Intrinsic definition of conics

<https://www.mathsisfun.com/geometry/conic-sections.html>

Three normal to an ellipse

<https://math.stackexchange.com/questions/609351/number-of-normals-from-a-point-to-an-ellipse>

More details on the problem

<http://www34.homepage.villanova.edu/robert.jantzen/maple/ellipse/apollonius.pdf>

Normal lines to a parabola

<https://www.youtube.com/watch?v=YfUGF44yAa8>