

## Assignment #2

1. Look through the book by Steinhaus and select a “snapshot” that you find appealing to present and discuss a bit in class on January 26.
2. Proofs with Pictures. Look at the file Pythagoras.doc posted on the website just below this homework assignment. Explain how the picture provides a way to see the truth of the Pythagorean Theorem: If  $a$  and  $b$  are the lengths of the two legs of a right triangle and  $c$  is the length of the hypotenuse, then  $a^2 + b^2 = c^2$ .
3. Read Section 7.1 of the Course Notes and work on Exercise 7.1 #1a–1h and #3abijk, and also Exercise 7.3 #1–2. The important thing here is to think deeply about the definition of sine and cosine given here in terms of the unit circle, and then to use this understanding to answer the questions, rather than relying on other formulas. You may, however, use the Pythagorean Theorem.
4. Begin working on a simple animation in POV-Ray. You don't have to have it finished by Wednesday, January 26, but at least make some progress so that you can come with questions and ideas to work on.