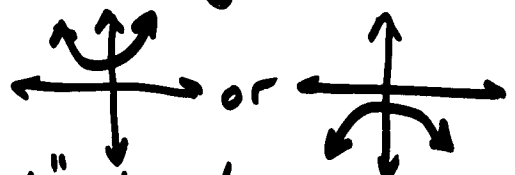
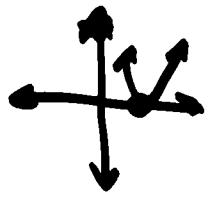
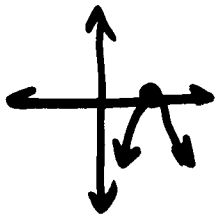
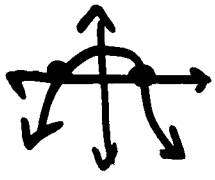
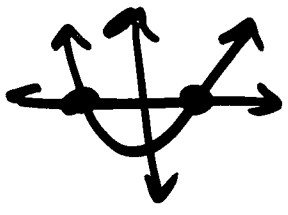
# Summary of Quadratic Functions and Quadratic Equation

QF ⇒ $ax^2 + bx + c = y$ parabola

QE ⇒ $ax^2 + bx + c = 0$

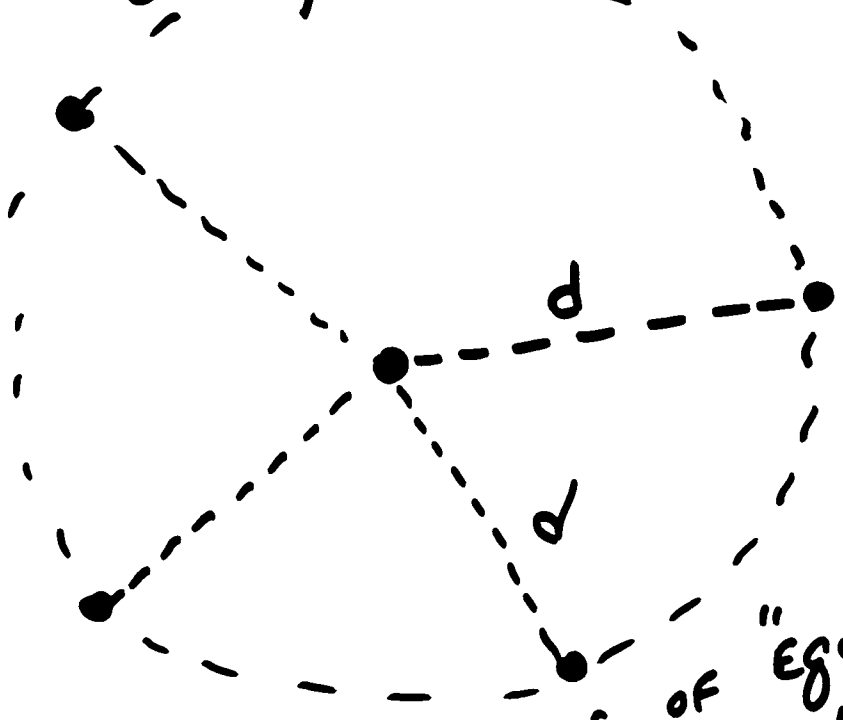
- may have 0, 1, or 2 solutions
- 0 solutions ⇒ does not cross x-axis
  ⇒ d is negative
  ⇒  or 
- 1 solution ⇒ "just" touches x-axis
  ⇒ d = 0
  ⇒  or 
- 2 solutions ⇒ d is positive
  ⇒ d is P.S. ⇒ rational*
  d is not P.S ⇒ irrational
   

*if d is perfect square, can also solve by factoring + ZPP (magic numbers)

LOCUS  LOCATION, in geometry a locus of points means a location of points

(Ex) WHAT is the locus of points, in A PLANE, that are EQUIDISTANT from A single point in the plane?

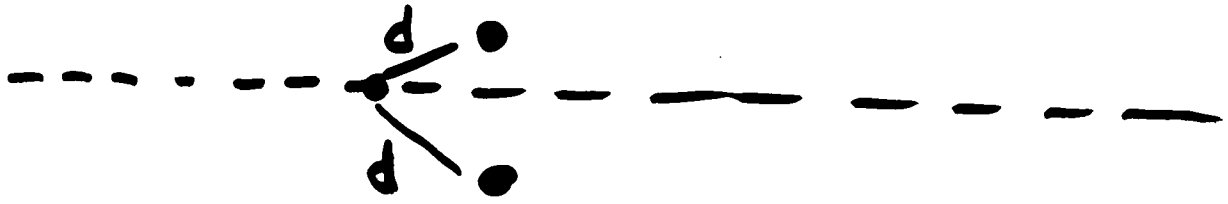
(same distance)



