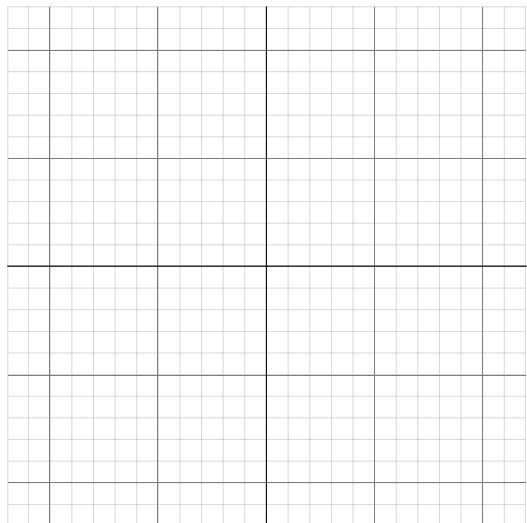


# Graphing a Hyperbola

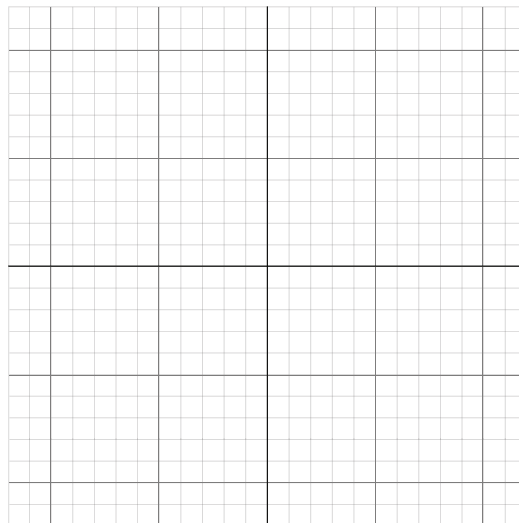
Sketch the graph of each equation and identify the center, vertices, co-vertices, and foci.

①  $\frac{y^2}{16} - \frac{x^2}{9} = 1$



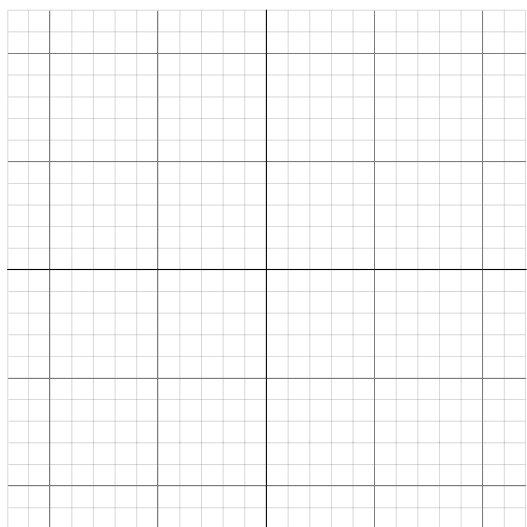
Center:  
Vertices:  
Co-vertices:  
Foci:

②  $\frac{(x+2)^2}{144} - \frac{(y-2)^2}{81} = 1$



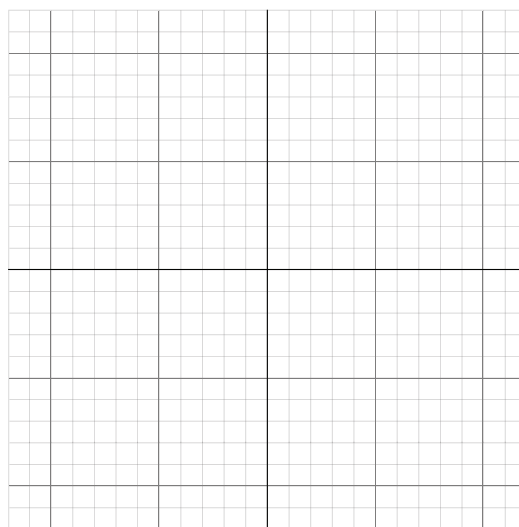
Center:  
Vertices:  
Co-vertices:  
Foci:

③  $\frac{(y-1)^2}{36} - \frac{(x+3)^2}{64} = 1$



Center:  
Vertices:  
Co-vertices:  
Foci:

④  $\frac{x^2}{64} - \frac{y^2}{144} = 1$



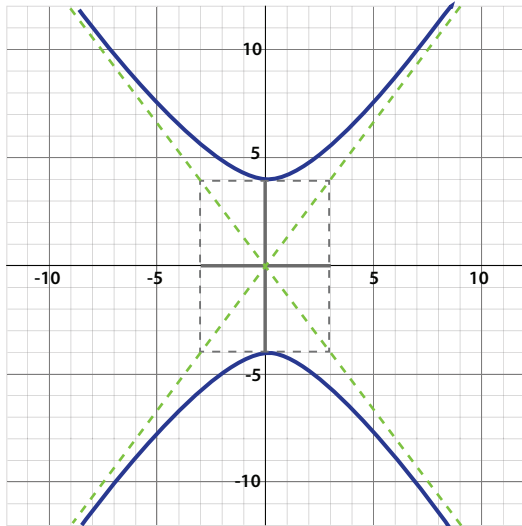
Center:  
Vertices:  
Co-vertices:  
Foci:

