

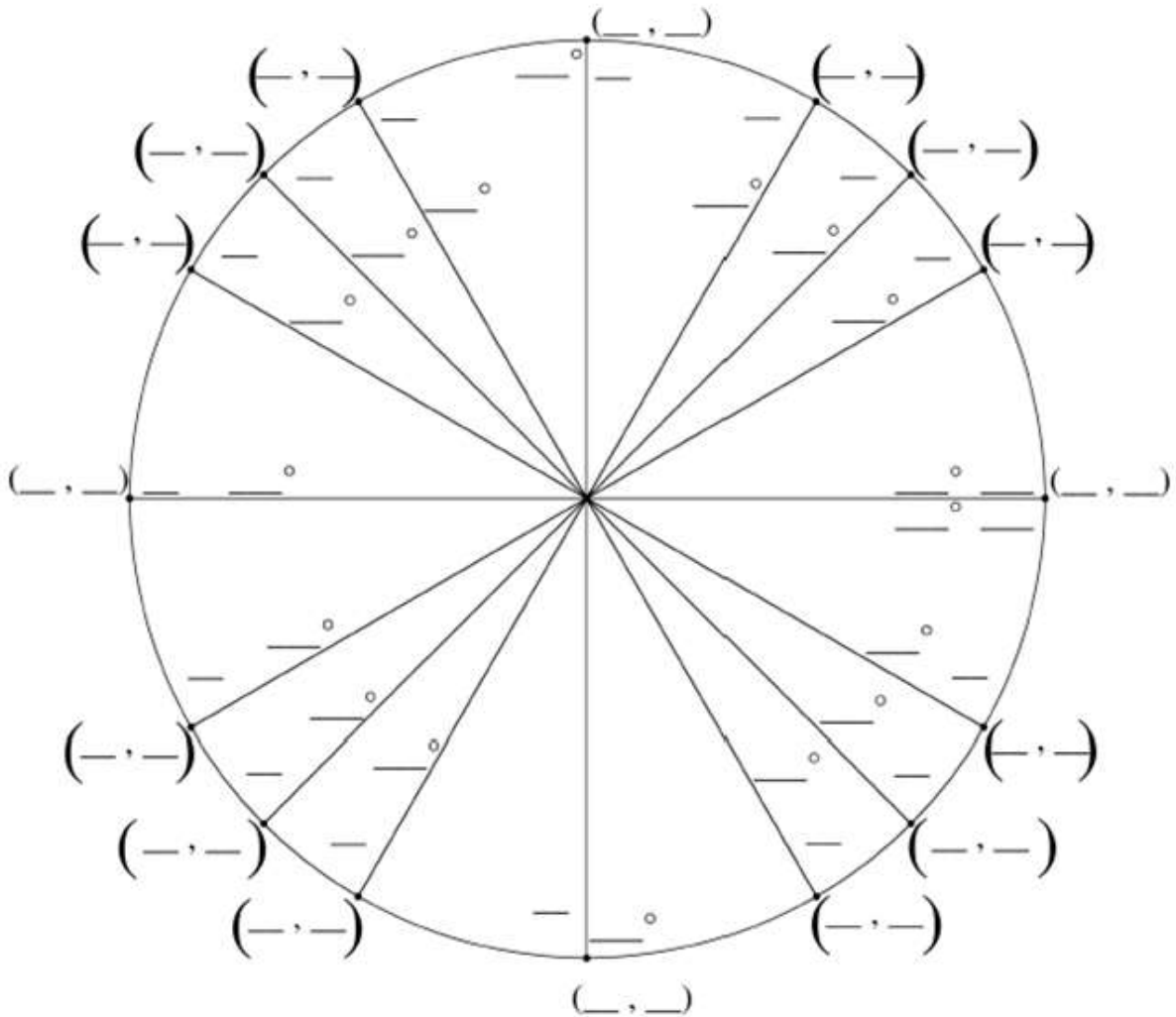
REVIEW #3 - Activities 19-20

Name _____ Date: _____

100 Total Points

I. Free Response – NO CALCULATOR

1) Fill in the unit circle below. (14 pts)



(3 pts each)

Find the exact value of each expression. Express all angle measures in radians.

2) $\cos^{-1}\left(-\frac{\sqrt{3}}{2}\right)$ _____

3) $\tan^{-1}(-1)$ _____

4) $\cos^{-1}\left(\cos\left(-\frac{3\pi}{4}\right)\right)$ _____

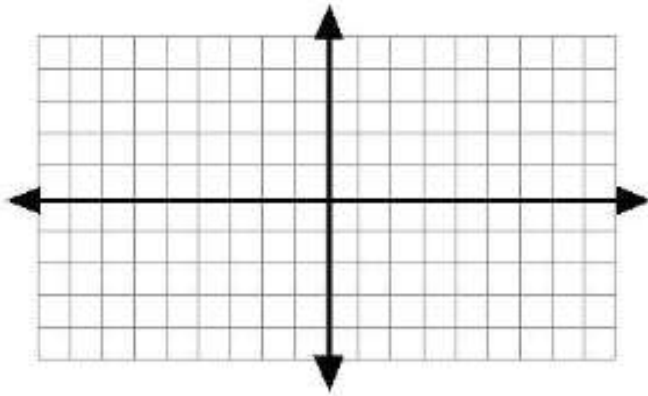
Find the general solutions of each of the following equations. Express your answers in radians.