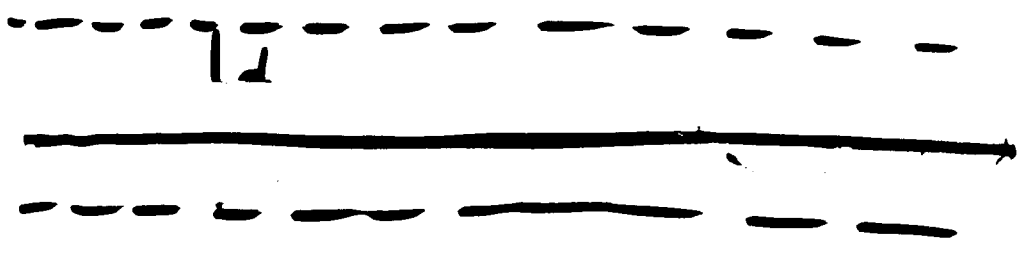

LOCUS of "EQUAL" distance points is A CIRCLE.

Equidistant: from 1 point = circle
from 2 points ?
from 1 line ?
from 2 lines ?
from a point AND A line ?

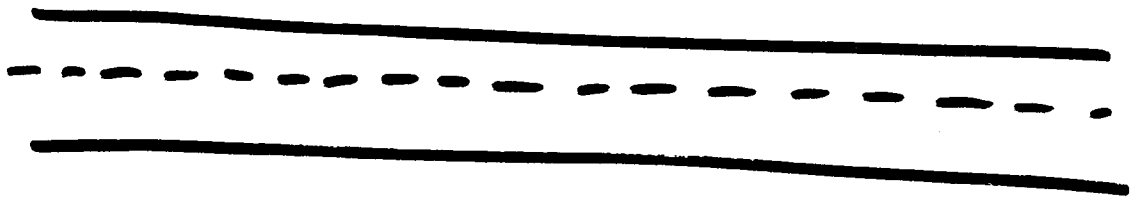
Two points



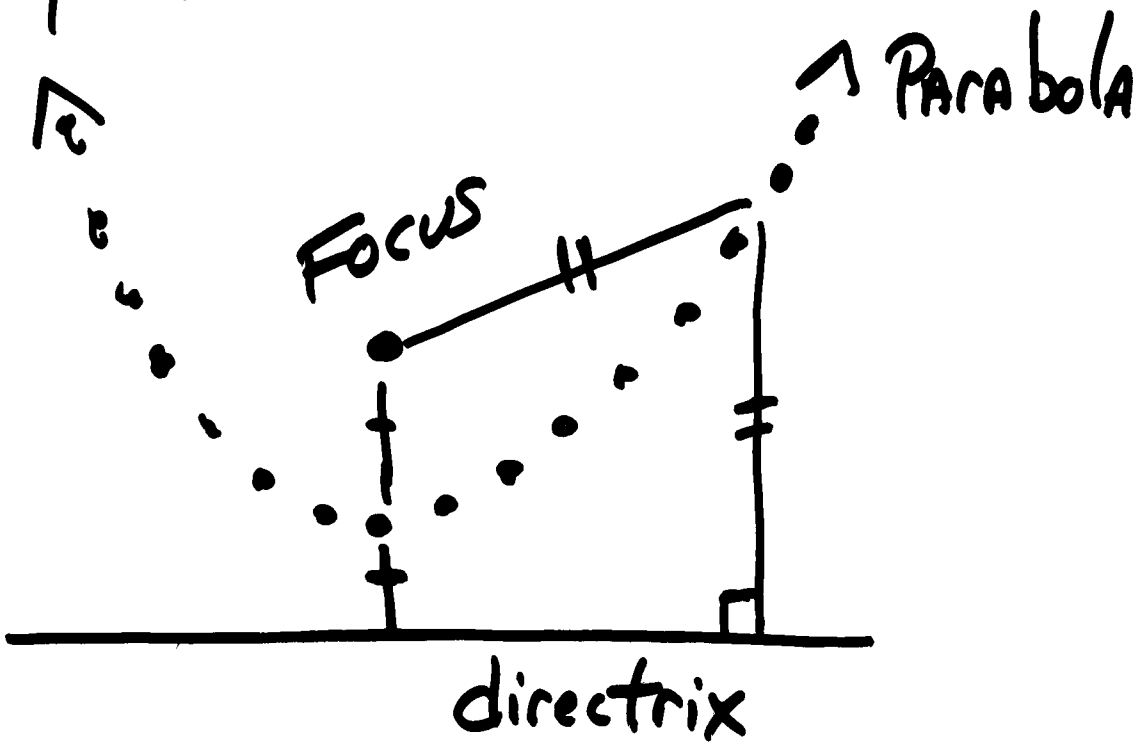

One line

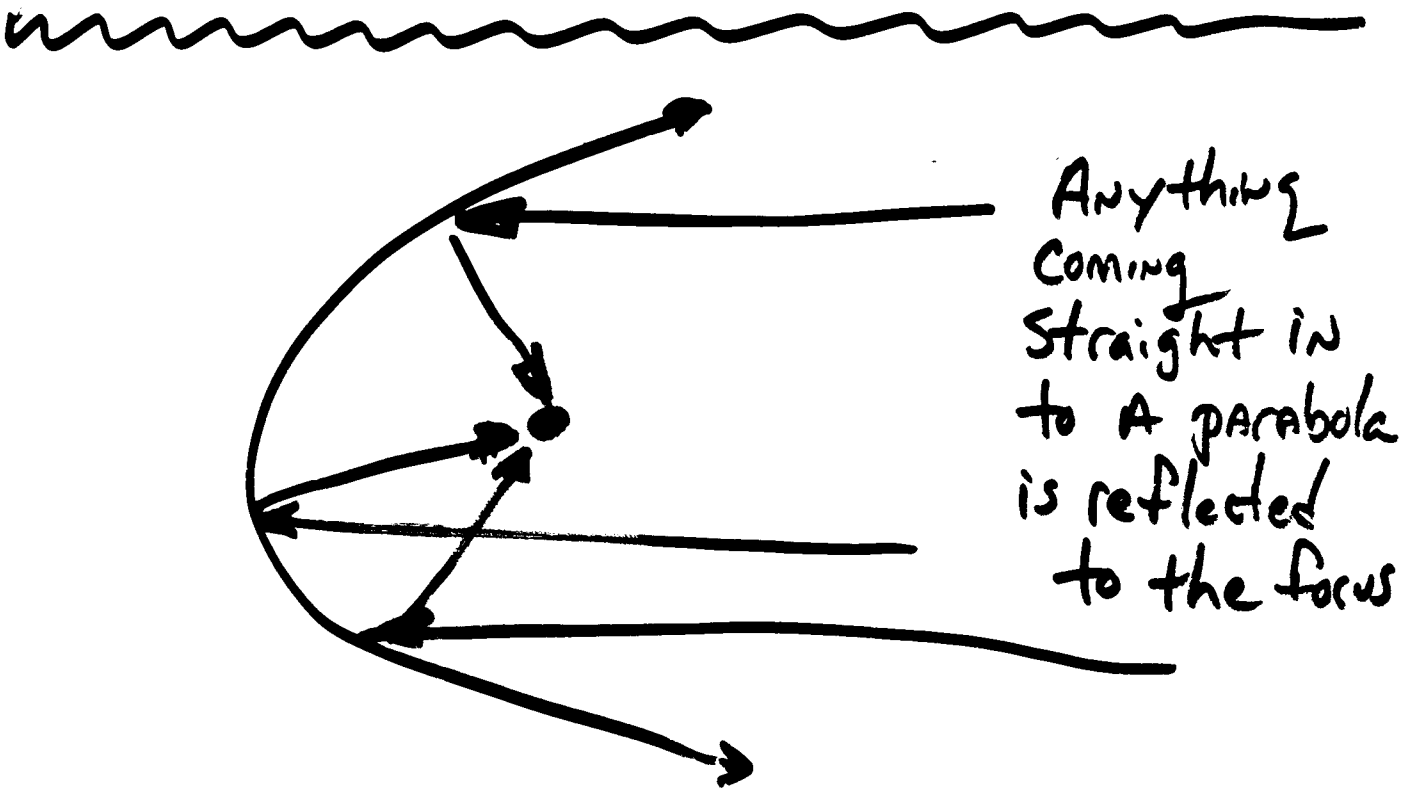


Two lines



Locus of points equidistant from a point and a line?



- Wax Paper Parabola Exercise

- Homework

PFL Book – Pg E-9 to E-10
# 1 to 5
+ Read Pgs E-1 to E-8

BE-1B TUESDAY 1-22-08

① graph $x^2 - x - 6 = y$

② solve $x^2 - x - 6 = 0$
using the Quadratic Formula

③ factor $x^2 - x - 6$

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⇒ RETURN HW 2

⇒ RETURN Quiz 2

⇒ ISSUE PTL Workbooks