

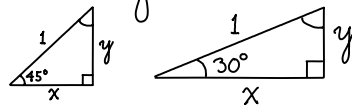
Name _____ Banner _____

Fall 2007 Quiz #4 Solutions

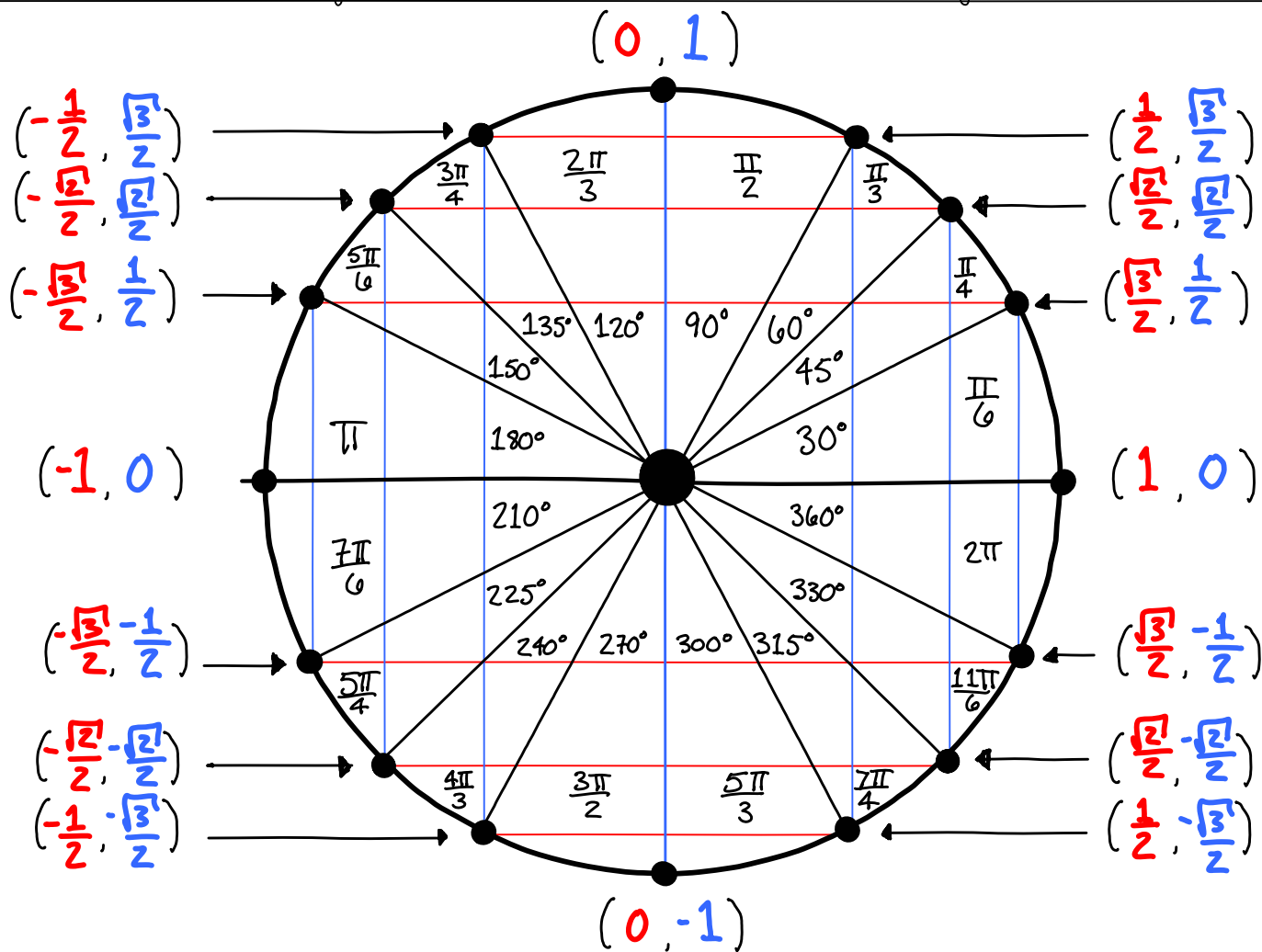
Show your work. Use proper notation. Think before you write or give up.
 Box your final answers. Write on this paper only. Do easy problems first.

#1) Draw the unit circle.

A) Give the coordinates of the 16 points on it that we found using our knowledge of the "two most important triangles" and the fact that the radius of the unit circle is 1.



B) Label the angle for each of the 16 coordinates in degrees and in radians.

