

Off-Center Conics

Name _____

1. Make sketches of the equations below. **USE GRAPH PAPER.** Be sure to indicate coordinates of vertices, centers and foci, as well as equations of asymptotes, as applicable.

a) $\frac{(x-4)^2}{25} + \frac{(y+1)^2}{16} = 1$

b) $\frac{(x-2)^2}{1} + \frac{(y-3)^2}{9} = 1$

c) $\frac{(x+1)^2}{4} - \frac{(y-2)^2}{36} = 1$

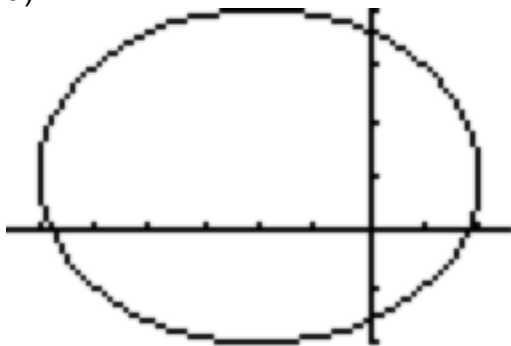
d) $\frac{(y-5)^2}{16} - \frac{(x+3)^2}{4} = 1$

e) $y-4 = -\frac{1}{4}(x+5)^2$

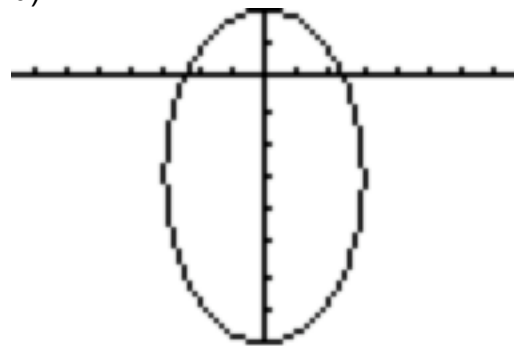
f) $\frac{(x+2)^2}{16} + \frac{(y-4)^2}{16} = 1$

2. Write equations for each of the conics shown below. You may assume that the coordinates of centers and vertices are integers.

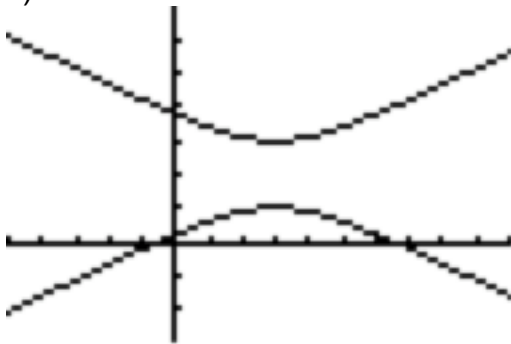
a)



b)

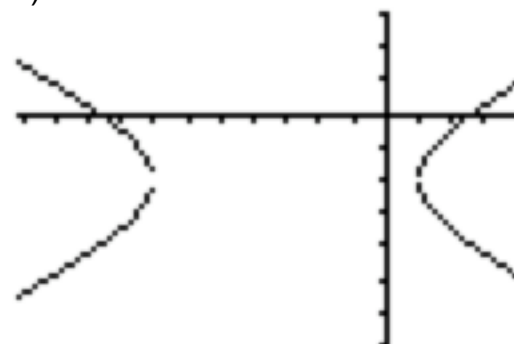


c)



asymptotes have a slope of $\pm \frac{1}{2}$

d)



asymptotes have a slope of $\pm \frac{1}{2}$