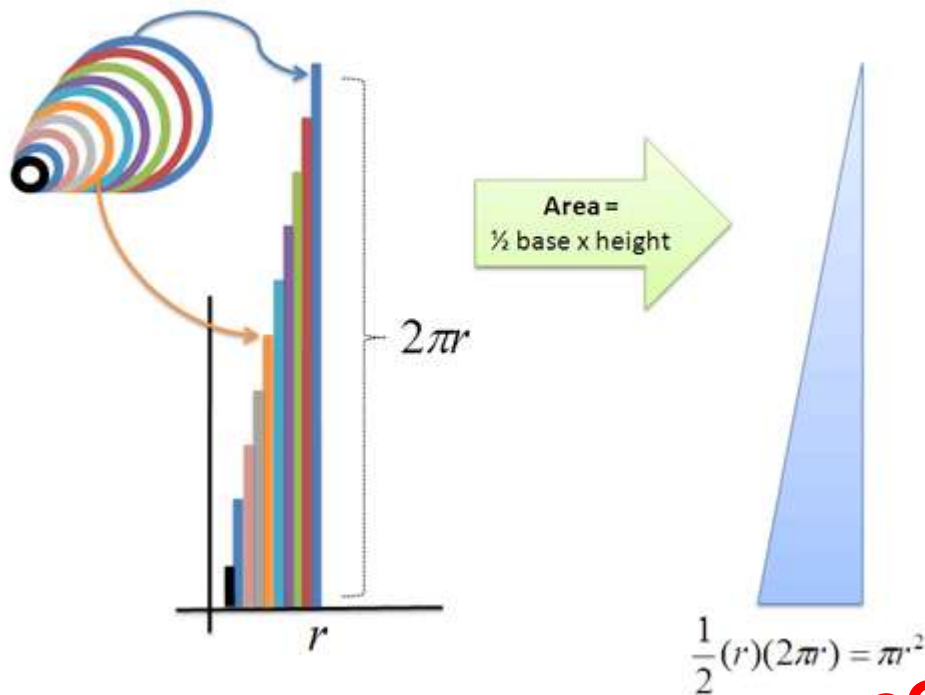


## Unroll the Rings



Now here's where things get funky. Let's unroll those rings and line them up. What happens?

- We get a bunch of lines, making a jagged triangle. But if we take thinner rings, that triangle becomes less jagged (more on this in future articles).
- One side has the smallest ring (0) and the other side has the largest ring ( $2 * \pi * r$ )
- We have rings going from radius 0 to up to "r". For each possible radius (0 to r), we just place the unrolled ring at that location.
- The total area of the "ring triangle" =  $1/2$  base \* height =  $1/2 * r * (2 * \pi * r) = \pi * r^2$ , which is the formula for area!

Yowza! The combined area of the rings = the area of the triangle = area of circle!