Graph each hyperbola and calculate the coordinates of the vertices, co-vertices and foci and the equations for the asymptotes.

1. $\frac{x^{2}}{16}-\frac{y^{2}}{36}=1$ 2. $\frac{x^{2}}{81}-\frac{y^{2}}{9}=1$ 3. $\frac{x^{2}}{121}-\frac{y^{2}}{64}=1$

 

Identify the coordinates of the center, foci, vertices, and co-vertices and identify equations for the asymptotes and transverse and conjugate axes for each hyperbola. Then sketch a graph of each hyperbola.

4. $\frac{(x+2)^{2}}{36}-\frac{(y-2)^{2}}{4}=1$ 5. $\frac{y^{2}}{64}-\frac{(x-1)^{2}}{16}=1$

 

Write an algebraic equation for each hyperbola defined by the given information. Then sketch a graph of each hyperbola.

6. Vertices at (4, -2) and (6, -2); Foci at (2, -2) and (8, -2)



7. Vertices at (5, -1) and (5,3); Co-vertices at (4, 1) and (6, 1)

