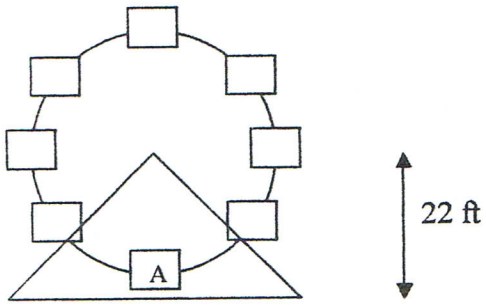
A traveling fun fair sets up a Ferris wheel in the Flatstown Mall parking lot. The diameter of the Ferris wheel is 40 feet, and the center is 22 feet off the ground. Eight seats are evenly spaced around the circumference. The entire wheel rotates counter-clockwise once every 60 seconds.



Assume that you are riding in the seat labeled A.

a) If your ride lasts for 3 minutes, draw a graph that records your distance from the ground every 5 seconds for the length of the ride. (Do not worry about how far you are to the left or the right; you are only concerned with how high you are off the ground.)

b) If your ride lasts for 3 minutes, draw a graph that records your distance to the left or right as measured from the center of the Ferris wheel every 5 seconds for the duration of the ride. (Do not worry about your distance from the ground.) Distances left of center should be recorded as negative, and distances to the right of center should be positive.

c) How high off the ground are you 2 minutes 22.5 seconds into the ride?

d) How far are you to the left or to the right 1 minute 7.5 seconds into the ride?

e) Explain in writing how your graphs for parts (a) and (b) are different, and why they are different.