

When riding a Ferris wheel, customers are probably more nervous about their height above ground than their distance from the vertical axis of the wheel. Suppose a large Ferris wheel has a diameter of 30 meters, the center of the wheel is located 20 meters above the ground, and the wheel starts in motion when seat S is at the "3 o'clock" position.

Write an equation that models the height of the seats as the wheel turns counter clockwise

What is the period and amplitude of the function? What do those values tell you about the motion of the Ferris wheel?

What is the maximum and minimum height of the Ferris wheel, and at what angle, in radian measure, do those values occur?