

Due: Tuesday, April 28

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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.

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 3
2. Exercise 6
3. Exercise 7
4. Exercise 8
5. Exercise 15

III. Do the following exercises. Grading will take into account whether or not correct justifications are included.

1. Exercise 9
2. Exercise 11