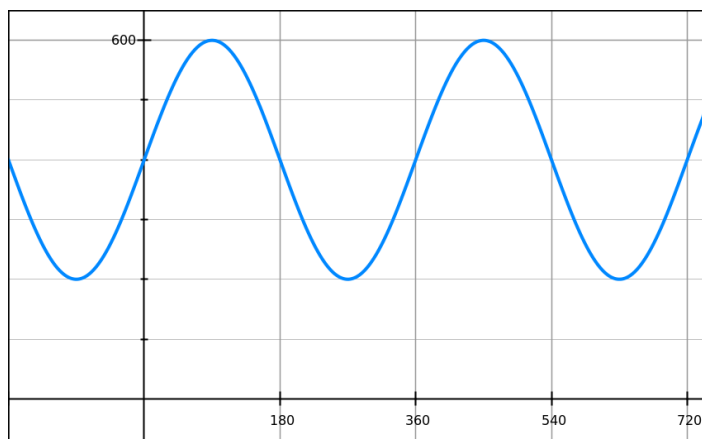


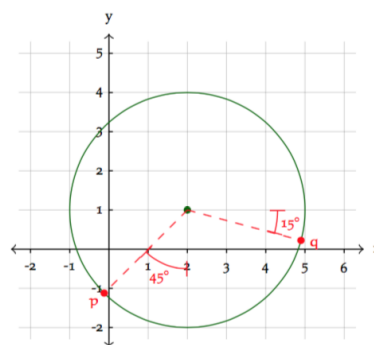
You will have at least 15 minutes to complete the quiz. You may use a calculator for computations, but your process must still be evident in the work you show. **SHOW YOUR WORK.** Also, there is a backside.

1. [4 pts] The graph of $f(\theta)$ is shown below. This function f describes the height of the rider of a Ferris wheel. That is, if the rider is θ degrees from the horizontal then their height is $f(\theta)$ feet from the ground.



- (a) What is the equation for $f(\theta)$?
- (b) What is the radius of the Ferris wheel?
- (c) What is the height of the center of the Ferris wheel?
2. [4 pts] Consider the circle shown on the right.

- (a) What are the coordinates of the point p ?



- (b) What are the coordinates of the point q ?

3. [4 pts] An airplane takes off a runway at an 8° angle from the runway. There are 2000 feet of runway remaining once the airplane takes off. How high is the plane once it reaches the end of the runway?