This extra credit assignment is worth up to an extra 2% towards your final grade.

In Chapter 6 we discussed the Circle of Apollonius for two distinct points P and Q and a real number $k > 0$. Create an interactive demonstration using GeoGebra. For simplicity you may place P at the origin and fix Q to be a (moveable) point on the x-axis, although this isn't necessary.

You should use a slider (see below) to let the user set the value of k. Your demonstration should automatically graph the Circle of Apollonius based on the current values of P, Q and k. There should be a point R on the circle, together with line segments from P to R and from Q to R. There should be a text showing that the current ratio of their lengths is equal to a number which, if everything is correct, equals the current value of k.

You might find the website `http://www.geogebra.org/book/intro-en/` helpful, particularly Activity 10 in Chapter 4 which explains how to create and use a slider.

To receive credit for this assignment, save your file as `lastname-5335-ec1.ggb` and email it to me at `<rogness@math.umn.edu>` as an attachment by reading day, Thursday December 11th, 2008. The subject line should be the same as your filename. The completion of a working demonstration will be worth an extra 1% towards your final grade. Another 1% may be added at my discretion if you have taken the time to label things nicely, add text describing what to do, turn off unnecessary labels, etc.—in other words, if you take the time to make it the kind of demonstration you could post online for students to view.