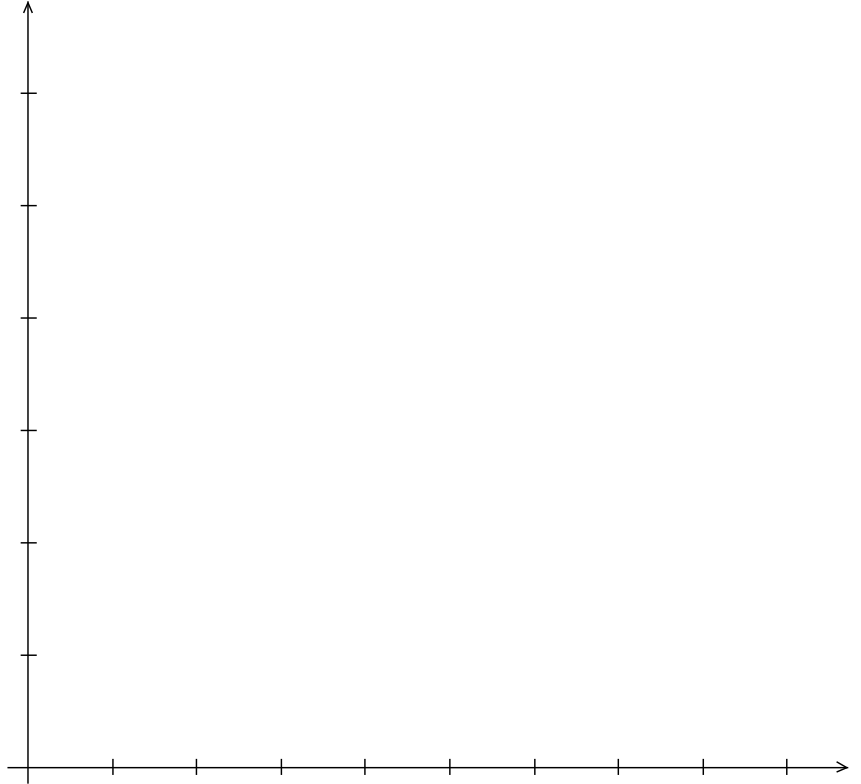


Alice, insisting on starring in more math problems, is riding a Ferris Wheel not knowing that Gracie and Maicie are at the controls. They quickly turn up the speed so that the wheel completes one cycle in 4 seconds. Kerry comes over from Mr. Maychrowitz' class to see what's going on and can tell that it's 4 seconds because she began timing it when Alice was at the bottom of one of her spins. The diameter of the wheel is 54 feet and the bottom of the wheel is 3 feet off the ground.

a) Write and graph a sinusoidal model for the wheel's motion (Section 2-1)



b) What is Emma's height off the ground at 8 seconds? (2-2)

c) Find the first three times that she was 45 feet off the ground? (2-2)