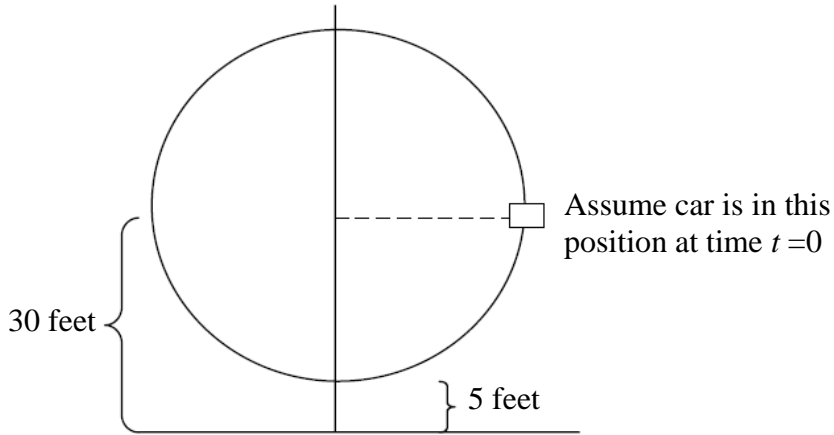
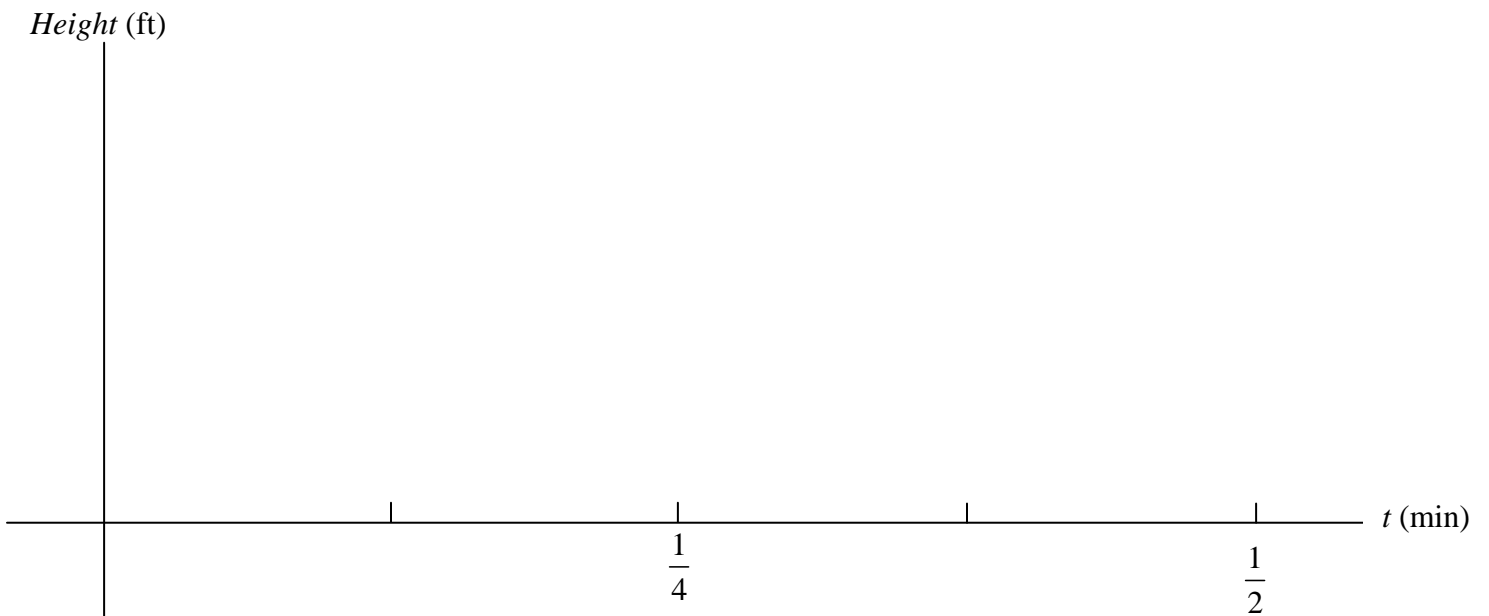


## Ferris Wheel

A ferris wheel 50 ft in diameter makes 4 revolutions in one minute.  
The center of the wheel is 30 ft. above the ground. 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.



**Writing Assignment 1: Ferris Wheel**

Name \_\_\_\_\_

**Due: Friday, August 29, 2008**

Section: 11:00 1:30

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.  
a. What values of  $t$  are these?

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

- (1) b. Describe how the graphs of  $a(t) = H(t + \frac{1}{4})$  and  $b(t) = H(t - \frac{1}{4})$  compare to the graph of  $y = H(t)$ .  
Hint: Review Section 5.1

- (1) 2. a. Describe how the graph of  $c(t) = H(t) + 2$  is related to the graph of  $y = H(t)$ .  
Hint: Review Section 5.1

- (1) b. Interpret what  $c(t) = H(t) + 2$  means in real life terms. Be specific.  
(Describe the properties of the Ferris Wheel.)

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