

Excercise: Euclid through the ages

You can do this excercise in couples; hand your work in on March 1.

The goal of this excercise is to compare three different “translations” of certain parts of Euclid’s Elements, and to reflect on the differences between them. The three texts are:

1. Richard Fitzpatrick, *Euclid’s Elements of Geometry: the Greek text of J.L. Heiberg (1883–1885) . . . edited and provided with a modern English translation*, 2007, available online at <http://farside.ph.utexas.edu/euclid.html>;
2. An English translation (by an unknown translator) of the French edition of the Elements by C.F. Millet de Chales (1726);
3. An alternative English edition by Henry Hill, also from 1726.

Of these texts, you have received photocopies of the beginning of Book II and the Props. 1, 4, 7, 9, and 13. Book II of the Elements is said to contain *Geometric algebra*. Of the Fitzpatrick text, Prop. 45 of Book I is also given.

Questions

1. Contrary to the other texts, the text of Millet de Chales has an introduction to book II. Make a very brief summary of it.
2. De Chales’s text also has a very long-winded explanation to the first definition of book II. Explain in your own words what he wishes to accomplish with it.
3. The beginning of Hill’s rendering of Bk. II differs markedly from the other two. What is the essential difference, and can you see why he chose to deviate? (perhaps you want to do the next question first).
4. Compare the different versions of Props. 4, 7, and 9. Discuss the differences and reflect on the different goals of the authors that these differences express.
5. Discuss the content of Prop. 13. To which familiar rule of high school mathematics does it relate?