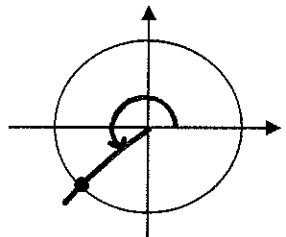
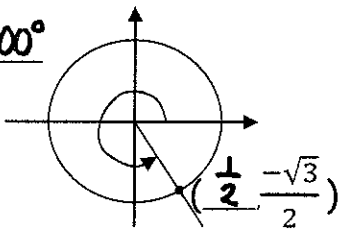
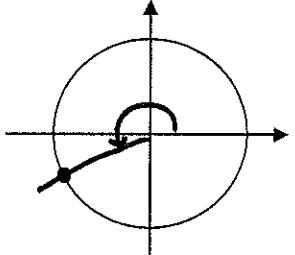
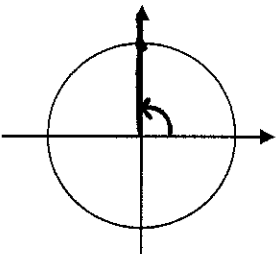


**Group Work 1: Standard Angles—Fill in the Blanks**

You're given a clue about each standard angle. Fill in the missing parts – blanks for parts a) thru f) – using exact values in the form of simplified radicals, fractions, or whole numbers - **no decimals**. This is worth 24 points (1/2 point per blank).

- When necessary: write the angle measure,  $\theta$ , in **both radian and degrees** using only the standard angles in the intervals  $[0, 2\pi)$  and  $[0^\circ, 360^\circ)$ ;
- Identify the measure of the reference angle,  $\bar{\theta}$ , in **degrees**, do not draw it;
- **Clearly draw the standard angle in standard position – see b);**
- Label the ordered pair representing the point of intersection with the terminal side of the angle and the given unit circle (like in part b).

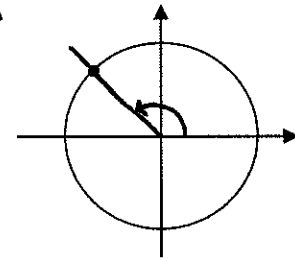
|   |   |
|---|---|
| <p>a)</p> <p><math>\theta = \frac{5\pi}{4} = 225^\circ</math></p>  <p><math>\bar{\theta} = 45^\circ</math></p> <p><math>(-\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2})</math></p> <p><math>\sin \theta = -\frac{\sqrt{2}}{2}, \cos \theta = -\frac{\sqrt{2}}{2}, \tan \theta = 1</math></p>  | <p>b)</p> <p><math>\theta = \frac{5\pi}{3} = 300^\circ</math></p>  <p><math>\bar{\theta} = 60^\circ</math></p> <p><math>(\frac{1}{2}, -\frac{\sqrt{3}}{2})</math></p> <p><math>\sin \theta = -\frac{\sqrt{3}}{2}, \cos \theta = \frac{1}{2}, \tan \theta = -\sqrt{3}</math></p> |
| <p>c) <math>\theta_c = -510^\circ</math> is coterminal with which standard angle?</p> <p><math>\theta = \frac{7\pi}{6} = 210^\circ</math></p>  <p><math>\bar{\theta} = 30^\circ</math></p> <p><math>(-\frac{\sqrt{3}}{2}, -\frac{1}{2})</math></p> <p><math>\sin \theta = -\frac{1}{2}, \cos \theta = -\frac{\sqrt{3}}{2}, \tan \theta = \frac{1}{\sqrt{3}}</math></p> | <p>d) <math>\theta = \frac{\pi}{2} = 90^\circ</math></p>  <p><math>\bar{\theta} = \text{N/A}</math></p> <p><math>(0, 1)</math></p> <p><math>\sin \theta = 1, \cos \theta = 0, \tan \theta = \text{undefined}</math></p>  |

e)  $\sin \theta > 0$

$\theta = \frac{3\pi}{4} = 135^\circ$

$\bar{\theta} = 45^\circ$

$(\frac{-\sqrt{2}}{2}, \frac{\sqrt{2}}{2})$

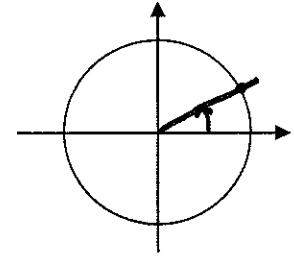


$\sin \theta = \frac{\sqrt{2}}{2}$ ,  $\cos \theta = \frac{-\sqrt{2}}{2}$ ,  $\tan \theta = -1$

f)  $\theta = \frac{\pi}{6} = 30^\circ$

$\bar{\theta} = 30^\circ$

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



$\sin \theta = \frac{1}{2}$ ,  $\cos \theta = \frac{\sqrt{3}}{2}$ ,  $\tan \theta = \frac{1}{\sqrt{3}}$