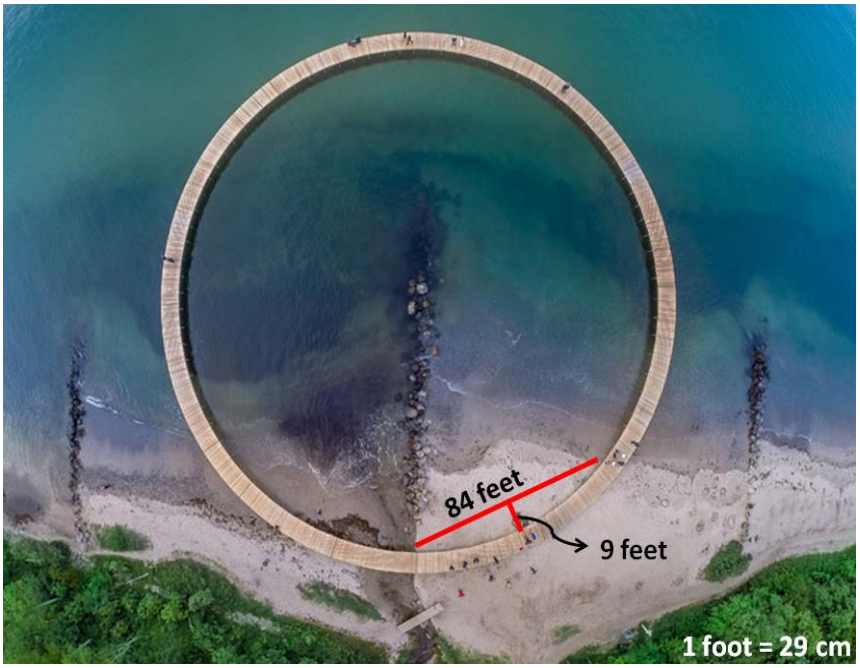
Never Ending Bridge

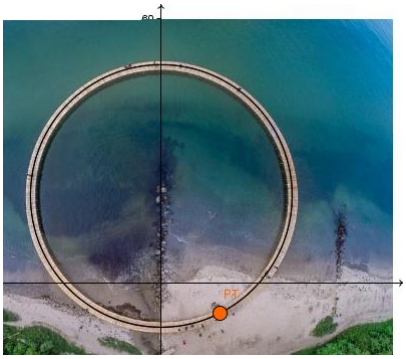
Math problem

One June evening, I was out to see Sculpture by the Sea in Aarhus. Soon I was fascinated by The Never Ending Bridge and got desire to take a run upon it.
The bridge, however, was full of people, so I could not make it. Instead, I decided to calculate its circumference, and to come back the next morning for running.

Below are some goals I strode up.



- **Calculate how many laps it takes to run 4 km on the bridge?**
- **Draw a circle in a coordinate system to describe the bridge and place it so that the seashore is represented by the x-axis and the breakwater is represented by the y-axis.**
- **Determine the equation of the circle!**



In the beginning my run took me 47.4 seconds and 136 strides per lap, halfway data was 44.1 and 127, and in the end 41.8 and 120. Calculate the pace, stride length and frequency, and discuss the mathematical relationships!

To see my run on the bridge, Google: running never ending bridge

Peder Troldborg, June 2015