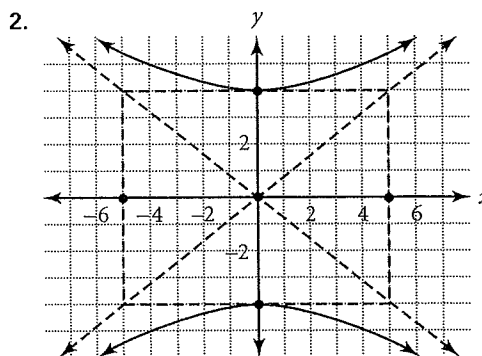
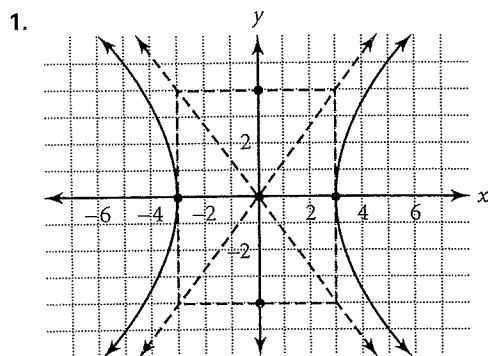


Practice

9.5 Hyperbolas

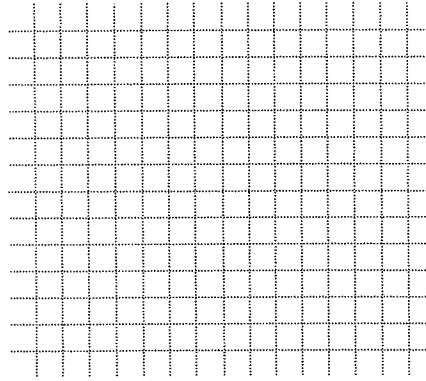
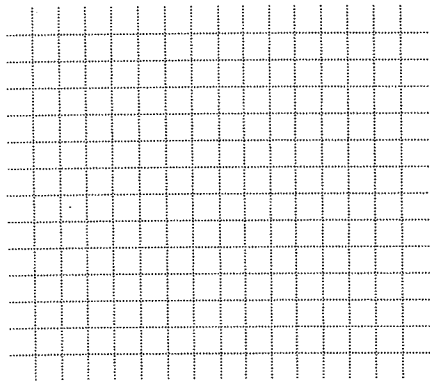
Write the standard equation for each hyperbola.



Graph each hyperbola. Label the center, vertices, co-vertices, foci, and asymptotes.

3. $\frac{y^2}{9} - \frac{x^2}{25} = 1$

4. $\frac{(x-1)^2}{16} - \frac{(y-1)^2}{9} = 1$



For Exercises 5–7, write the standard equation for the hyperbola with the given characteristics.

5. vertices: $(-\sqrt{10}, 0)$ and $(\sqrt{10}, 0)$; co-vertices: $(0, -\sqrt{15})$ and $(0, \sqrt{15})$ _____

6. foci: $(-5, -2)$ and $(5, -2)$; vertices: $(-3, 0)$ and $(3, 0)$ _____

7. center: $(1, 1)$; vertices: $(1, -4)$ and $(1, 6)$; co-vertices: $(13, 1)$ and $(-11, 1)$ _____

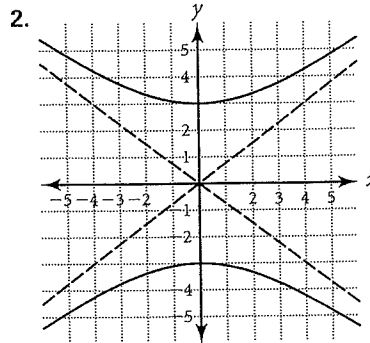
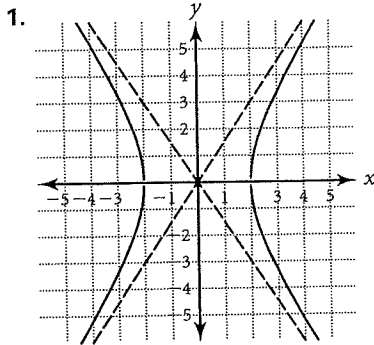
8. A hyperbola is defined by $x^2 - 4y^2 - 28x - 24y + 156 = 0$. Write the standard equation, and identify the coordinates of the center, vertices, co-vertices, and foci.



Practice Masters Level A

9.5 Hyperbolas

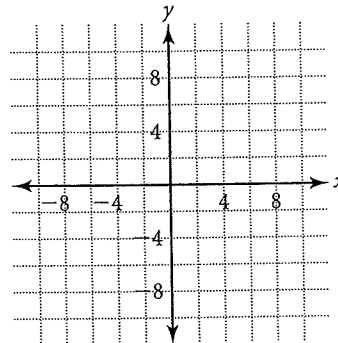
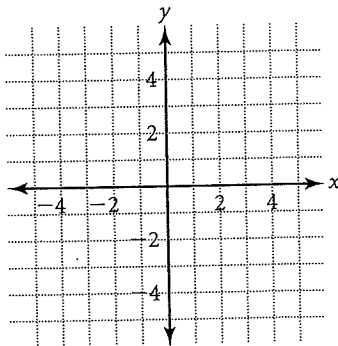
Write the standard equation for each hyperbola.



Graph each hyperbola. Label the center, vertices, co-vertices, foci and asymptotes.

3. $\frac{x^2}{4} + \frac{y^2}{16} = 1$

4. $\frac{y^2}{9} + \frac{x^2}{25} = 1$



Write the standard equation for the hyperbola with the given characteristics.

5. vertices: $(-5, 0)$ and $(5, 0)$; co-vertices: $(0, -6)$ and $(0, 6)$ _____

6. foci: $(0, -6)$ and $(0, 6)$; vertices: $(0, -4)$ and $(0, 4)$ _____

7. co-vertices: $(-7, 0)$ and $(7, 0)$; foci: $(0, -8)$ and $(0, 8)$ _____

8. vertices: $(-10, 0)$ and $(10, 0)$; foci: $(-12, 0)$ and $(12, 0)$ _____