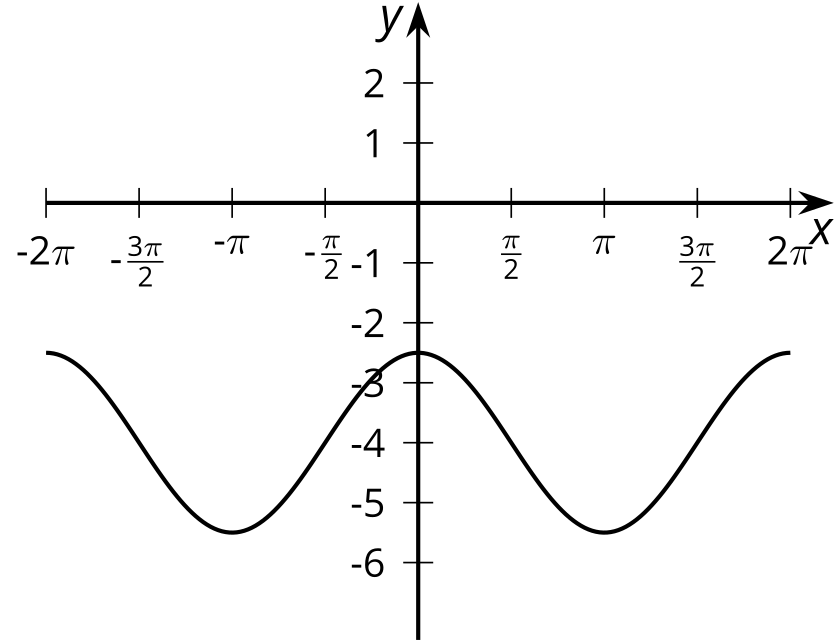
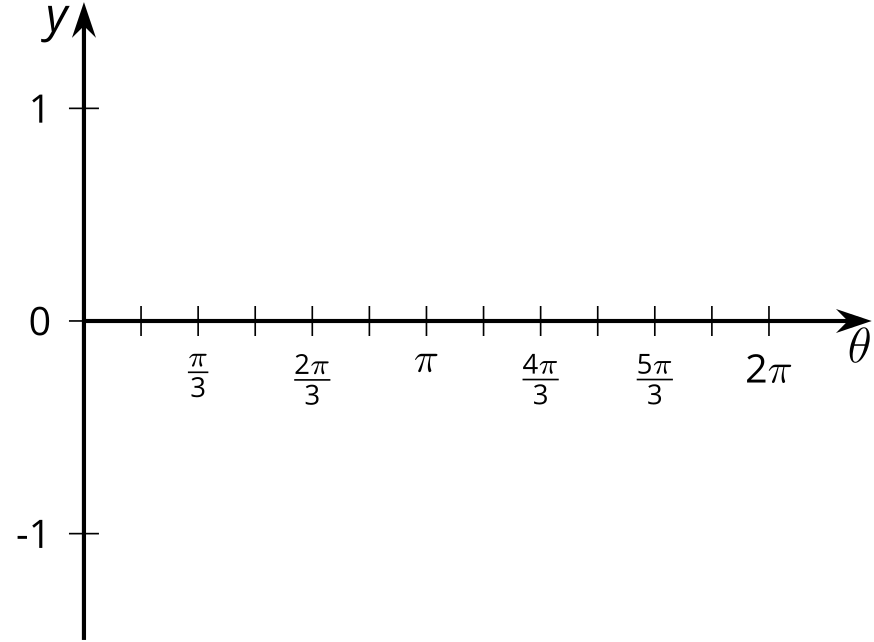
### Lesson 15 Practice Problems

1. Here is a graph of a trigonometric function. Which equation could define this function?

* 

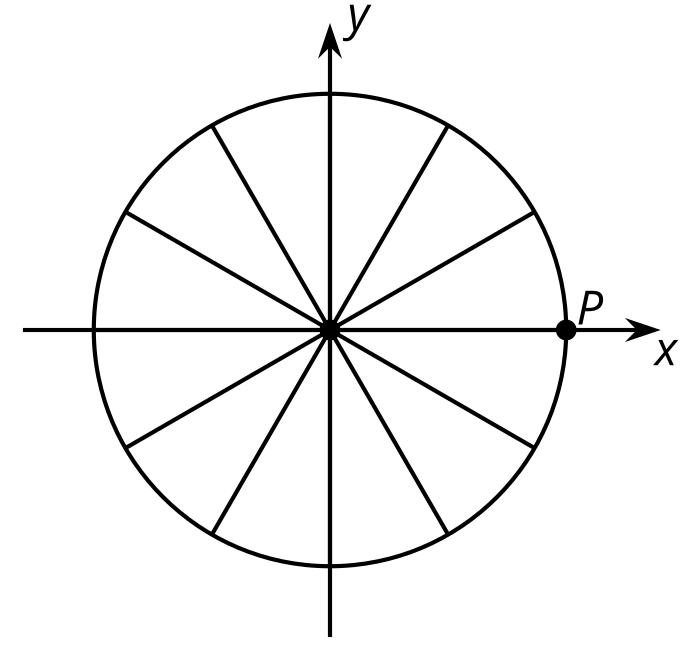
1. Select **all** the functions that have period .
   1. Sketch a graph of .
   2. Compare the graph of to the graph of . How are the two graphs alike? How are they different?

* 

1. The functions and are given by and . How are the graphs of and related?
2. Here is a point at the tip of a windmill blade. The center of the windmill is 6 feet off the ground and the blades are 1.5 feet long.

* Write an equation giving the height of the point after the windmill blade rotates by an angle of . Point is currently rotated radians from the point directly to the right of the center of the windmill.
* 
* (From Unit 6, Lesson 14.)

1. The coordinates of are .

* 
  1. If the wheel makes a rotation counterclockwise around its center, what radian angle does rotate through?
  2. If the wheel makes a rotation counterclockwise around its center, what radian angle does rotate through?
* (From Unit 6, Lesson 3.)

1. A Ferris wheel has a radius of 95 feet and its center is 105 feet above the ground. Which statement is true about a point on the Ferris wheel as it goes around in a circle?
   1. It is 85 feet off the ground once in quadrant 1 and once in quadrant 2.
   2. It is is 85 feet off the ground once in quadrant 2 and once in quadrant 3.
   3. It is 85 feet off the ground once in quadrant 3 and once in quadrant 4.
   4. It is 85 feet off the ground once in quadrant 4 and once in quadrant 1.

* (From Unit 6, Lesson 7.)



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