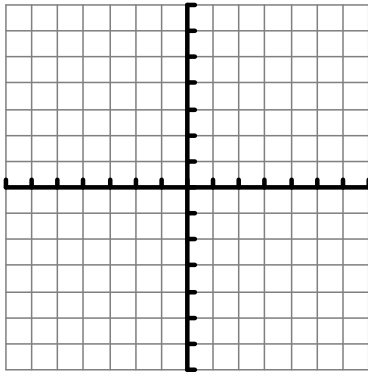


1. Graph and provide the requested information:

a.  $(x+1)^2 + (y-3)^2 = 10$

c = \_\_\_\_\_

r = \_\_\_\_\_



b.  $\frac{(x-2)^2}{9} + \frac{y^2}{25} = 1$

c = \_\_\_\_\_

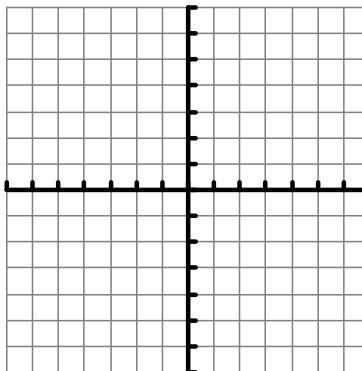
v = \_\_\_\_\_

cv = \_\_\_\_\_

f = \_\_\_\_\_

major axis length = \_\_\_\_\_

minor axis length = \_\_\_\_\_



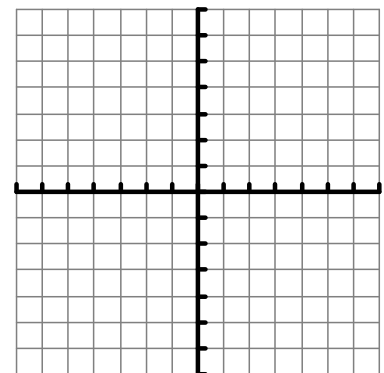
c.  $16x^2 - 9y^2 = 144$

c = \_\_\_\_\_

v = \_\_\_\_\_

f = \_\_\_\_\_

asymptotes = \_\_\_\_\_



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

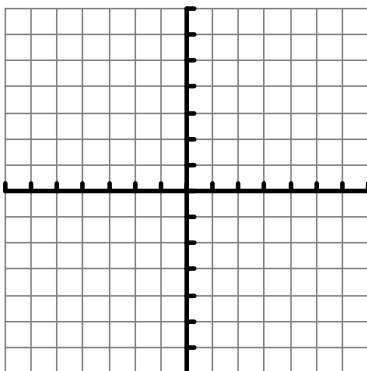
c = \_\_\_\_\_

v = \_\_\_\_\_

f = \_\_\_\_\_

asymptotes = \_\_\_\_\_

length of transverse axis = \_\_\_\_\_



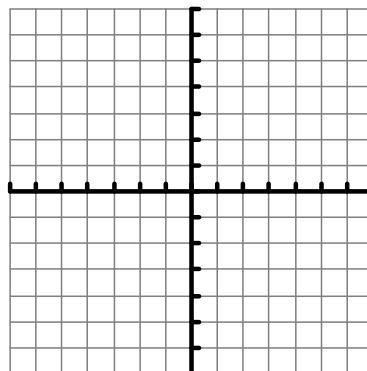
e.  $(x+4) + (y-2)^2 = 0$

v = \_\_\_\_\_

f = \_\_\_\_\_

directrix = \_\_\_\_\_

e of LR = \_\_\_\_\_



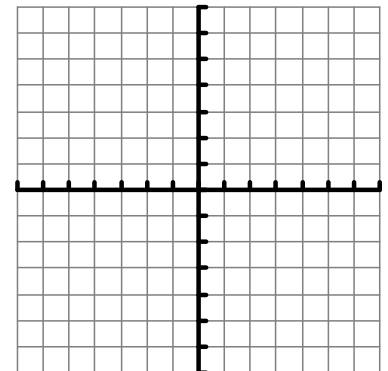
f.  $4(y-1)^2 = 16(x-5)$

v = \_\_\_\_\_

f = \_\_\_\_\_

directrix = \_\_\_\_\_

e of LR = \_\_\_\_\_



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  $(0, \pm 4)$

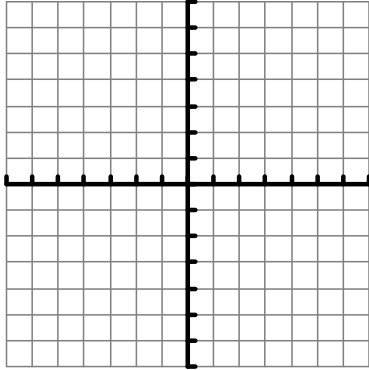
g. parabola with focus  $(5, 5)$ , directrix:  $y = -3$

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.

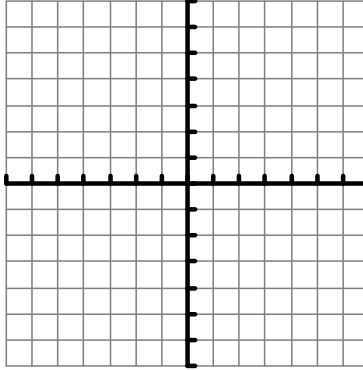
a.  $x^2 + y^2 = 16$

$x - y = 4$



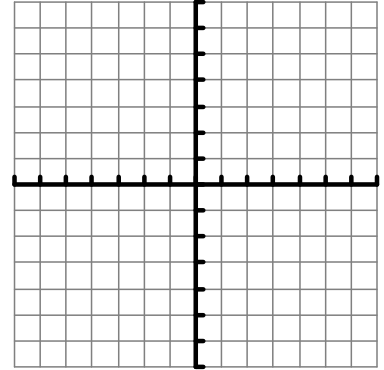
b.  $(x + 1)^2 + (y - 3)^2 = 1$

$x^2 + y^2 - 4x - 5 = 0$



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.  $x^2 + y^2 = 9$

$x^2 + y^2 - 4x + 3 = 0$

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

$x^2 + 9y - 27 = 0$