

MATH 330 — Spring 2011
ASSIGNMENT 2

Due January 19, 2011

- 2.1. The first proof we encounter in *Journey Through Genius* is the proof on page 7 of the theorem that an angle inscribed in a semicircle is a right angle. Provide a brief outline of the proof in bulleted form; do not copy the proof word for word from the text, rather identify the two or three key ideas that make the proof work.
- 2.2. On page 13 of *Journey Through Genius*, during Step 1 of the quadrature of the rectangle, it is stated that bisecting a line segment is “an easy compass and straightedge construction.” *In words*, outline a proof using compass and straightedge only that demonstrates how one can bisect a given line segment. NOTE: If you are stuck, look at (but don’t copy directly) Book I, Proposition 10 of Euclid’s Elements, available online at:

<http://alepho.clarku.edu/~djoyce/java/elements/bookI/bookI.html>

- 2.3. Why do you think squaring a geometric object is called “quadrature?”