

Due: Tuesday, April 28

Name

Be sure to follow the “Writing Guidelines” handout when presenting your solutions.

NOTE: For this homework set you are allowed to work with other members of either of the geometry classes. However, you must cite everyone with whom you have discussed your problem.

“One is always a long way from solving a problem until one actually has the answer”. – Stephen Hawking
“Reductio ad absurdum, which Euclid loved so much, is one of a mathematician’s finest weapons. It is a far finer gambit than any chess play: a chess player may offer the sacrifice of a pawn or even a piece, but a mathematician offers the game.” – Godfrey H. Hardy

“Suppose we loosely define a religion as any discipline whose foundations rest on an element of faith, irrespective of any element of reason which may be present. Quantum mechanics for example would be a religion under this definition. But mathematics would hold the unique position of being the only branch of theology possessing a rigorous demonstration of the fact that it should be so classified.” – De Sua, F. (In H. Eves’ *In Mathematical Circles*)

Problems from Chapter 6

- I.** Expect to see Exercise 1 on the final exam. (Exercise 2 points to a number of appropriate items).
- II.** Read the following and understand them well enough to discuss their content in the “big picture”. You do not need to prove them.
1. Exercise 2 (this yields examples)
 2. Exercise 3
 3. Exercise 6
 4. Exercise 7
 5. Exercise 8
 6. Exercise 15
- III.** Do the following exercises. Grading will take into account whether or not correct justifications are included.
1. Exercise 5
 2. Exercise 9
 3. Exercise 11
 4. Exercise 12