

BE-Alg.2 | TUESDAY 3-16-10

ACT
("Real"
ACT)

- ① SOLVE $x^2 - 36x = 0$
- ② WHAT IS THE SLOPE-INTERCEPT form of $8x - y - 6 = 0$?
- ③ A circle in the standard (x, y) coordinate plane is tangent to the x -axis at 5 and tangent to the y -axis at 5. WHAT IS THE EQUATION OF THE circle ?

ANS |

① $x^2 - 36x = 0$

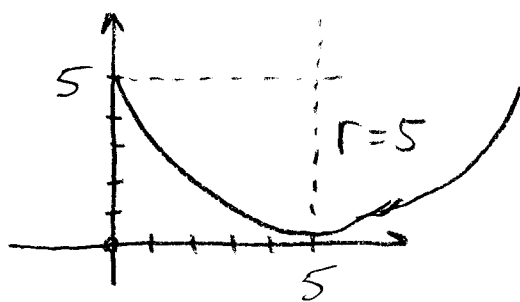
$x(x - 36) = 0 \quad \therefore \boxed{x = \{0, 36\}}$

② $8x - y - 6 = 0 \quad y = mx + b$

$-y = -8x + 6$

$\boxed{y = 8x - 6}$

③



$C(5, 5) \quad r = 5$

$\boxed{(x - 5)^2 + (y - 5)^2 = 25}$

Alg. 2 - Homework Review - Pg 429 #5-9, 12, 13

⑤ $C(-1, -5), r=2 \Rightarrow (X+1)^2 + (Y+5)^2 = 4$

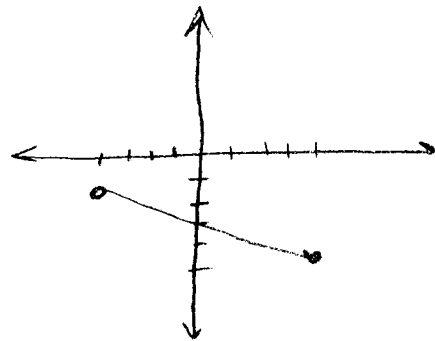
⑥ $(-4, 1), (4, -5)$

$M = (0, -2) = \text{Center}$

$r = \sqrt{(4)^2 + (-3)^2}$

$r = \sqrt{25} = 5$

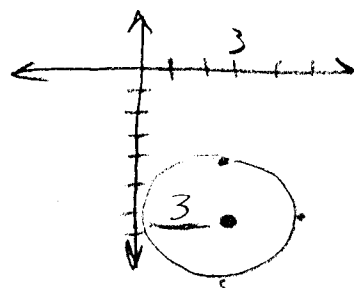
$\therefore X^2 + (Y+2)^2 = 25$



⑦ $C(3, -7)$ tangent to y axis

$r=3$

$\therefore (X-3)^2 + (Y+7)^2 = 9$



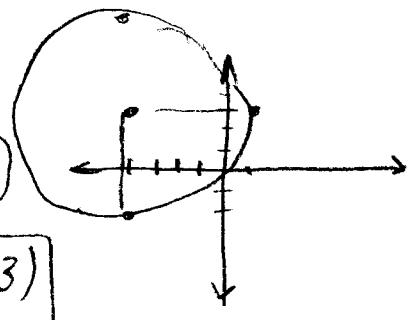
⑧ $(X-4)^2 + (Y-1)^2 = 9 \Rightarrow C(4, 1) r=3$

⑨ $X^2 + (Y-14)^2 = 34 \Rightarrow C(0, 14), r=\sqrt{34}$

⑫ $X^2 + Y^2 + 8X - 6Y = 0$

$X^2 + 8X + 4^2 + Y^2 - 6Y + 3^2 = 16 + 9$

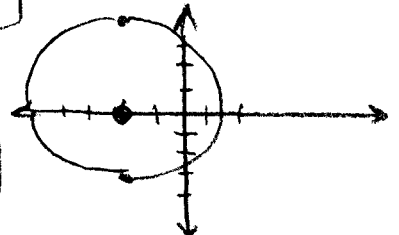
$(X+4)^2 + (Y-3)^2 = 25$ $C(-4, 3)$
 $r=5$



⑬ $X^2 + 4X + 2^2 + Y^2 = 8 + 4$

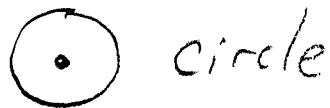
$(X+2)^2 + Y^2 = 4$ $C(-2, 0), r=2\sqrt{3}$

≈ 3.5



1.
Name each set of points in
a plane:

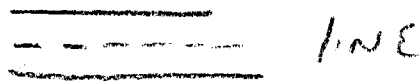
① Equidistant from a single point:



② Equidistant from 2 points:



③ equidistant from 2 lines:

