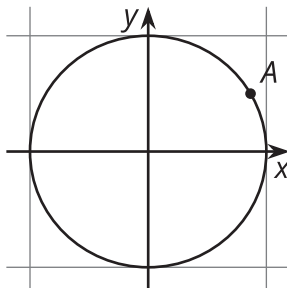


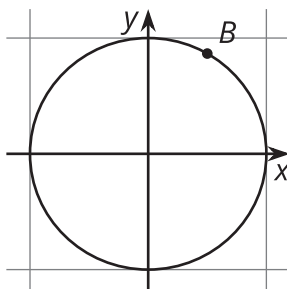
## Lesson 5 Practice Problems

1. The pictures show points on a unit circle labeled A, B, C, and D. Which point is  $(\cos(\frac{\pi}{3}), \sin(\frac{\pi}{3}))$ ?

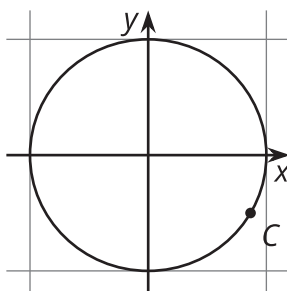
A.



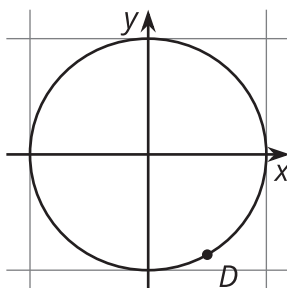
B.



C.



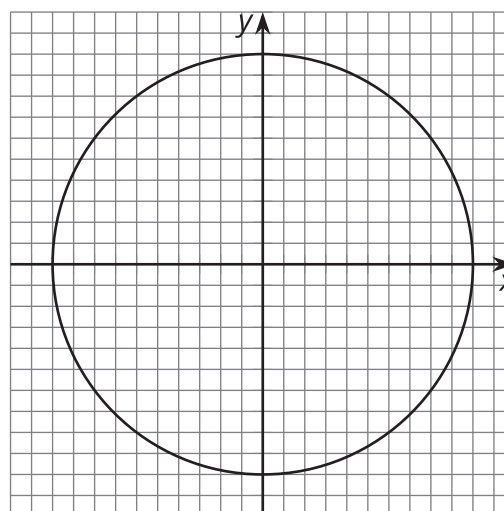
D.



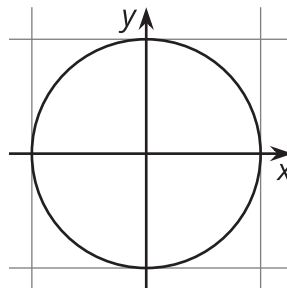
2. For which angles is the cosine positive? Select **all** that apply.

- A. 0 radians
- B.  $\frac{5\pi}{12}$  radians
- C.  $\frac{5\pi}{6}$  radians
- D.  $\frac{3\pi}{4}$  radians
- E.  $\frac{5\pi}{3}$  radians

3. Mark two angles on the unit circle whose measure  $\theta$  satisfies  $\sin(\theta) = -0.4$ . How do you know your angles are correct?

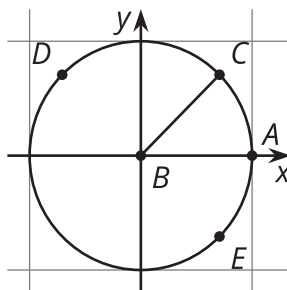


4. a. For which angle measures,  $\theta$ , between 0 and  $2\pi$  radians is  $\cos(\theta) = 0$ ? Label the corresponding points on the unit circle.



b. What are the values of  $\sin(x)$  for these angle measures?

5. Angle  $ABC$  measures  $\frac{\pi}{4}$  radians, and the coordinates of  $C$  are about  $(0.71, 0.71)$ .



a. The measure of angle  $ABD$  is  $\frac{3\pi}{4}$  radians. What are the approximate coordinates of  $D$ ? Explain how you know.

b. The measure of angle  $ABE$  is  $\frac{7\pi}{4}$  radians. What are the approximate coordinates of  $E$ ? Explain how you know.

(From Unit 6, Lesson 4.)

6. a. In which quadrant is the value of the  $x$ -coordinate of a point on the unit circle always greater than the  $y$ -coordinate? Explain how you know.

b. Name 3 angles in this quadrant.

(From Unit 6, Lesson 4.)

7. Lin is comparing the graph of two functions  $g$  and  $f$ . The function  $g$  is given by  $g(x) = f(x - 2)$ . Lin thinks the graph of  $g$  will be the same as the graph of  $f$ , translated to the left by 2. Do you agree with Lin? Explain your reasoning.

(From Unit 5, Lesson 3.)