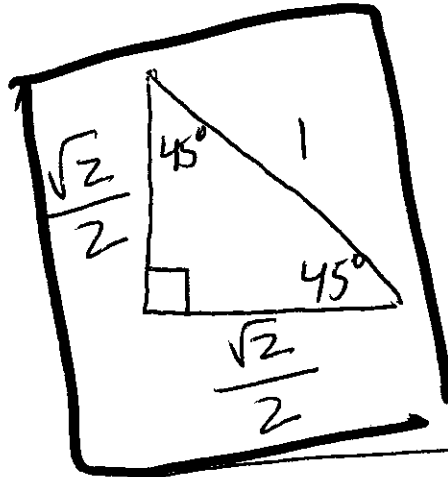
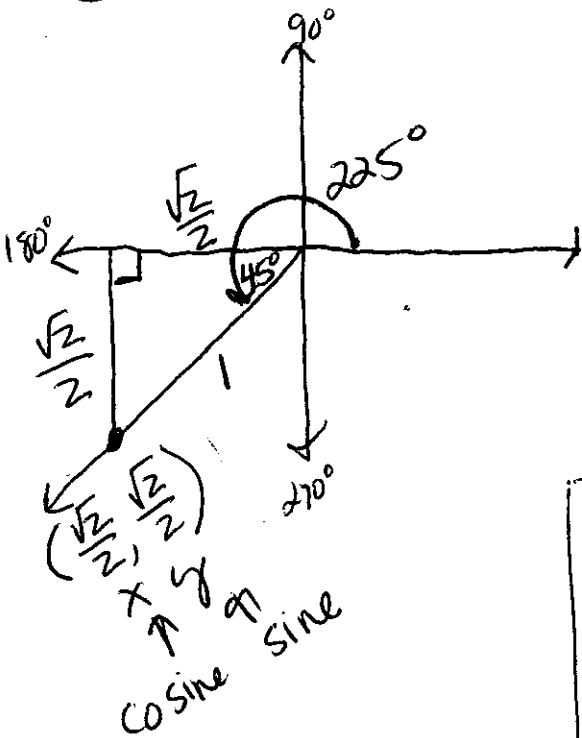
$$\begin{array}{r} 675 \\ -360 \\ \hline 315 \end{array}$$



$$\begin{array}{r} 360 \\ -315 \\ \hline 45 \end{array}$$

(ex)  $211^\circ$

(ex)  $\cos 225^\circ$  and  $\sin 225^\circ$

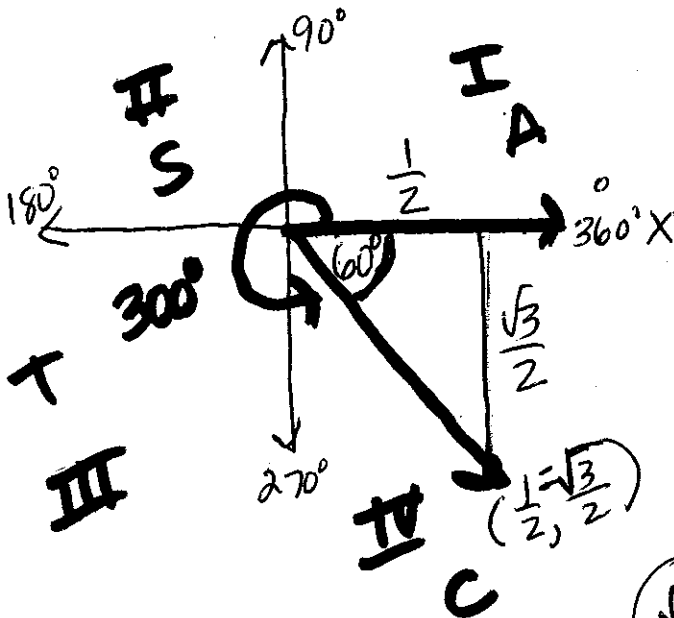


$$\cos(225^\circ) = -\frac{\sqrt{2}}{2}$$

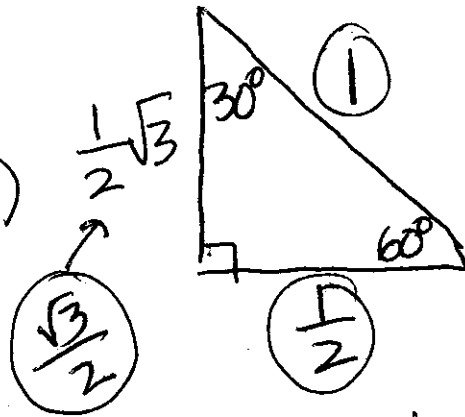
$$\sin(225^\circ) = -\frac{\sqrt{2}}{2}$$

negative because they are in quadrant III.

(ex)  $\sin 300^\circ$  and  $\cos 300^\circ$



$60^\circ$  is the  $\angle$  between x-axis + the terminal side.



$$\cos 300^\circ = \frac{1}{2}$$

$$\sin 300^\circ = -\frac{\sqrt{3}}{2}$$