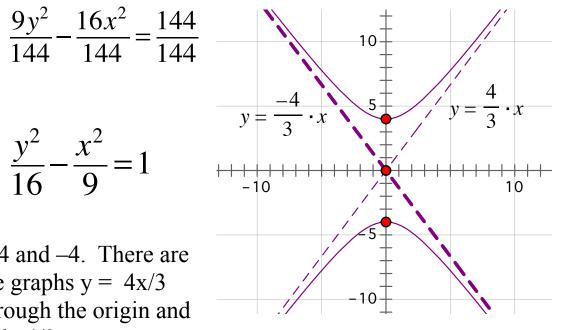
## **Example 1** Sketch the graph $9y^2 - 16x^2 = 144$

Since the coefficients of the quadratic terms are opposite in sign, this is a hyperbola. Dividing both sides by 144.

Therefore, a = 4 and b = 3.

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



By inspection, the y-intercepts are 4 and –4. There are no x-intercepts. The asymptotes are graphs y = 4x/3and y = -4x/3. These graphs go through the origin and the slope of the diagonals is 4/3 and -4/3.