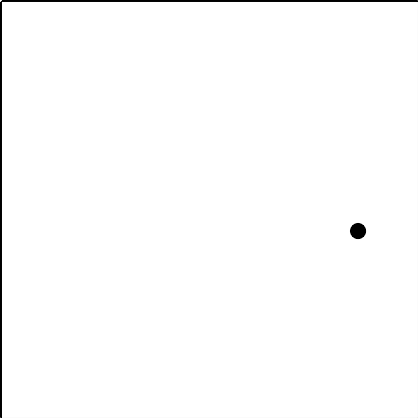
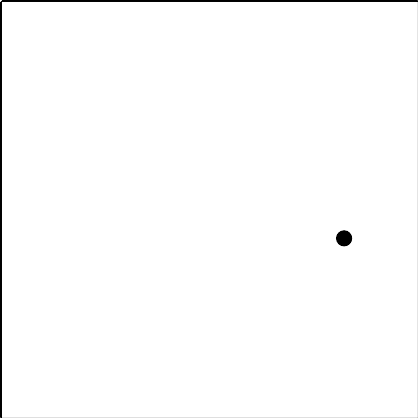
### Lesson 10 Practice Problems

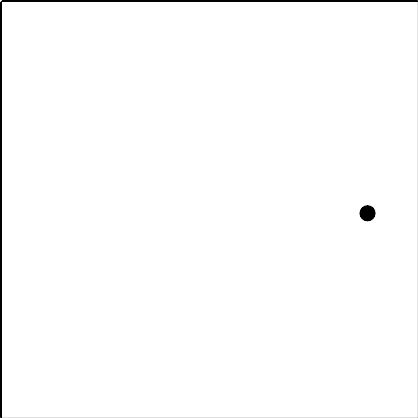
1. A rotation takes to . What could be the measure of the angle of rotation in radians? Select **all** that apply.

* 
  1. A radian rotation takes to . Label .
  2. A radian rotation takes to . Label .
  3. A radian rotation takes to . Label .
* 

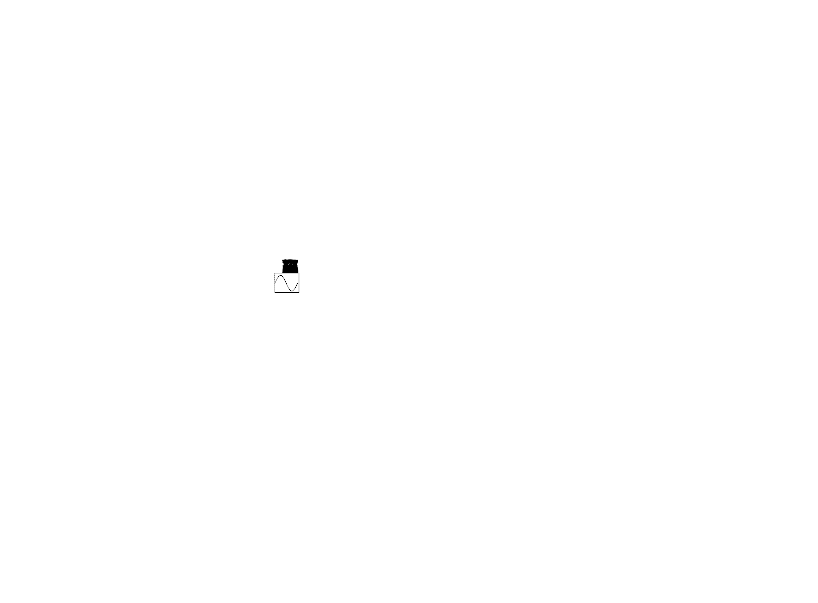
1. Here is a wheel with radius 1 foot.

* 
  1. List three different counterclockwise angles the wheel can rotate so that point ends up at position .
  2. How many feet does the wheel roll for each of these angles?

1. The point on the unit circle is in the 0 radian position.
   1. Which counterclockwise rotations take back to itself? Explain how you know.
   2. Which counterclockwise rotations take to the opposite point on the unit circle? Explain how you know.
2. Here is the unit circle with a point at . Find the coordinates of  after the circle rotates the given amount counterclockwise around its center.

* 
  1. of a full rotation
  2. of a full rotation
  3. of a full rotation
* (From Unit 6, Lesson 4.)

1. Here is a graph of .
   1. Plot the points on the graph where .
   2. For which angles  does ?

* 
* (From Unit 6, Lesson 9.)



© CC BY 2019 by Illustrative Mathematics®