READING ASSIGNMENT 05

§6.3 (Volumes of Revolution), §6.4 (Cylindrical Shells)   Due 5 July 2018

LEARNING OBJECTIVES

By the end of this lesson, you will be able to:

- Calculate a volume of a solid of revolution using either the washer method or the shell method.
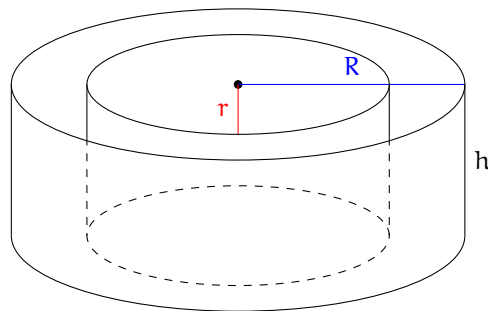
REVIEW

- This section relies on basic geometry: the Pythagorean theorem, similar triangles, and your ability to visualize the cross-sections of shapes in 3D. You may not need to review these skills, but it will help to keep them in mind!

READING

- Read section 6.3.

- Read section 6.4.

QUESTIONS

(1) What is the volume of a hollow cylinder of inner radius r, outer radius R, and height h?

(2) When should you use the shell method, and when should you use the disk/washer method? List at least two advantages and disadvantages of each.

(3) Give an example of a problem that is easier to solve with the shell method, and an example of a problem that is easier to solve with the disk/washer method.