

Unit Circle Review/Polar Coordinates (Homework)

Use the circle to answer the following.

1. At which point(s) shown is the cosine negative?

C, D, E

2. What is the positive radian measure of $\angle AHC$?

$\frac{2\pi}{3}$

3. What is the sine of the angle that would be at point G?

$-\frac{1}{2}$

4. Give the polar coordinates of E. $(2, \frac{7\pi}{6})$

5. What is the counterclockwise angle measure, in radians, of $\angle AHG$? What is the clockwise measure of the same angle?

$11\pi/6$ $-\pi/6$

6. At which labeled point does sine=cosine? Give the degree and radian measure of this angle.

B, 45° , $\pi/4$

7. Which point labeled on the circle corresponds to the angle of $-\frac{5\pi}{6}$? E

8. Which point labeled on the circle corresponds to the angle $\frac{7\pi}{2}$? F

9. On the graph, plot the following and label:

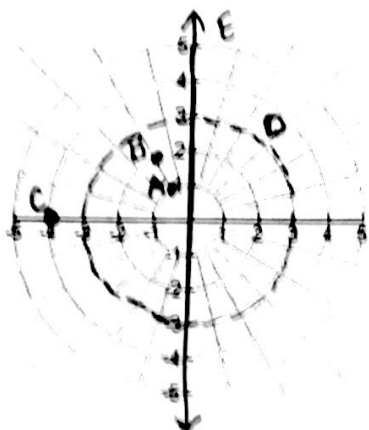
A) $(-1, -\frac{\pi}{3})$

B) $(2, \frac{2\pi}{3})$

C) $(4, 3\pi)$

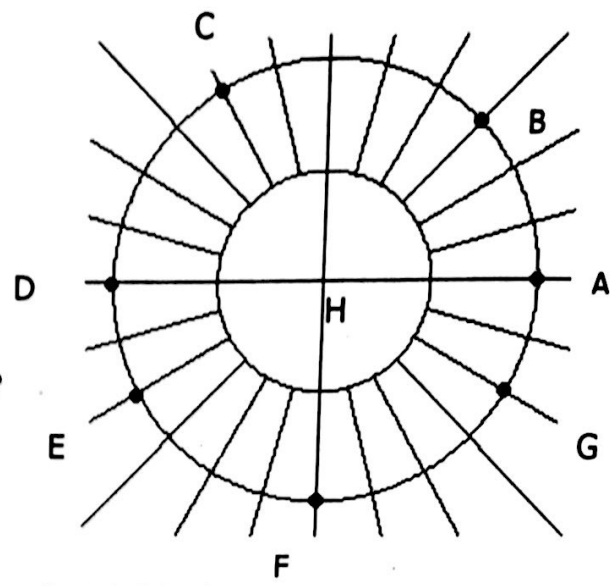
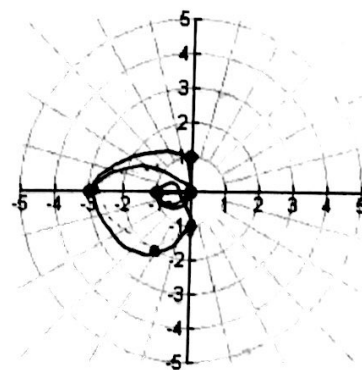
D) $r = 3$

E) $\theta = \frac{\pi}{2}$



10. On the graph, plot $r = 1 - 2\cos\theta$ using the following points:

r	θ
-1	0
0	$\frac{\pi}{3}$
1	$\frac{\pi}{2}$
3	π
2	$\frac{4\pi}{3}$
1	$\frac{3\pi}{2}$
0	$\frac{5\pi}{3}$
-1	2π



Match each expression with its value.

