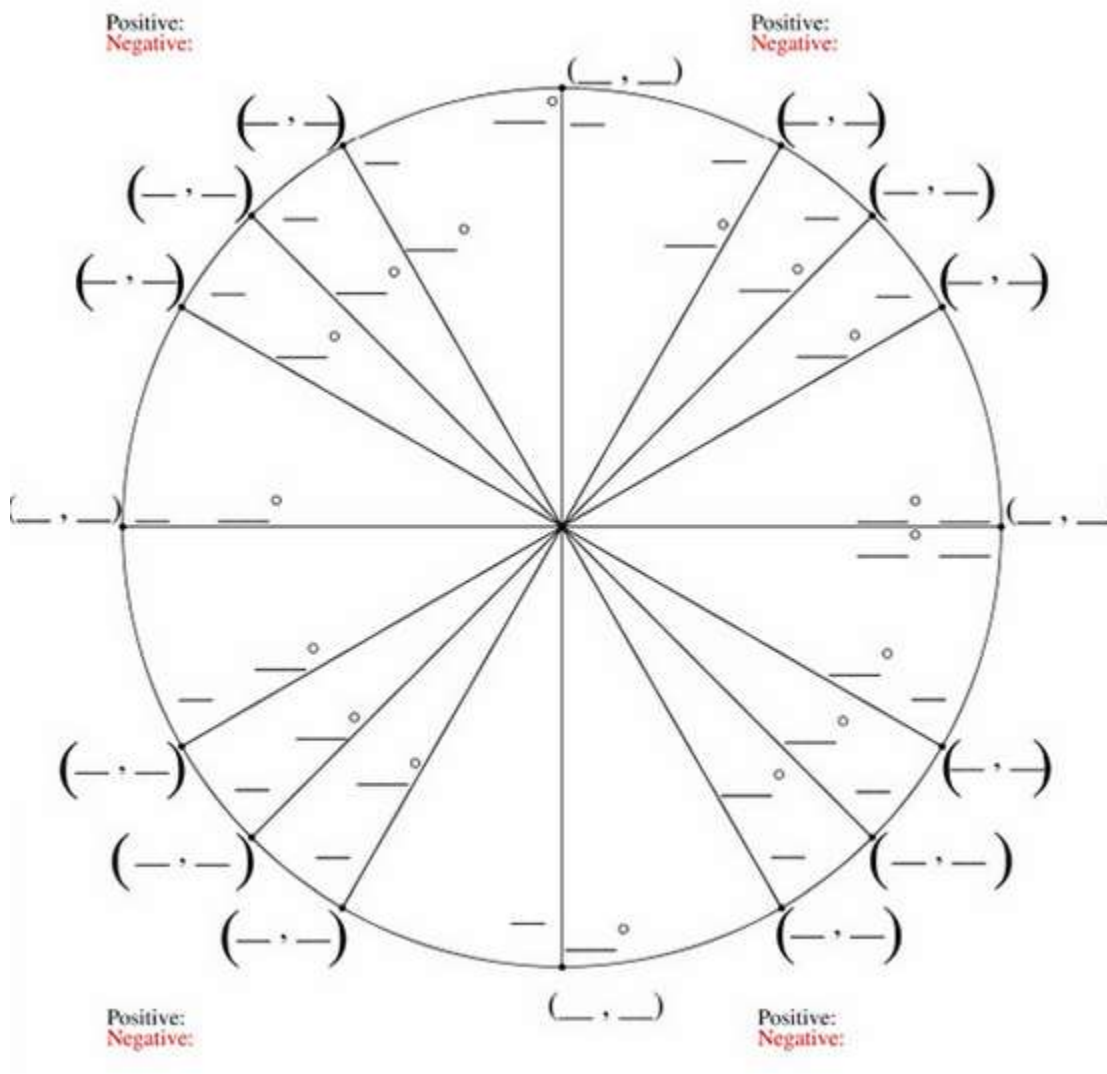


1) Fill in the unit circle.



2) Fill in the blanks to complete each statement.