# Graphing a Hyperbola

## (Answers)

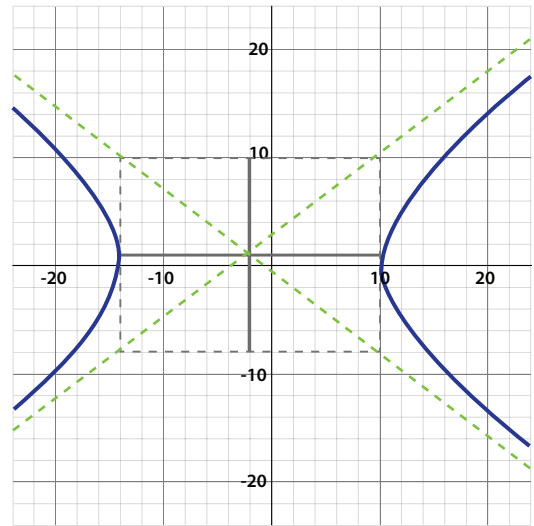
Sketch the graph of each equation and identify the center, vertices, co-vertices, and foci.

$$\textcircled{1} \quad \frac{y^2}{16} - \frac{x^2}{9} = 1$$



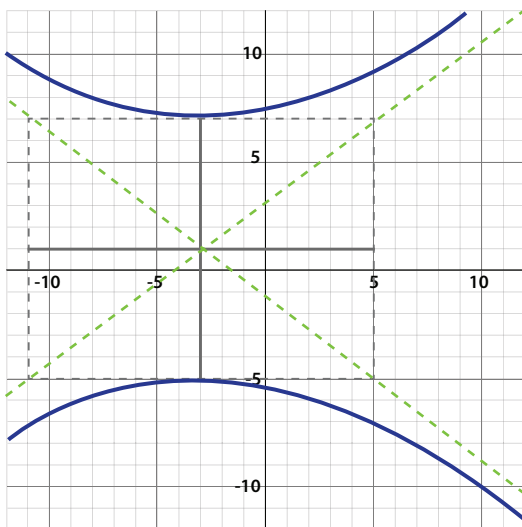
**Center:** (0, 0)  
**Vertices:** (0, 4) and (0, -4)  
**Co-vertices:** (3, 0) and (-3, 0)  
**Foci:** (0, 5) and (0, -5)

$$\textcircled{2} \quad \frac{(x+2)^2}{144} - \frac{(y-2)^2}{81} = 1$$



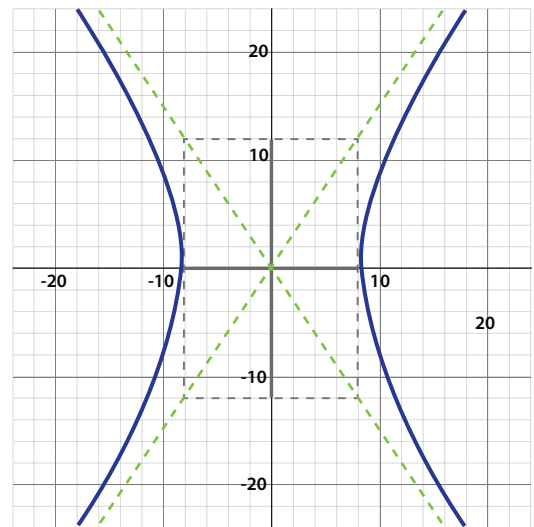
**Center:** (-2, 2)  
**Vertices:** (10, 2) and (-14, 2)  
**Co-vertices:** (-2, 10) and (-2, -8)  
**Foci:** (13, 2) and (-17, 2)

$$\textcircled{3} \quad \frac{(y-1)^2}{36} - \frac{(x+3)^2}{64} = 1$$



**Center:** (-3, 1)  
**Vertices:** (-3, 7) and (-3, -5)  
**Co-vertices:** (-11, 1) and (5, 1)  
**Foci:** (-3, 9) and (-3, 11)

$$\textcircled{4} \quad \frac{x^2}{64} - \frac{y^2}{144} = 1$$



**Center:** (0, 0)  
**Vertices:** (8, 0) and (-8, 0)  
**Co-vertices:** (0, 12) and (0, -12)  
**Foci:** (14.42, 0) and (-14.42, 0)