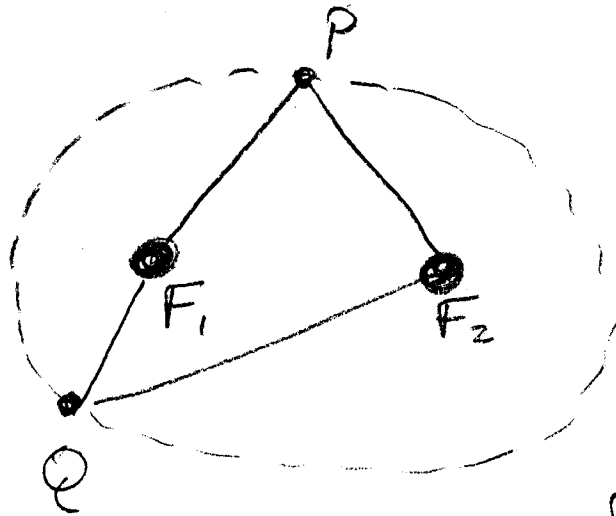


④ equidistant from a point and a line:

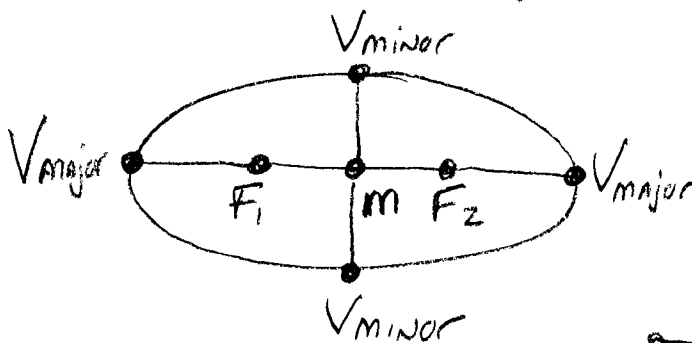
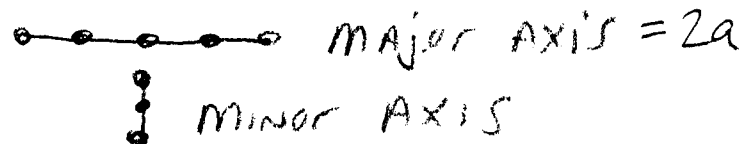


The next conic section will involve
2 points $\Rightarrow$ foci (plural of focus)
and the set of points such that
the sum of the distance to each
foci is constant = ELLIPSE.

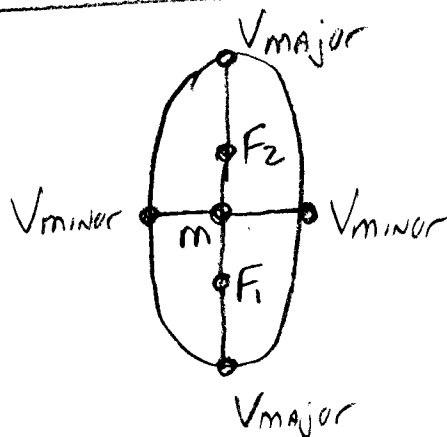
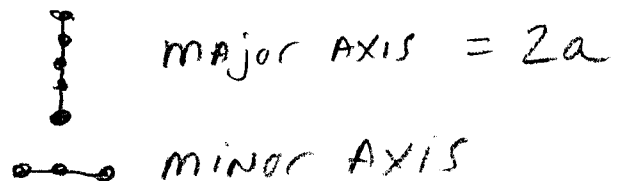
(EX)

FOCI AT F_1, F_2 For ANY points
ON the ellipse,
SAY P or Q:

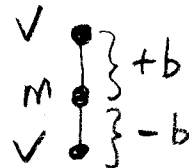
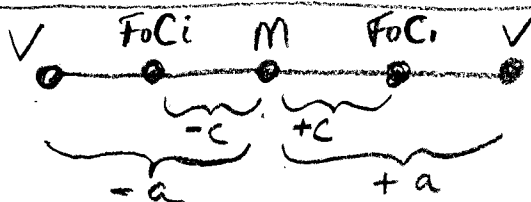
$$\underbrace{F_1P + F_2P}_{2a} = \underbrace{F_1Q + F_2Q}_{2a}$$

A few ellipse vocabulary terms:
"Left-Right" EllipseM = midpoint
V = Vertices (4)MAJOR AXIS = $2a$

MINOR AXIS

"Up-Down" EllipseM = midpoint
V = Vertices (4)MAJOR AXIS = $2a$

MINOR AXIS



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

- String ellipse exercise.
 - Conic paper ellipse exercise.
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- Homework: ① Learn ellipse (Ch 8-4)
vocabulary terms
② Pg 429-430
20, 24, 38, 39.
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- Ellipse properties $\Rightarrow$ rays reflect
from F_1 to F_2
 $\Rightarrow$ planets orbit sun
 $\Rightarrow$ kidney stones
machine
 $\Rightarrow$ listening room.