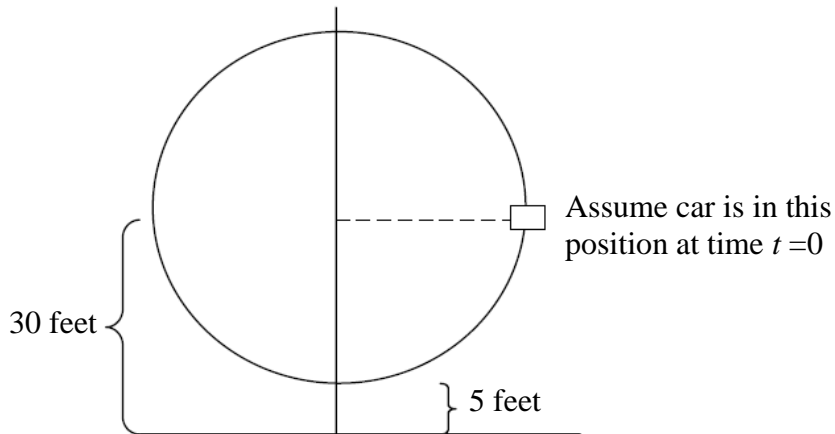
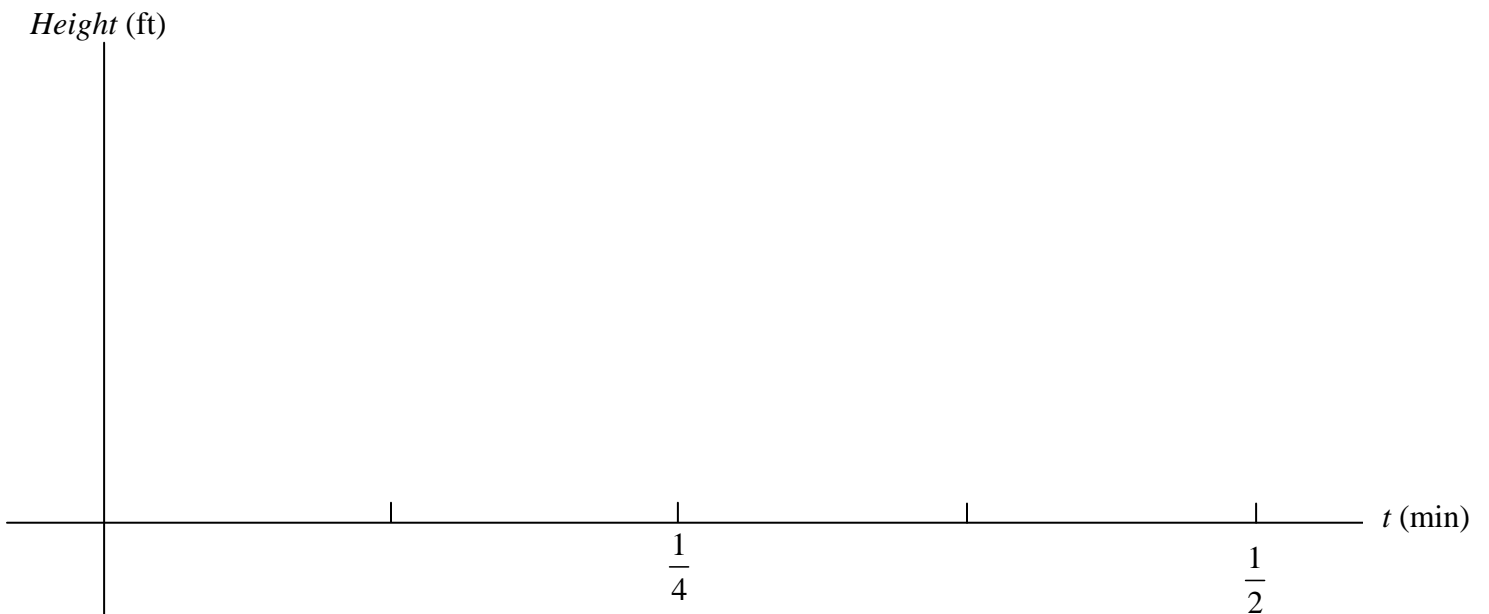


## Ferris Wheel

A ferris wheel 50 ft in diameter makes 4 revolutions in one minute.  
The center of the wheel is 30 ft. above the ground. The wheel is boarded 5 ft. off the ground.  
Assume the car travels **counterclockwise**.



Without using an equation, graph the height of the Ferris Wheel car, in feet, for a half minute ride.  
At  $t = 0$ , assume the car is in the position shown above (in the 3 o'clock position).



**Writing Assignment 1: Ferris Wheel****Due: Friday, January 16, 2009**

Name \_\_\_\_\_

Section: 9:00 11:00

Suppose the height of the Ferris Wheel on the back side of this sheet is given by  $y = H(t)$ .

- (4) 1. In the first minute, you are at the top of the Ferris Wheel (the 12 o'clock position) four times. What values of  $t$  are these?

$t =$  \_\_\_\_\_ min, \_\_\_\_\_ min, \_\_\_\_\_ min, and \_\_\_\_\_ min.

- (3) 2. Hint: Review Section 5.1 to answer the following.
- How does the graph of  $a(t) = H(t + \frac{1}{4})$  compare to the graph of  $y = H(t)$ ?
  - How does the graph of  $b(t) = H(t - \frac{1}{4})$  compare to the graph of  $y = H(t)$ ?
  - How does the graph of  $c(t) = H(t) + 2$  compare to the graph of  $y = H(t)$ ?
- (1) 3. Interpret what  $c(t) = H(t) + 2$  means in real life terms. Be specific. (Describe the properties of the Ferris Wheel.)

4. Report the period, amplitude, and the equation of the midline for  $y = H(t)$ .  
period: \_\_\_\_\_ amplitude: \_\_\_\_\_ midline:  $y =$  \_\_\_\_\_

- (2) 5. a. Report the period, amplitude, and the equation of the midline for  $a(t) = H(t + \frac{1}{4})$   
period: \_\_\_\_\_ amplitude: \_\_\_\_\_ midline:  $y =$  \_\_\_\_\_
- b. Report the period, amplitude, and the equation of the midline for  $c(t) = H(t) + 2$   
period: \_\_\_\_\_ amplitude: \_\_\_\_\_ midline:  $y =$  \_\_\_\_\_