

History of Mathematics

Homework 7

Ethan Bolker

April 11, 2014

Due Thursday, April 17

1. Turn in a serious progress report on your term paper.

Some of these questions might help you think about where you are:

- What particular mathematics will you discuss? What part of its history?
- How will you balance modern and historical exposition and notation?
- How far along are you?
- What is left to do?
- What's your plan for finishing?
- What sources have you found?
- What sources are still missing?

The form of your report is up to you - it might be a detailed outline, or rough drafts of some of the parts. But of course it's in L^AT_EX.

Since you're still doing the work, it's perfectly OK for you to report that you don't yet have answers to the questions you're asking. You need to show progress, not results (yet).

2. Show that in Figure 3.5 in the text the point B constructed by making DB parallel to the axis of the parabola AK is the furthest point from the chord AC . (Modern tools are OK.)
3. Show that in Figure 3.3 $\Delta PQq = 8\Delta PRQ$.
4. Show that in Figure 3.5 $EB = BD$ given that CF is tangent to the parabola.
5. The angle bisectors of a triangle meet at the *incenter*: the center of the circle inscribed in the triangle. The perpendicular bisectors of the sides meet at the *circumcenter*: the center of the circle in which the triangle is inscribed. The medians meet at the *centroid*: the center of gravity.

What is the geometric significance of the point at which the altitudes of a triangle meet?