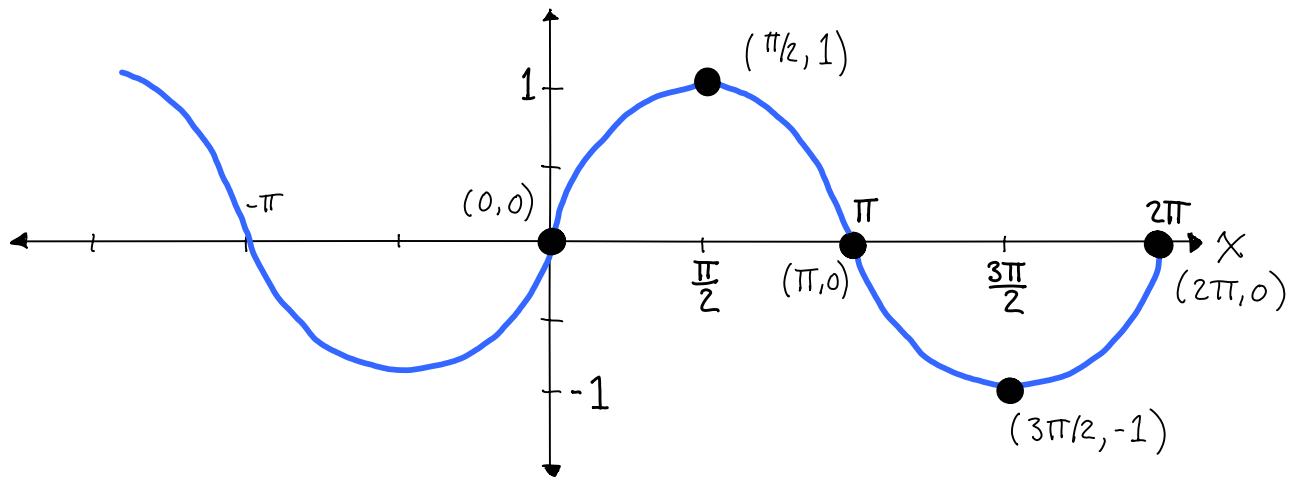


#2) Give $\sin(\theta)$, $\cos(\theta)$, $\tan(\theta) = y/x$, $\cot(\theta) = x/y$, $\sec(\theta) = r/x$, and $\csc(\theta) = r/y$ for each of the 16 angles corresponding to the 16 known coordinates.

$r=1$		x	y	y/x	x/y	$1/x$	$1/y$
\ominus		$\cos(\theta)$	$\sin(\theta)$	$\tan(\theta)$	$\cot(\theta)$	$\sec(\theta)$	$\csc(\theta)$
0	0°	1	0	0	Undefined	1	Undefined
$\pi/6$	30°	$\sqrt{3}/2$	$1/2$	$1/\sqrt{3} = \sqrt{3}/3$	$\sqrt{3}$	$2/\sqrt{3} = \frac{2\sqrt{3}}{3}$	2
$\pi/4$	45°	$1/\sqrt{2} = \sqrt{2}/2$	$1/\sqrt{2} = \sqrt{2}/2$	1	1	$\sqrt{2}$	$\sqrt{2}$
$\pi/3$	60°	$1/2$	$\sqrt{3}/2$	$\sqrt{3}$	$1/\sqrt{3} = \sqrt{3}/3$	2	$2/\sqrt{3} = \frac{2\sqrt{3}}{3}$
$\pi/2$	90°	0	1	Undefined	0	Undefined	1
$2\pi/3$	120°	$-1/2$	$\sqrt{3}/2$	$-\sqrt{3}$	$-1/\sqrt{3} = -\sqrt{3}/3$	-2	$2/\sqrt{3} = \frac{2\sqrt{3}}{3}$
$3\pi/4$	135°	$-1/\sqrt{2} = -\sqrt{2}/2$	$1/\sqrt{2} = \sqrt{2}/2$	-1	-1	$-\sqrt{2}$	$\sqrt{2}$
$5\pi/6$	150°	$-\sqrt{3}/2$	$1/2$	$-1/\sqrt{3} = -\sqrt{3}/3$	$-\sqrt{3}$	$-2/\sqrt{3} = -\frac{2\sqrt{3}}{3}$	2
π	180°	-1	0	0	Undefined	-1	Undefined
$7\pi/6$	210°	$-\sqrt{3}/2$	$-1/2$	$1/\sqrt{3} = \sqrt{3}/3$	$\sqrt{3}$	$-2/\sqrt{3} = -\frac{2\sqrt{3}}{3}$	-2
$5\pi/4$	225°	$-1/\sqrt{2} = -\sqrt{2}/2$	$-1/\sqrt{2} = -\sqrt{2}/2$	1	1	$-\sqrt{2}$	$-\sqrt{2}$
$4\pi/3$	240°	$-1/2$	$-\sqrt{3}/2$	$\sqrt{3}$	$1/\sqrt{3} = \sqrt{3}/3$	-2	$-2/\sqrt{3} = -\frac{2\sqrt{3}}{3}$
$3\pi/2$	270°	0	-1	Undefined	0	Undefined	-1
$5\pi/3$	300°	$1/2$	$-\sqrt{3}/2$	$-\sqrt{3}$	$-1/\sqrt{3} = -\sqrt{3}/3$	2	$-2/\sqrt{3} = -\frac{2\sqrt{3}}{3}$
$7\pi/4$	315°	$1/\sqrt{2} = \sqrt{2}/2$	$-1/\sqrt{2} = -\sqrt{2}/2$	-1	-1	$\sqrt{2}$	$-\sqrt{2}$
$11\pi/6$	330°	$\sqrt{3}/2$	$-1/2$	$-1/\sqrt{3} = -\sqrt{3}/3$	$-\sqrt{3}$	$2/\sqrt{3} = \frac{2\sqrt{3}}{3}$	-2

#3) Using the data from #2, graph the following. Be sure to label some points on the x and y axis to give a sense of scale.

A) $\sin(x)$



B) $\cos(x)$

