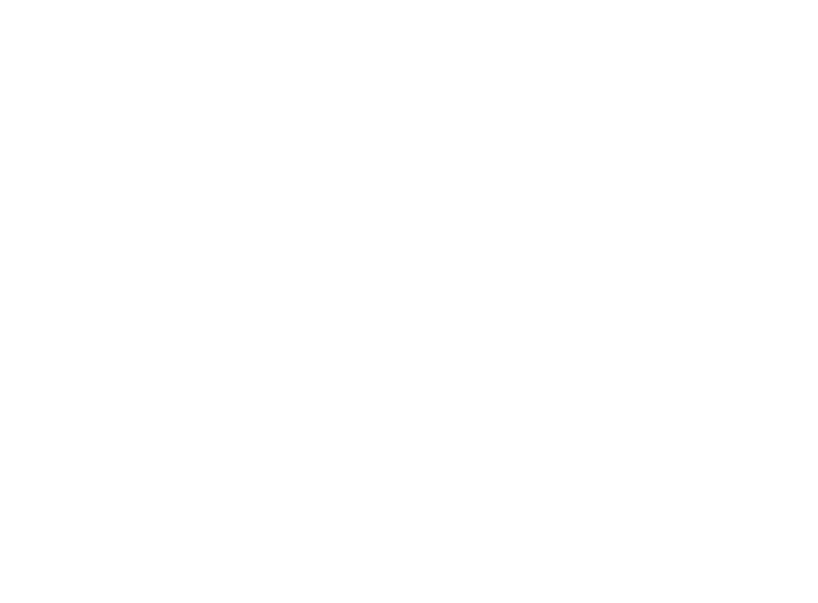
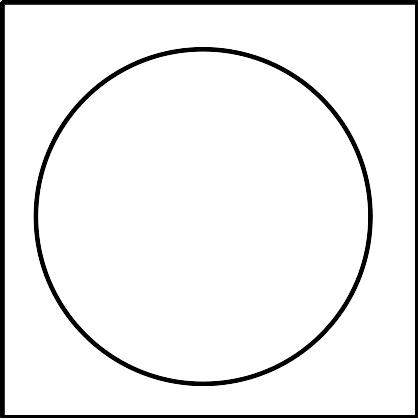
### Lesson 12 Practice Problems

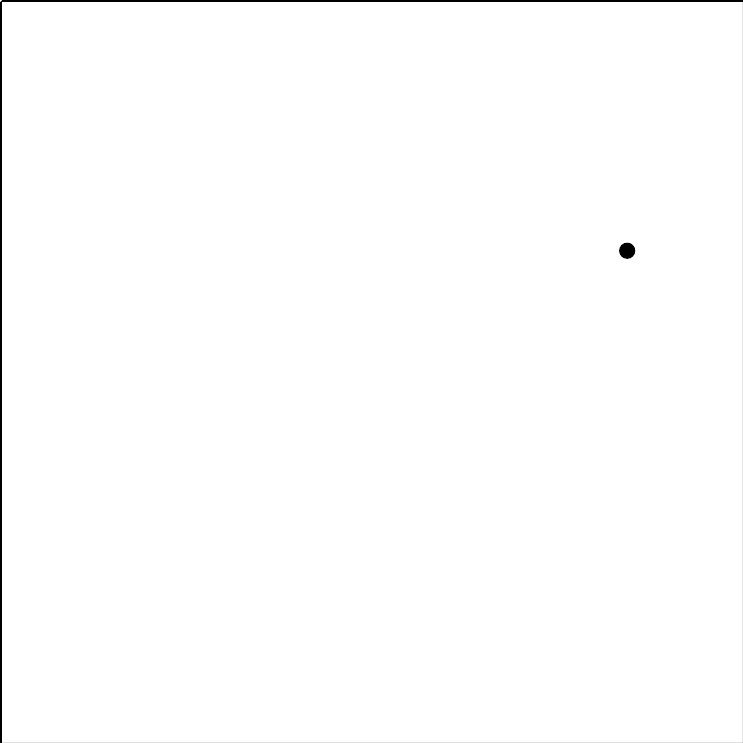
1. Here is a graph of given by .
   1. Are and in the domain of ? Explain how you know.
   2. What are the -intercepts of the graph of ? Explain how you know.

* 

1. The function is given by . Which of the statements are true? Select **all** that apply.
   1. is a periodic function
   2. The domain of is all real numbers.
   3. The range of is all real numbers.
   4. The period of is .
   5. The period of is .
2. Here is the unit circle.

* If where could angle be on the unit circle?
* 

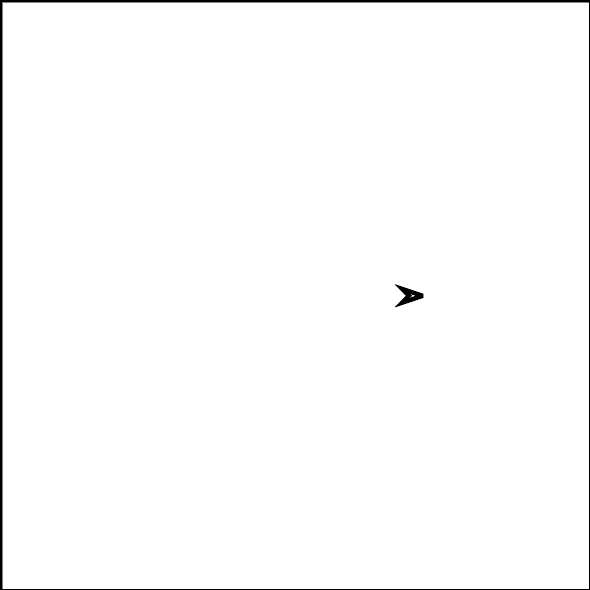
1. Here is a point on the unit circle.
   1. Explain why the line going through and has slope .
   2. What is the tangent of the angle represented by ? Explain how you know.

* 

1. For which angles between 0 and  is ? Explain how you know.

* (From Unit 6, Lesson 9.)

1. It is 3:00 a.m.

* 
  1. What angle will the hour hand rotate through in the next hour? Explain how you know.
  2. What angle will the hour hand rotate through in the next 12 hours? Explain how you know.
  3. What angle will the hour hand rotate through in the next 24 hours? Explain how you know.
* (From Unit 6, Lesson 11.)

1. The function is given by .
   1. Write an equation for the function whose graph is the graph of translated 3 units left and then reflected over the -axis.
   2. Write an equation for the function whose graph is the graph of reflected over the -axis and then translated 3 units to the left.
   3. Do and have the same graph? Explain your reasoning.

* (From Unit 5, Lesson 7.)



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