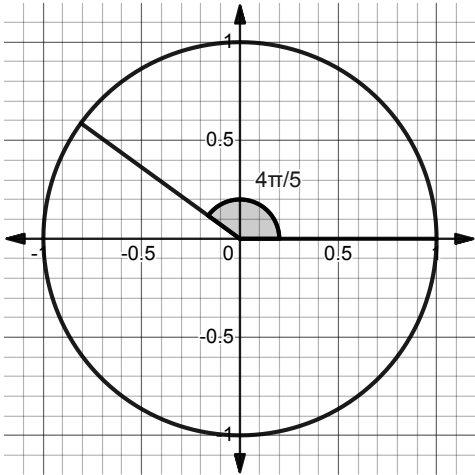


APPC Lesson 6.3 Homework

Name _____

1. Use the unit circle shown to approximate the values of $\sin\left(\frac{4\pi}{5}\right)$ and $\cos\left(\frac{4\pi}{5}\right)$ to the nearest tenth.

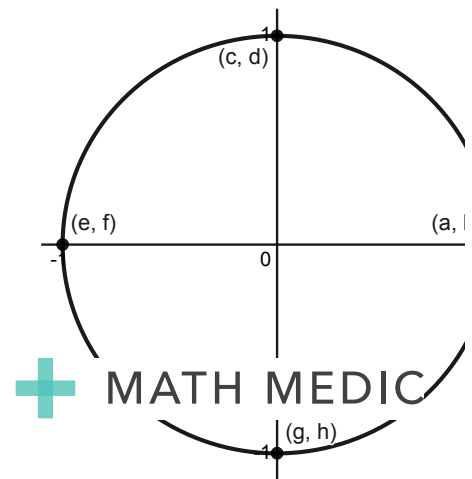


2. Four points and their coordinates are shown on the unit circle. Which value (a, b, c, d, e, f, g, or h) is equal to...

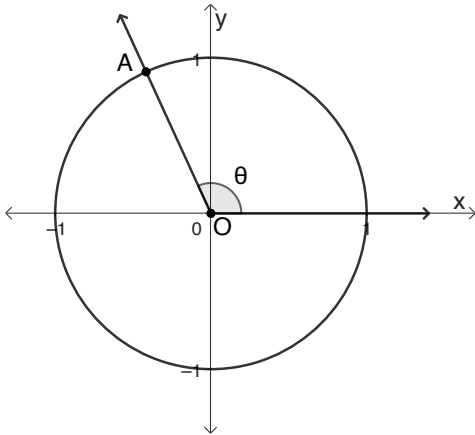
a. $\sin\left(\frac{3\pi}{2}\right)$

b. $\cos(2\pi)$

c. $\cos\left(\frac{\pi}{2}\right)$



3. In the figure below, $\theta = 2$ radians. Give the coordinates of Point A , to the nearest thousandth.

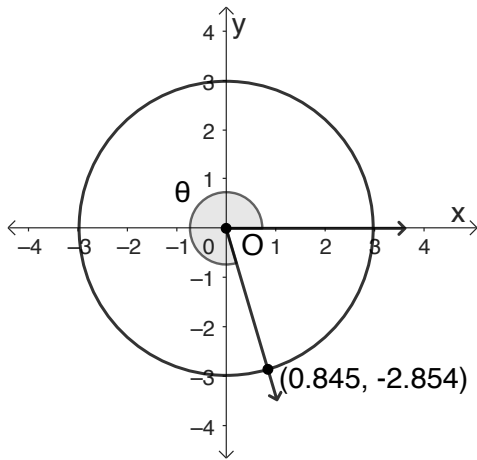


4. Which of the following has a negative value?
- A) $\tan\left(\frac{5\pi}{4}\right)$
 - B) $\sin\left(\frac{5\pi}{6}\right)$
 - C) $\cos\left(\frac{4\pi}{3}\right)$
 - D) $\cos\left(\frac{13\pi}{6}\right)$
5. At which other angle on the interval $0 \leq \theta \leq 2\pi$ is the cosine ratio the same as the cosine ratio at $\theta = \frac{5\pi}{7}$?

6. An angle in standard position has a measure of 5 radians. The terminal ray of the angle intersects a circle centered at the origin with a radius of 1 , at point A .

- What quadrant is Point A in?
- What is the ratio of the vertical displacement of Point A to the horizontal displacement of Point A ? Round to the nearest thousandth.

7. A point on the terminal ray of angle θ is shown. Find $\sin \theta$, $\cos \theta$, and $\tan \theta$.



8. Angle θ is in standard position with a terminal side in quadrant 4. Given that $\cos \theta = 0.75$, find $\sin \theta$ and $\tan \theta$. Give exact answers and show how you arrived at your answers.

9. If $\sin \theta < \cos \theta < 0$, which of the following could be the measure of θ ?

A) $\frac{\pi}{6}$

B) $\frac{7\pi}{6}$

C) $\frac{4\pi}{3}$

D) $\frac{5\pi}{3}$

10. Let M be a real number where $-1 \leq M \leq 1$.

a. Explain why there are always two angles on the interval $[0, 2\pi]$ where $\sin \theta = M$.

b. Describe the relationship between the measures of the two angles.