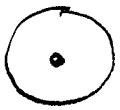
Algebra 2 - Monday 4-2-12

Name each set of points in a plane:

① Equidistant from a single point:

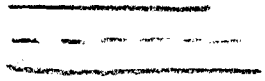


circle

② Equidistant from 2 points:

line

③ equidistant from 2 lines:



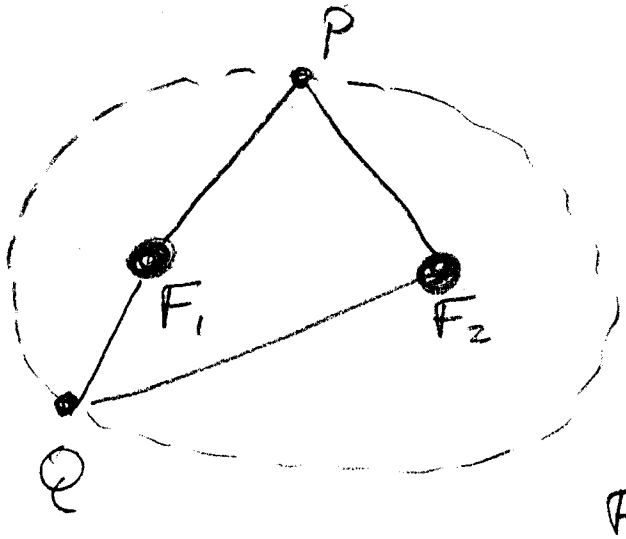
line

④ equidistant from a point and a line:

parabola

The next conic section will involve 2 points. ⇒ foci (plural of focus) and the set of points such that the sum of the distance to each foci is constant = ELLIPSE.

(Ex)



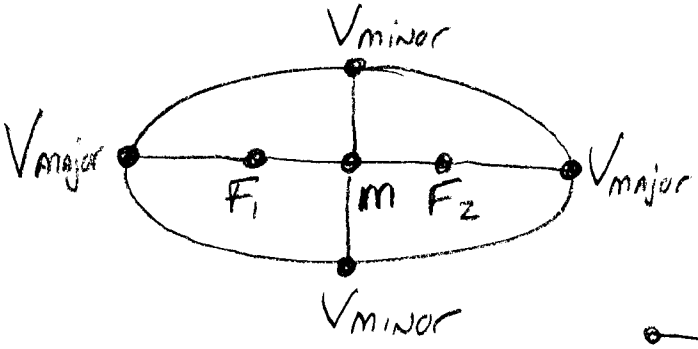
Foci at F_1, F_2

For any points on the ellipse, say P or Q:

$$\underbrace{F_1P + F_2P}_{2a} = \underbrace{F_1Q + F_2Q}_{2a}$$

A few ellipse vocabulary terms:

"Left-Right" Ellipse

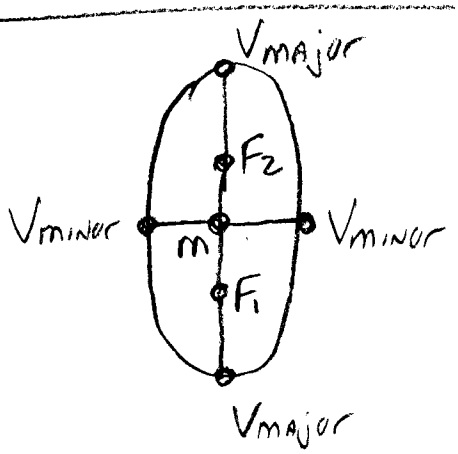


m = midpoint

V = Vertices (4)

major axis = 2a

minor axis



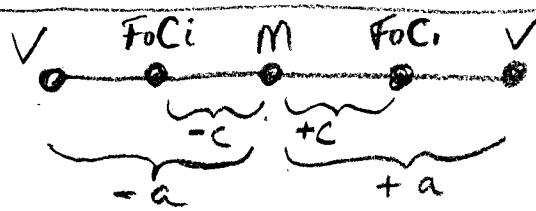
"Up-Down" Ellipse

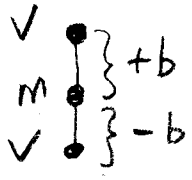
m = midpoint

V = Vertices (4)

major axis = 2a

minor axis





$c^2 = a^2 - b^2$

- String ellipse exercise.
- Conic paper ellipse exercise.

- Homework: ① Learn ellipse (Ch 8-4) vocabulary terms
  ② Pg 429-430 # 20, 24, 38, 39.

- Ellipse properties ⇒ rays reflect from F_1 to F_2
  ⇒ planets orbit sun
  ⇒ kidney stones machine
  ⇒ listening room.