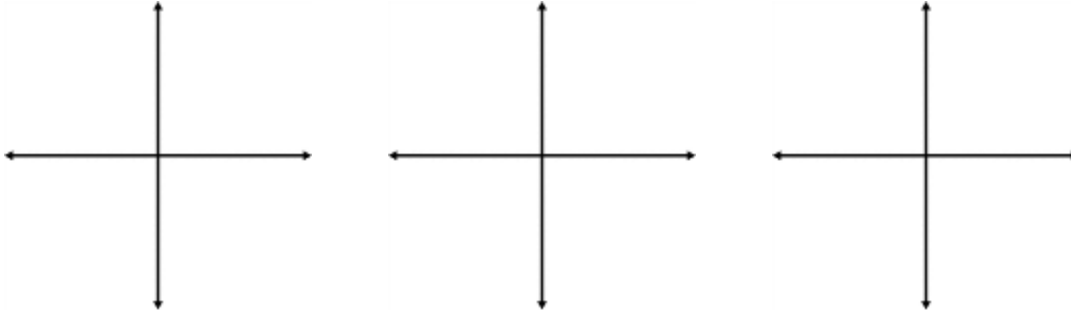
- The values of $\arccos \theta$ are found from _____° to _____° or _____ radians to _____ radians.
- The values of $\sin^{-1} \theta$ are found from _____° to _____° or _____ radians to _____ radians.
- The values of $\tan^{-1} \theta$ are found from _____° to _____° or _____ radians to _____ radians.

3) Indicate the quadrants where the trig functions are positive and negative by placing "+" and "-" signs on the graphs below.

a. $\sin \theta$

b. $\cos \theta$

c. $\tan \theta$



4) Complete the chart below.

θ radians	θ degrees	$\sin \theta$	$\cos \theta$	$\tan \theta$
0				0
	30°		$\frac{\sqrt{3}}{2}$	
$\frac{\pi}{4}$			$\frac{\sqrt{2}}{2}$	
$\frac{\pi}{3}$		$\frac{\sqrt{3}}{2}$		
	90°		0	undefined

5) List the three conditions of a reference angle.

1. _____

2. _____

3. _____

6) Given reference angle α , explain how to determine the measure of θ if it is located in

a. Quadrant II: radians _____ degrees _____

b. Quadrant III: radians _____ degrees _____

c. Quadrant IV: radians _____ degrees _____

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

a. $\sin^{-1}\left(\frac{\sqrt{2}}{2}\right)$

b. $\tan^{-1}(-1)$

c. $\sin^{-1}\left(\cos\left(-\frac{5\pi}{4}\right)\right)$

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

a. $\sin \theta = \left(-\frac{\sqrt{3}}{2}\right)$

b. $\tan \theta = \frac{\sqrt{3}}{3}$

9) Find the reference angle for a standard position angle with a measure of 524° .

10) Find the general solutions of $\csc x = -2$ in degrees.

11) Find the exact solutions of $4\cos^2 x - 3 = 0$ over the interval $[0\pi, 2\pi)$.

12) Find the exact solutions of $\sec^2 x + 3\sec x + 2 = 0$ over the interval $[0^\circ, 360^\circ)$.

13) Is the angle $\frac{3\pi}{4}$ in the range of inverse sine? Justify your answer.

14) Is the angle $\frac{3\pi}{4}$ in the range of inverse cosine? Justify your answer.

15) Write two expressions for the inverse sine.

16) Find the value of $\arccos\left(-\frac{\sqrt{3}}{2}\right)$ in radians.

17) Find the value of $\sin^{-1}(-1)$ in radians.

18) Write the domain and range of $y = \sin^{-1} x$ in

a. Interval notation _____

b. Set-builder notation _____

19) Write the domain and range of $y = \cos^{-1} x$ in

a. Interval notation _____

b. Set-builder notation _____

20) Write the domain and range of $y = \tan^{-1} x$ in

a. Interval notation _____

b. Set-builder notation _____

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

22) Find the solutions of $2\cos x - \sqrt{3} = 0$ over the interval $[0^\circ, 360^\circ)$.

23) Evaluate $\arccos(0.586)$ to the nearest degree.

24) Evaluate $\tan^{-1}(-5.945)$ to three decimal places.

25) Find the reference angle for a standard position angle theta with a measure of $\frac{8\pi}{3}$.

26) How many solutions does the equation $\cot^2 \theta = \frac{8}{15}$ have?