

Reading Assignment 12: Descartes' Geometry

Required Readings: Descartes [1954]. Clearly, you are only required to read the translated pages, which alternate with the original French text. However, all described diagrams appear on pages in French. Please read Book I, pages 2-6. Book II, pages 40-48, Book III, pages 152-156.

Also, please read pages 317-324 of [Kline, 1990]

Questions:

- Compare Descartes' definition of the "multiplication" of two line segments AB and BC in *Geometrie* with the definition of the same in *Rules for Direction of the Mind*.
- According to Descartes, what determines whether a curve is geometric or not? Why or why not?
- Why do the spiral and quadratrix belong to mechanics according to Descartes?
- According to Kline, what was the most significant virtue of coordinate geometry?

References

Rene Descartes. *Geometry*. Dover Publications, 1954.

Morris Kline. *Mathematical thought from ancient to modern times*, volume 1. Oxford University Press, 1990.