5) $\cos x = -\frac{\sqrt{2}}{2}$ _____

6) $\tan x = \frac{\sqrt{3}}{3}$ _____

7) Sketch $y = \cos^{-1}x$. Clearly label the axes. Complete the information below for $y = \cos^{-1}x$.

(7 pts)



a) Domain: _____

b) Range: _____

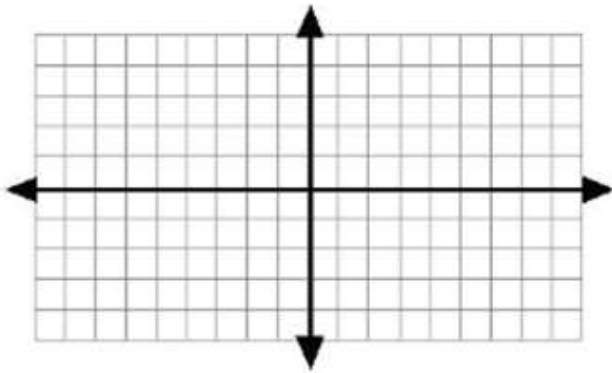
c) Zeros: _____

d) Increasing: _____

e) Decreasing: _____

Sketch $y = \sin^{-1}x$. Clearly label the axes. Complete the information below for $y = \sin^{-1}x$.

(7 pts)



a) Domain: _____

b) Range: _____

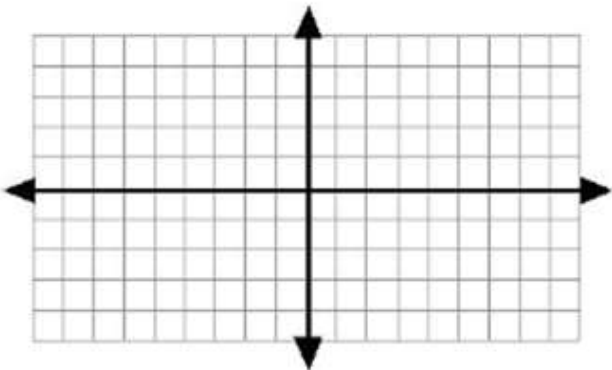
c) Zeros: _____

d) Increasing: _____

e) Decreasing: _____

Sketch $y = \tan^{-1}x$. Clearly label the axes. Complete the information below for $y = \tan^{-1}x$.

(7 pts)



a) Domain: _____

b) Range: _____

c) Zeros: _____

d) Increasing: _____

e) Decreasing: _____

A CALCULATOR MAY BE USED**II. Free Response****SHOW ALL WORK!!!**

- 8) Find the reference angle for a standard position angle with a measure of 875° . **(5 pts)**
- 9) Find the general solutions of $\csc x = -\sqrt{2}$ in degrees. **(5 pts)**
- 10) Find the exact solutions of $-9\sin x + 8 = -16\sin x + 1$ over the interval $[0\pi, 2\pi)$. **(5 pts)**
- 11) Find the exact solutions of $2\sin^2 x + 3\sin x = -1$ over the interval $[0^\circ, 360^\circ)$. **(5 pts)**
- 12) Is the angle $\frac{5\pi}{3}$ in the range of inverse sine? Justify. **(5 pts)**

III. Multiple Choice – (3 pts each)

13) Write two expressions that represent inverse $\tan x$.

14) The value of $\arccos\left(-\frac{\sqrt{3}}{2}\right)$ is equal to

15) The value of $\sin^{-1}\left(-\frac{1}{2}\right)$ is

16) Complete the following is for $y = \sin^{-1}(x)$.

I: The domain is _____

II: The range is _____

17) Find the solutions of the equation, $2\cos^2 x = 3\cos x$, over the interval $[0, 2\pi)$.

18) Find the solutions of $\sqrt{2} \cos \theta - 1 = 0$ over the interval $[0^\circ, 360^\circ)$.

19) Solve the following equation over the interval $[0, 2\pi)$.

$$4\sin^2 x - 3 = 0$$

20) Evaluate $\sin^{-1}(-0.859)$ to three decimal places.

21) Evaluate $\arccos(0.732)$ to the nearest degree.

22) Find the general solutions of $\tan \theta = -\sqrt{3}$.

23) Find the reference angle for a standard position angle theta with a measure of $\frac{2\pi}{3}$.

24) Solve $\tan^2 x = \frac{16}{81}$ over the interval $[0\pi, 2\pi)$ to the nearest thousandth.

25) Solve $2 \cos x + 1 = 0$ over the interval $[0^\circ, 360^\circ)$.