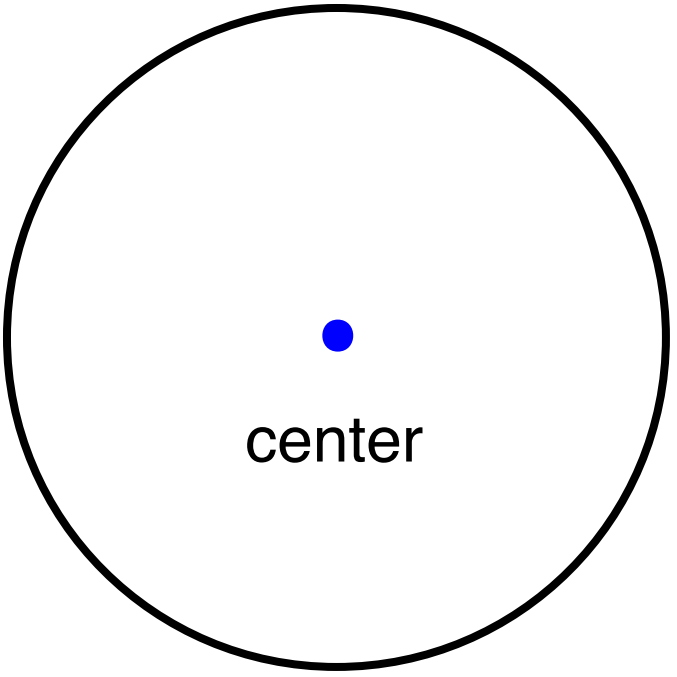
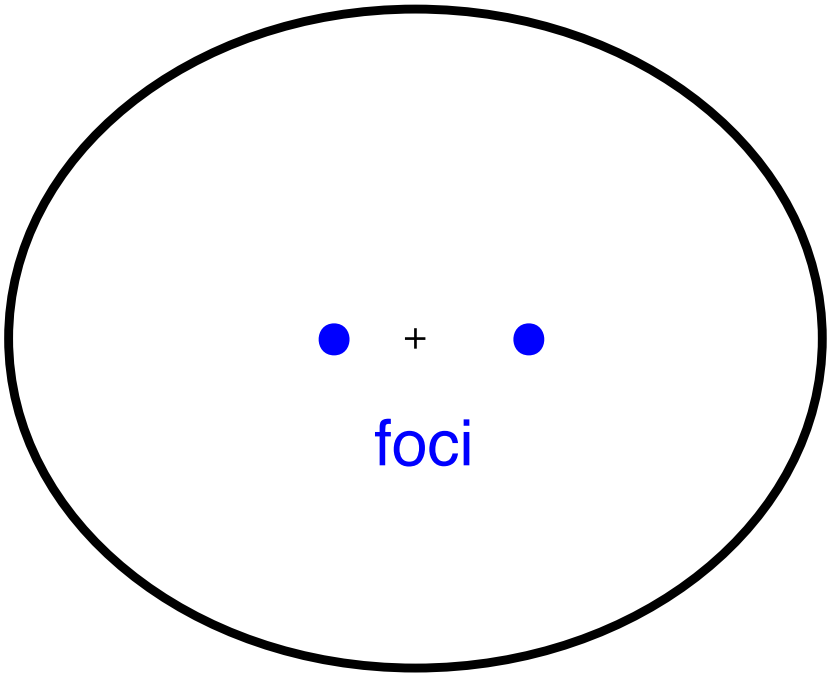
Eccentricty describes by how much an ellipse deviates from a circle

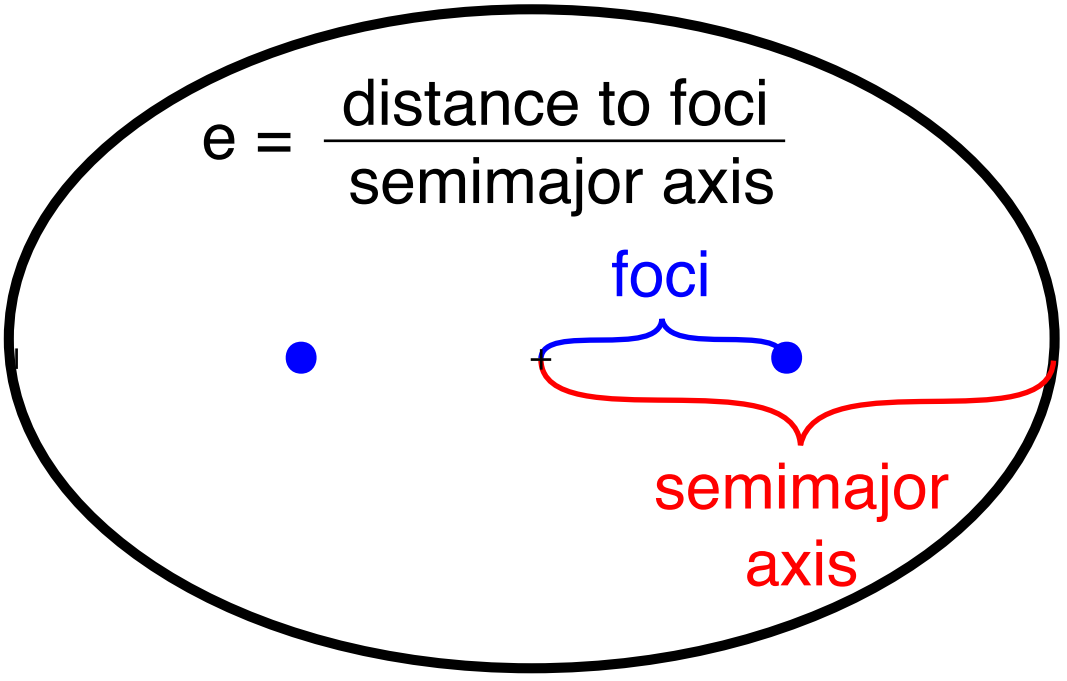


zero eccentricity



moderate eccentricity

$$e = \frac{\text{distance to foci}}{\text{semimajor axis}}$$



high eccentricity