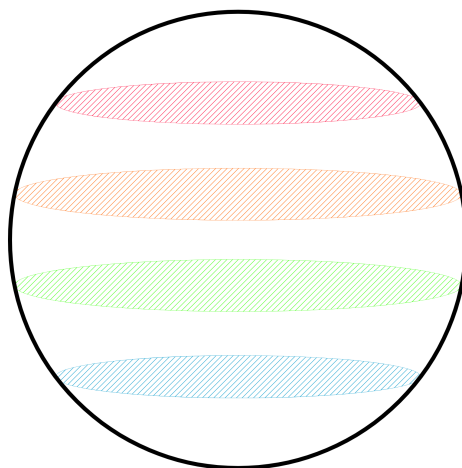


# Washers in Balance



A sphere of volume  $Cn$  (where  $C$  is a constant to be determined) is sliced (along parallel horizontal planes) into  $n$  pieces of equal height.



Let  $P_n$  be the product of their volumes.

**Problem.** What value of  $C$  is necessary for  $\lim_{n \rightarrow \infty} P_n$  to exist (and  $\neq 0$ )?



Submit your solution online by scanning QR code and filling out the form, or submit at

[sites.google.com/unomaha.edu/unopow](https://sites.google.com/unomaha.edu/unopow)

A photo of handwritten work is fine. You can also turn in solutions physically at the UNO math department's mail room (located on the second floor of the Durham Science Center).