M 408C - Differential and Integral Calculus

Week 10 - 4.4, 4.7

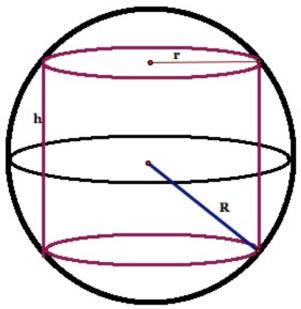
Quest HW 10 - Due Monday at 11:30p.

Gradescope HW 10 - Due Wednesday at 11:30p on Gradescope.

§4.4, #27, 53, 85, 86

§4.7, #14, 26, 42, 55
Additional Questions:

#1) A cylinder is inscribed inside a sphere of radius $R = 10$ as in the image below. What is the maximum possible value of the volume of the cylinder.



#2) You are at one end of a perfectly circular lake with radius 5km. You need to get to the opposite end. You can run on land at a rate of 4km/hr and you can swim at a rate of 2km/hr. You will either run around the lake, swim directly across the lake, or swim and run as in questions #56 on page 345. What is the fastest path and how long does it take? What is the slowest path and how long does it take?

Additional Thing: Try number 7 on page 369. It's a doozy but doable!