BE – Algebra 1 Monday 2-13-12

① $y = f(x) = 2x + 6$

Complete the T-Table

x	f(x)
-3	
-2	
-1	
0	
1	
2	
3	

② What is special about the points $(0, f(x))$, and $(-3, f(x))$?
Do these points have names?

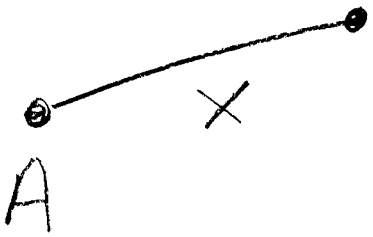
Ans

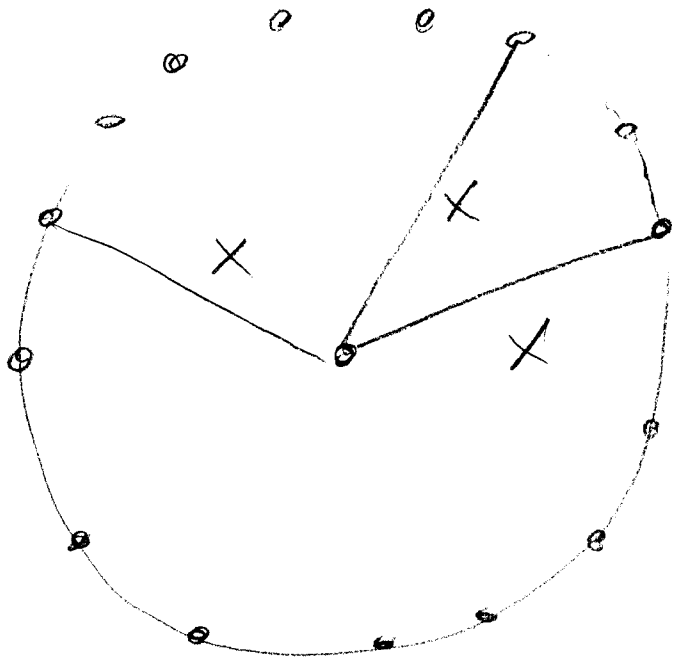
x	f(x)=y	
-3	0	y INTERCEPT
-2	2	
-1	4	
0	6	X INTERCEPT
1	8	
2	10	
3	12	

$0 = 2(-3) + 6$ (0 ↑ y, -3 ↓ x)

$6 = 2(0) + 6$

Can you draw the shape you get if you only draw the points that are the same distance from point A? Say X units away. (and in the same plane, that is 2D not 3D)





A circle.

The locus "location" of all points (in a plane) equidistant from a single point.

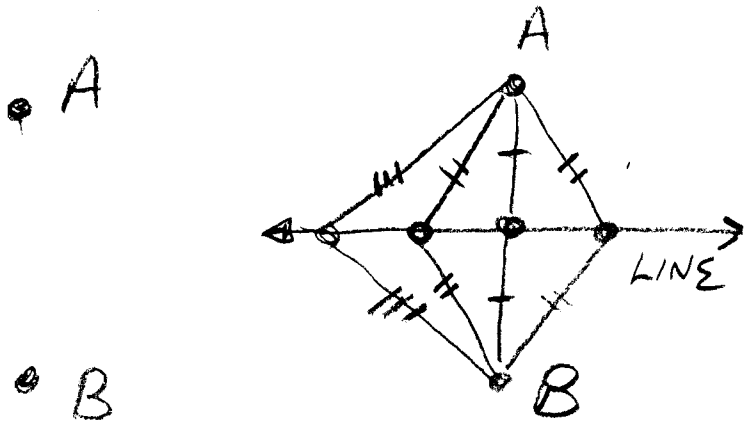
locus ⇒ location

equidistant ⇒ same (equal) distances

plane ⇒ flat surface

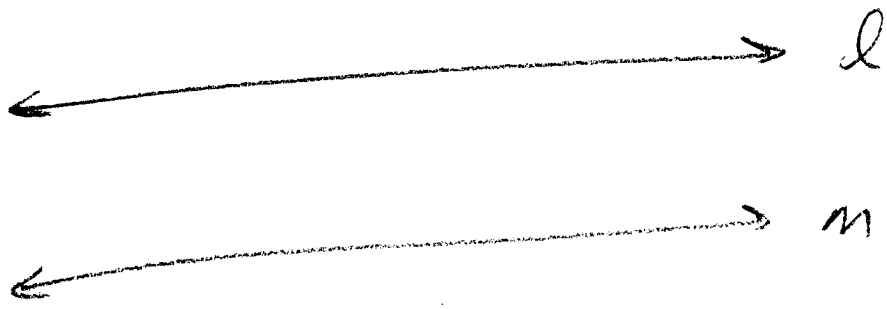
Circle ⇒ the locus of points in a plane equidistant from a point

