

4. Find your HEIGHT off the ground when you are at the following time positions on a 'clock'. (Use right triangle trig or special right triangle shortcuts.)

a) 2:00

b) 11:00

c) 7:00

5. a) Now, let's add information about the speed of the ferris wheel. The wheel makes one full revolution every 30 seconds. Find the wheel's angular speed in $^{\circ}/\text{sec}$.

b) Find the platform's height off the ground after each of the following amounts of time have elapsed since starting at the 3:00 position.

1 second

9 seconds

22 seconds

34 seconds

c) List all the times when the ferris wheel will be at the same height as it is at 9 seconds. (think of a way to do this using a variable)

6. Describe in words and/or with math operations your process for calculating a rider's height on the ferris wheel t seconds after the wheel has started. Be detailed and include all necessary steps.

7. Suppose your friend Bonnie is standing under the ferris wheel and you want to drop her a note (*you lost your iphone on Untamed...oy!*). Where should she stand (how much to the left or right of center) to get the note after a certain number of seconds? Let's describe the center of the ferris wheel as 0, meaning she would not have to move left or right at all to catch the note.

Where should Bonnie stand if you drop the note after exactly....

One second?

9 seconds?

15 seconds?

22 seconds?

34 seconds?

8. Describe in words and/or with math operations your process for calculating the left/right position of Bonnie t seconds after the wheel starts turning.