Review Assorted Conics 2 Name _____
Circles, Ellipses, Hyperbolas & Parabolas

1. Graph and provide the requested information:
   Circles: Center, Radius
   Ellipses: Center, Vertices, Co-vertices, foci, major and minor axis length
   Hyperbolas: Center, Vertices, Foci, and Asymptotes
   Parabolas: Vertex, Focus, Directrix, End Points of Latus Rectum

a. $(x+1)^2+(y-3)^2=10$ b. $\frac{(x-2)^2}{9}+\frac{y^2}{25}=1$ c. $16x^2-9y^2=144$

d. $\frac{(y-2)^2}{25}-\frac{(x+3)^2}{4}=1$ e. $(x+4)+(y-2)^2=0$ f. $4(y-1)^2=16(x-5)$

2. Name the conic and write it in standard form:

a. $x^2 + y^2 - 6x - 2y + 1 = 0$

b. $6x^2-12=6y^2$

c. $9x^2 + 4y^2 + 54x - 16y + 61 = 0$

d. $9x^2-4y^2+36x-8y-40=0$

e. $x^2+x-y=5$

3. Write the standard form of the given conic using the given information:

a. circle with center (–2, 3) and diameter 8

b. horizontal ellipse with center at (3, –4); major axis length 8; minor axis length 4

c. circle with center (1, 4) and passes through (2, –1)

d. hyperbola with vertices (1, 2) and (5, 2) and the slope of one asymptote is $\frac{3}{2}$

e. ellipse with vertices at (2, 1) and (6, 1); co-vertices at (4, 2) and (4, 0)

f. hyperbola with vertices $(0, \pm 2)$ and foci $(0, \pm 4)$

g. parabola with focus $(5, 5)$, directrix: $y = -3$

h. parabola with vertex $(2, -1)$, passes through $(4, 2)$, $p > 0$, axis of symmetry: $x = 2$

4. Solve the systems of equations by graphing.

a. $x^2 + y^2 = 16$
$x - y = 4$

b. $x^2 + y^2 = 25$
$y = x + 1$

c. $(x + 1)^2 + (y - 1)^2 = 1$
$(x - 2)^2 + (y - 1)^2 = 4$

5. Solve the systems algebraically.

a. $x^2 + y^2 = 5$
$y = -x + 3$

b. $x^2 - 2x + y^2 - 2y = 6$
$y = 2 - x$

c. $4x^2 + 9y^2 - 36y = 0$
$x^2 + 9y - 27 = 0$