

Name:

Partner:

Teacher:

## Rush Street Flyer

### QUALITATIVE QUESTIONS

**NOTE:** Answer these questions based on what you see when you are looking at the ride from the front and the ride is moving at full speed in a clockwise direction.

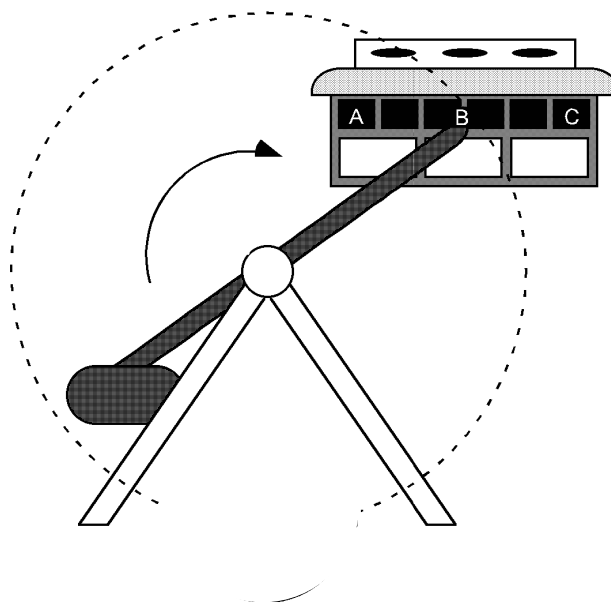
1. Is the car horizontal at all times or does it tilt as it goes around?

2. Draw a rectangle representing the car at the top, bottom, left side, and right side positions on the diagram.

3. Label each rectangle for passengers A, B, and C on the diagram.

4. The dotted line represents the path followed by a person sitting in position B in one revolution. Draw the path for passengers A and C on the diagram.

5. For a person sitting where you sat, is the path a perfect circle? Justify your answer based on your drawing.



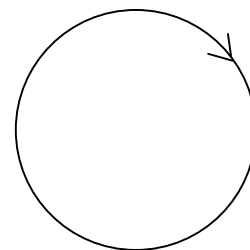
6. Once the ride reaches full speed, does the ride appear to vary in speed or maintain a fairly constant speed?

7. On the circle representing a rider's path, indicate at what point you felt

a. heaviest.

b. lightest.

c. Explain why you feel heavier at one position more than at any other.



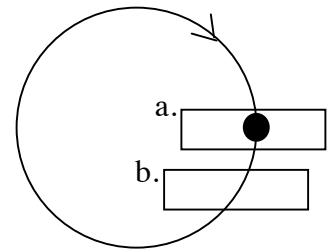
d. Explain why you felt lighter at one position more than at any other.

## Rush Street Flyer

### QUALITATIVE QUESTIONS (continued)

8. a. As the ride spins from point a. to point b., does a rider tend to slide to the inside or to the outside of the circle?

b. Is something pushing the rider in the direction you chose? If yes, what?



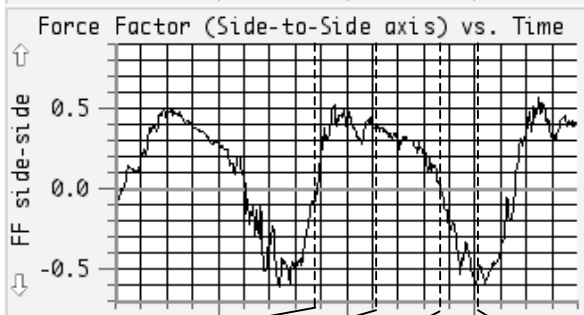
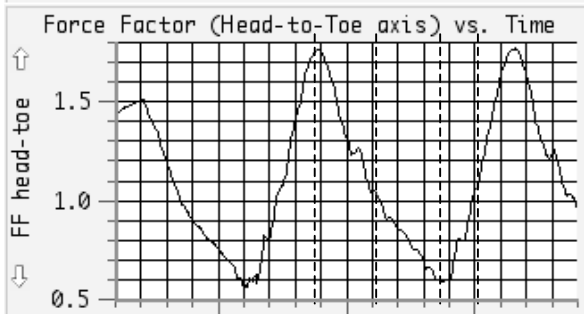
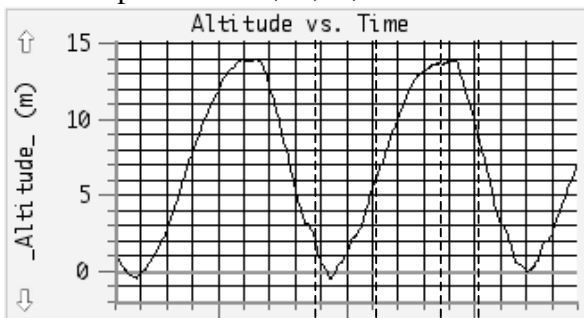
c. The rectangles in the diagram show the car at two positions, a and b. If there were no force or restraints to keep the rider from sliding from side to side, draw the path that the rider would follow from a to b.

d. What does following this path look like to the rider inside the car?

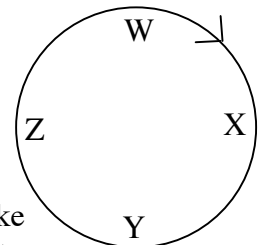
### QUALITATIVE QUESTIONS

The following graphs represent an interval of time when the ride is at full speed.

9. Label positions W, X, Y, and Z in the boxes at the bottom of the graphs.



10. Use the Force Factor graphs to make qualitative force diagrams for a rider at positions W, X, Y, and Z.



W

X

Y

Z