

## Geometry #10

### Before Tuesday, October 23, 11 pm

Read Dunham, Chapter 4. Go to the Forum “Archimedes” and make at least one substantive contribution by 11 pm, Tuesday, October 23, and at least one substantive response to others’ postings before class on Thursday, October 25. Write about the following:

1. Where in the K–16 curriculum do the various results of Archimedes discussed by Dunham make their appearances?
2. Where in the K–16 curriculum do the proofs of these results make their appearances?
3. Do you think we should present Archimedes’ proof of the area of a circle in middle school? in high school? in college?

### Thursday, October 25, 7–9 pm

Attend the Adobe Connect session to discuss the readings, forum, and comments and questions on the assigned homework due on Sunday. We will also have the first two of our class presentations.

### Before Sunday, October 28, 11 pm

Homework problems due Sunday, October 28, 11 pm, uploaded to the Moodle site as a single file less than 2 MB, or else emailed to the address [lee@ms.uky.edu](mailto:lee@ms.uky.edu). Please use Word or pdf files only.

1. Exercise 6.15 of *Geometry for Middle School Teachers: Companion Problems for the Connected Mathematics Curriculum*, page 107. You may use outside sources for this problem if you need to.
2. Exercise 6.16 of *Geometry for Middle School Teachers: Companion Problems for the Connected Mathematics Curriculum*, page 107. Do not use outside sources for this problem, though you may discuss it with each other. Cavalieri’s principle is stated on page 106.
3. Exercise 6.17 of *Geometry for Middle School Teachers: Companion Problems for the Connected Mathematics Curriculum*, page 107–108. You won’t need

the Wingeom file, but if you want it, you can fetch it from the website [www.ms.uky.edu/~lee/ma241/ma241.html](http://www.ms.uky.edu/~lee/ma241/ma241.html). Do not use outside sources for this problem, though you may discuss it with each other.

4. Exercise 6.18 of *Geometry for Middle School Teachers: Companion Problems for the Connected Mathematics Curriculum*, page 108. Do not use outside sources for this problem, though you may discuss it with each other.
5. Study Proposition 7 of Book XII of Euclid's *Elements*. Then fetch the file "Pyramid Puzzles" under Filling and Wrapping from the website [www.ms.uky.edu/~lee/amsgeom05/amsgeom05.html](http://www.ms.uky.edu/~lee/amsgeom05/amsgeom05.html) and try them out. You don't have to submit anything for this homework problem except your impressions in carrying out this activity.