Unit Circle Worksheet A

Name_____

Period_____

Solve the following problems using your Unit Circle.

1) $\sin(90^\circ) =$

2) $\cos\left(\frac{\pi}{4}\right) =$

3) $\sin\left(\frac{5\pi}{4}\right) =$

4) $\cos\ 135^\circ\ =$

5) $\tan\left(\frac{5\pi}{4}\right) =$

6) $\tan(180^\circ) =$

7) $\sin\left(\frac{-\pi}{4}\right) =$

8) $\cos\ -90^\circ\ =$

Unit Circle Worksheet B

Name_____

Period_____

Solve the following problems using your Unit Circle.

1) $\sin(150^\circ) =$

2) $\cos\left(\frac{7\pi}{6}\right) =$

3) $\sin\left(\frac{5\pi}{6}\right) =$

4) $\cos\ -135^\circ\ =$

5) $\tan\left(\frac{9\pi}{6}\right) =$

6) $\tan(135^\circ) =$

7) $\sin\left(\frac{-\pi}{3}\right) =$

8) $\cos\ -120^\circ\ =$

Unit Circle Worksheet C

Name_____

Period_____

The given point P is located on the Unit Circle. State the quadrant and find the angle θ, also $\sin\theta$, $\cos\theta$ and $\tan\theta$.

1) $P\left(-\frac{1}{2},\frac{\sqrt{3}}{2}\right)$

Quad:

$\sin\theta$:

$\cos\theta$:

$\tan\theta$:

2) $P(0,-1)$

Quad:

$\sin\theta$:

$\cos\theta$:

$\tan\theta$:

3) $P\left(\frac{-\sqrt{2}}{2},\frac{-\sqrt{2}}{2}\right)$

Quad:

$\sin\theta$:

$\cos\theta$:

$\tan\theta$:

Find the exact value of each function.

4) $\cos\left(\frac{7\pi}{4}\right)$

5) $\sin\ -30^\circ$

6) $\sin\left(-\frac{2\pi}{3}\right)$

7) $\cos(600^\circ)$

8) $\sin\left(\frac{9\pi}{2}\right)$

9) $\tan(7\pi)$

10) $\cos\left(-\frac{11\pi}{4}\right)$

11) $\sin\ -225^\circ$

12) $\tan(585^\circ)$

13) $\cos(1440^\circ)$

14) $\sin\left(-\frac{13\pi}{4}\right)$

15) $\cos\left(\frac{23\pi}{6}\right)$

Unit Circle Worksheet A

Name Key

Period_____

Solve the following problems using your Unit Circle.

1) $\sin(90^\circ) =$ 1

2) $\cos\left(\frac{\pi}{4}\right) =$ $\frac{\sqrt{2}}{2}$

3) $\sin\left(\frac{5\pi}{4}\right) =$ $-\frac{\sqrt{2}}{2}$

4) $\cos\ 135^\circ =$ $-\frac{\sqrt{2}}{2}$

5) $\tan\left(\frac{5\pi}{4}\right) =$ $\frac{-\frac{\sqrt{2}}{2}}{-\frac{\sqrt{2}}{2}} = 1$

6) $\tan(180^\circ) =$ $\frac{0}{-1} = 0$

7) $\sin\left(\frac{-\pi}{4}\right) =$ $-\frac{\sqrt{2}}{2}$

8) $\cos\ -90^\circ =$ 0

Unit Circle Worksheet B

Name_____

Period_____

Solve the following problems using your Unit Circle.

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

2) $\cos\left(\frac{7\pi}{6}\right) =$ $-\frac{\sqrt{3}}{2}$

3) $\sin\left(\frac{5\pi}{6}\right) =$ $\frac{1}{2}$

4) $\cos\ -135^\circ =$ $-\frac{\sqrt{2}}{2}$

5) $\tan\left(\frac{9\pi}{6}\right) =$ $\tan\frac{3\pi}{2} = \frac{-1}{0}$ undefined

6) $\tan(135^\circ) =$ $\frac{\frac{\sqrt{2}}{2}}{-\frac{\sqrt{2}}{2}} = -1$

7) $\sin\left(\frac{-\pi}{3}\right) =$ $-\frac{\sqrt{3}}{2}$

8) $\cos\ -120^\circ =$ $-\frac{1}{2}$

Unit Circle Worksheet C

Name Key

Period _____

The given point P is located on the Unit Circle. State the quadrant and find the angle θ, also $\sin\theta$, $\cos\theta$ and $\tan\theta$.

1) $P\left(-\frac{1}{2},\frac{\sqrt{3}}{2}\right)$

Quad: II

$\sin\theta$: $\frac{\sqrt{3}}{2}$

$\cos\theta$: $-\frac{1}{2}$

$\tan\theta$: $\frac{\sqrt{3}}{2} \cdot \frac{-2}{1} = -\sqrt{3}$

2) $P(0,-1)$

Quad: No Quad.

$\sin\theta$: -1

$\cos\theta$: 0

$\tan\theta$: $\frac{-1}{0}$ = Undefined

3) $P\left(\frac{-\sqrt{2}}{2},\frac{-\sqrt{2}}{2}\right)$

Quad: III

$\sin\theta$: $-\frac{\sqrt{2}}{2}$

$\cos\theta$: $-\frac{\sqrt{2}}{2}$

$\tan\theta$: 1

Find the exact value of each function.

4) $\cos\left(\frac{7\pi}{4}\right) = \frac{\sqrt{2}}{2}$

5) $\sin -30° = -\frac{1}{2}$

6) $\sin\left(-\frac{2\pi}{3}\right) = -\frac{\sqrt{3}}{2}$

7) $\cos(600°)$ $\quad -360$, 240 $= -\frac{1}{2}$

8) $\sin\left(\frac{9\pi}{2}\right)$ $\quad 4\frac{1}{2}\pi$, $\frac{\pi}{2}$ $= 1$

9) $\tan(7\pi)$ $\quad \tan\pi$ $= \frac{0}{-1} = 0$

10) $\cos\left(-\frac{11\pi}{4}\right)$ $\quad \cos -2\frac{3}{4}\pi$, $\cos -\frac{3\pi}{4}$ $= \frac{\sqrt{2}}{2}$

11) $\sin -225°$ $\quad \sin 135$ $= \frac{\sqrt{2}}{2}$

12) $\tan(585°)$ $\quad -360$, 225 $= \frac{-\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = 1$

13) $\cos(1440°)$ $\quad \frac{1440}{360} = 4$

$\cos 0 = 1$

14) $\sin\left(-\frac{13\pi}{4}\right)$ $\quad \sin\left(-3\frac{1}{4}\pi\right)$, $\sin -1\frac{1}{4}\pi$, $\sin\left(-\frac{5\pi}{4}\right)$ $= \frac{\sqrt{2}}{2}$

15) $\cos\left(\frac{23\pi}{6}\right)$ $\quad \cos 3\frac{5}{6}\pi$, $\cos 1\frac{5}{6}\pi$, $\cos\frac{11\pi}{6}$ $= \frac{\sqrt{3}}{2}$