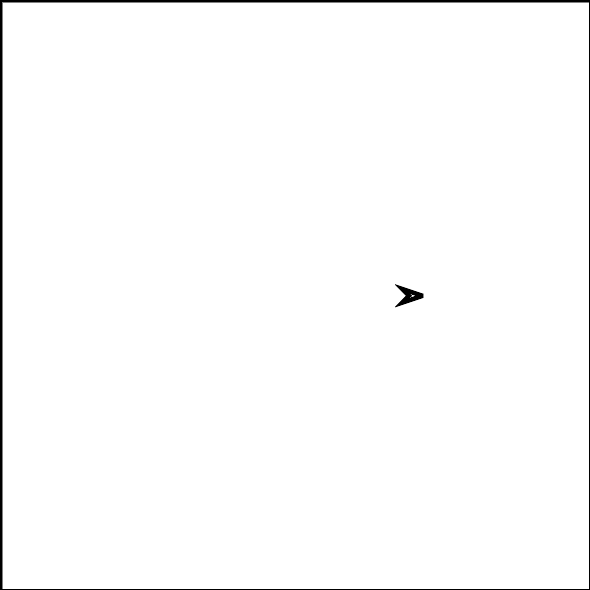
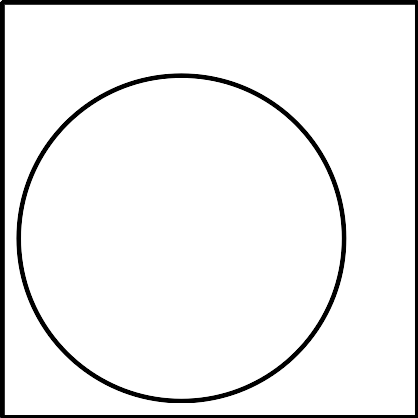
### Lesson 11 Practice Problems

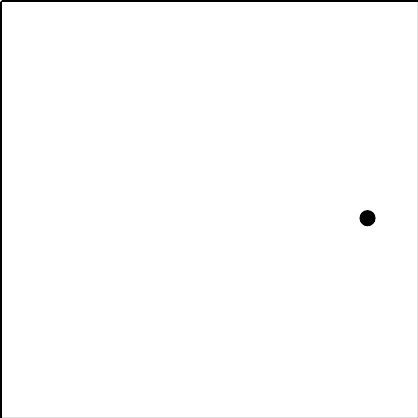
1. For which of these angles is the sine negative? Select **all** that apply.
2. The clock reads 3:00 p.m.

* Which of the following are true? Select **all** that apply.
* 
  1. In the next hour, the minute hand moves through an angle of radians.
  2. In the next 5 minutes, the minute hand will move through an angle of radians.
  3. After the minute hand moves through an angle of radians, it is 3:30 p.m.
  4. When the hour hand moves through an angle of radians, it is 4:00 p.m.
  5. The angle the minute hand moves through is 12 times the angle the hour hand moves through.

1. Plot each point on the unit circle.

* 

1. Which of these statements are true about the function given by ? Select **all** that apply.
   1. The graph of meets the -axis at
   2. The value of always stays the same when radians is added to the input.
   3. The value of always stays the same when radians is added to the input.
   4. The value of always stays the same when radians is added to the input.
   5. The graph of has a maximum when radians.
2. Here is a unit circle with a point at .

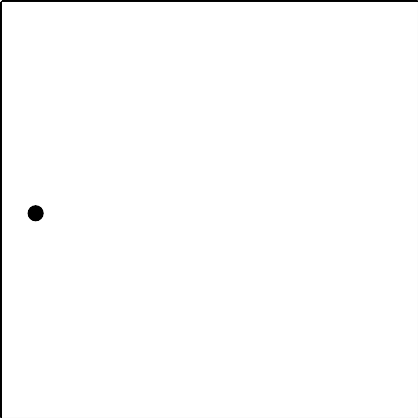
* For each positive angle of rotation of the unit circle around its center listed, indicate on the unit circle where is taken, and give a negative angle of rotation which takes to the same location.
* 
  1. , radians
  2. , radians
  3. , radians
  4. , radians

1. In which quadrant are both the sine and the tangent negative?
   1. first
   2. second
   3. third
   4. fourth

* (From Unit 6, Lesson 6.)

1. *Technology required*. Each equation defines a function. Graph each of them to identify which are periodic. Select **all** that are.

* (From Unit 6, Lesson 8.)

1. 
   1. List three different counterclockwise angles of rotation around the center of the circle that take to .
   2. Which quadrant(s) are the angles and  radians in? Is the sine of these angles positive or negative?

* (From Unit 6, Lesson 10.)



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