1) $\sin \frac{\pi}{4} = \frac{\sqrt{2}}{2}$	2) $\cos \frac{\pi}{3} = \frac{1}{2}$	3) $\tan \frac{\pi}{6} = \frac{\sqrt{3}}{3}$	4) $\tan \pi = 0$	5) $\sin \frac{\pi}{2} = 1$
6) $\sin \frac{5\pi}{4} = -\frac{\sqrt{2}}{2}$	7) $\tan \frac{5\pi}{4} = 1$	8) $\tan \frac{\pi}{4} = 1$	9) $\sin \frac{5\pi}{6} = \frac{1}{2}$	10) $\cos \frac{\pi}{2} = 0$
11) $\sin \frac{2\pi}{3} = \frac{\sqrt{3}}{2}$	12) $\cos \frac{5\pi}{3} = \frac{1}{2}$	13) $\cos \frac{2\pi}{3} = -\frac{1}{2}$	14) $\tan \frac{3\pi}{2} = \text{und.}$	15) $\cos \pi = -1$
16) $\sin \pi = 0$	17) $\cos \frac{7\pi}{6} = -\frac{\sqrt{3}}{2}$	18) $\tan \frac{5\pi}{3} = -\sqrt{3}$	19) $\sin 0 = 0$	20) $\cos \frac{7\pi}{4} = \frac{\sqrt{2}}{2}$

Values.

A. $-\frac{\sqrt{3}}{3}$	E. $\frac{\sqrt{3}}{3}$	G. $-\frac{1}{2}$	I. $\frac{1}{2}$	L. $-\frac{\sqrt{2}}{2}$	M. -1	N. 1
O. $-\frac{\sqrt{3}}{2}$	P. $\frac{\sqrt{3}}{2}$	Q. $\sqrt{3}$	R. undefined	S. 0	U. $\frac{\sqrt{2}}{2}$	$\pm. -\sqrt{3}$

PLUS
11 6 20 10

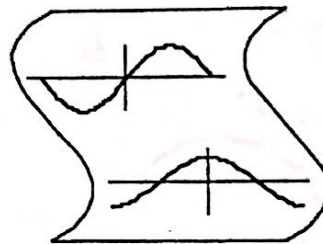
OR
17 14

MINUS
15 12 5 1 19

SINE
16 2 8 3

(SIGN)
18 4 9 13 7

WHAT IS THE TITLE OF THIS PICTURE?



Match each equation with a solution where $0 \leq \theta < 2\pi$.

1) $\sin \theta = \frac{1}{2} \frac{\pi}{6}, \frac{5\pi}{6}$	2) $\cos \theta = \frac{\sqrt{2}}{2} \frac{\pi}{4}, \frac{7\pi}{4}$	3) $\tan \theta = \frac{\sqrt{3}}{3} \frac{\pi}{6}, \frac{\pi}{6}$	4) $\tan \theta = -\sqrt{3} \frac{2\pi}{3}, \frac{5\pi}{3}$
5) $\sin \theta = 1 \frac{\pi}{2}$	6) $\cos \theta = -\frac{\sqrt{3}}{2} \frac{5\pi}{6}, \frac{\pi}{6}$	7) $\tan \theta = -1 \frac{3\pi}{4}, \frac{\pi}{4}$	8) $\sin \theta = -1 \frac{3\pi}{2}$

Match each expression with the angle θ as defined by the inverse trig function.

9) $\sin^{-1}(\frac{1}{2}) = \frac{\pi}{6}$	10) $\cos^{-1}(\frac{\sqrt{2}}{2}) = \frac{\pi}{4}$	11) $\tan^{-1}(\frac{\sqrt{3}}{3}) = \frac{\pi}{6}$	12) $\tan^{-1}(-\sqrt{3}) = -\frac{\pi}{3}$
13) $\sin^{-1}(1) = \frac{\pi}{2}$	14) $\cos^{-1}(-\frac{\sqrt{3}}{2}) = \frac{5\pi}{6}$	15) $\tan^{-1}(-1) = -\frac{\pi}{4}$	16) $\sin^{-1}(-1) = -\frac{\pi}{2}$

Values.

A. $\frac{5\pi}{6}$	E. $\frac{\pi}{2}$	H. $-\frac{\pi}{4}$	I. $\frac{\pi}{4}$	G. $-\frac{\pi}{2}$	N. $\frac{3\pi}{2}$	S. $\frac{\pi}{6}$
E. $-\frac{\pi}{3}$	I. $\frac{\pi}{6}, \frac{5\pi}{6}$	N. $\frac{\pi}{6}, \frac{7\pi}{6}$	P. $\frac{5\pi}{6}, \frac{7\pi}{6}$	S. $\frac{\pi}{4}, \frac{7\pi}{4}$	T. $\frac{3\pi}{4}, \frac{7\pi}{4}$	U. $\frac{2\pi}{3}, \frac{5\pi}{3}$