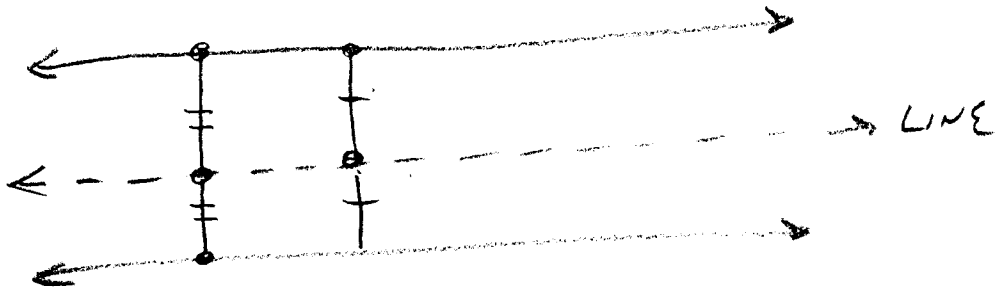
Can you draw the locus of points in a plane equidistant from 2 points A and B?



THE LOCUS IS A LINE.

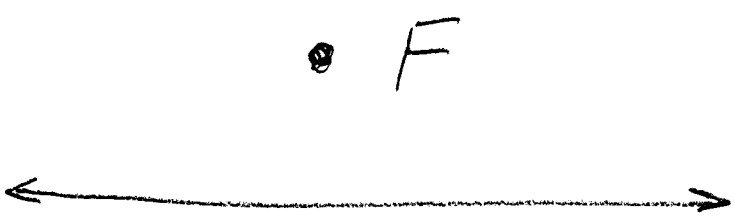
How about the locus of points in a plane equidistant from 2 lines l, m

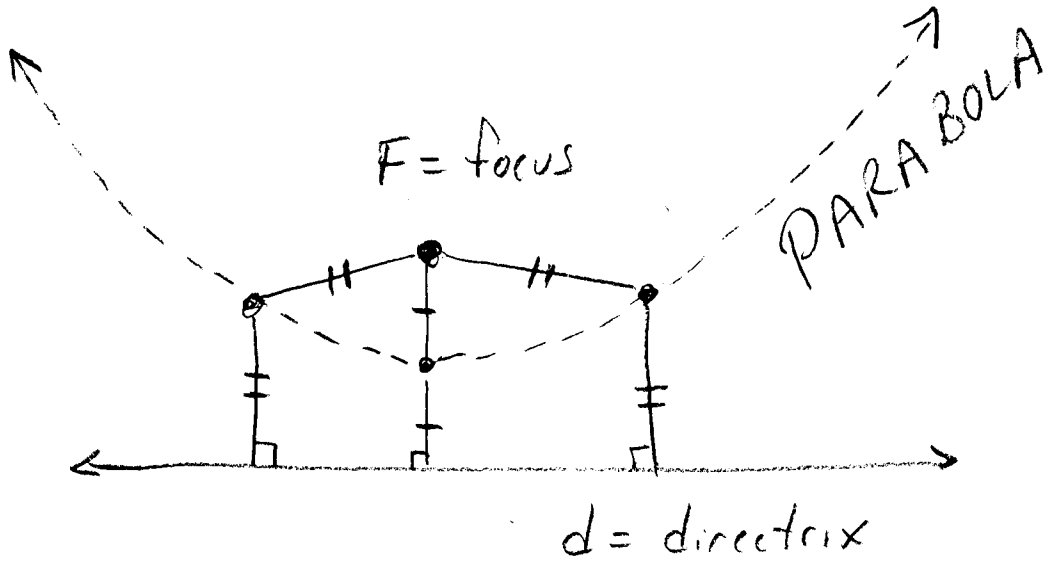




THE LOCUS IS ANOTHER LINE

FINALLY, the locus of points in a plane equidistant from a point F and a line d.



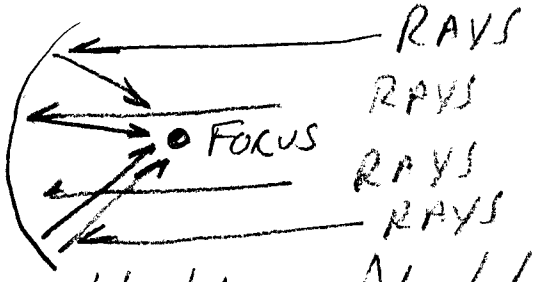


PARABOLA ⇒ The locus of points in a plane equidistant from a point (the focus) and a line (the directrix).

THIS CURVE IS AS "BASIC" IN NATURE AS A CIRCLE OR LINE AND HAS UNIQUE PROPERTIES.

Properties / Examples of Parabolas

- Paths of objects in gravity (w/o wind resistance, etc.)
- Rays are "bounced" to focus



Ex) headlights, flashlights
satellite dishes,
solar heaters.

- Wax Paper Parabolas

Homework: Explore properties of parabolas (use Google)