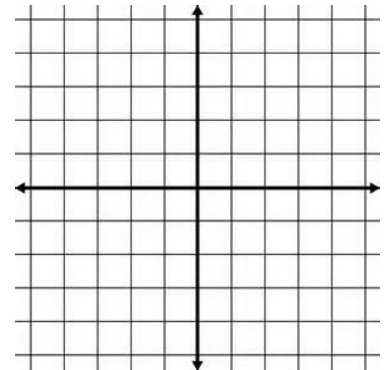


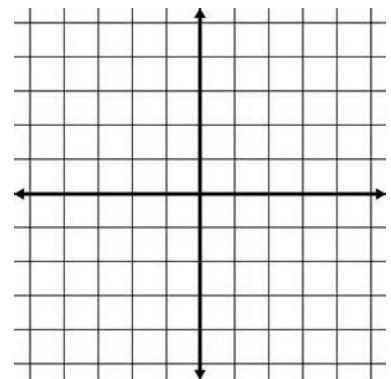
EQ:

Ex. 4 The equation  $-2x^2 + y^2 + 4x + 6y + 3 = 0$  represents a hyperbola. Write the standard equation of this hyperbola. Give the coordinates of the center, vertices, co-vertices, foci, and asymptotes. Then sketch the graph.

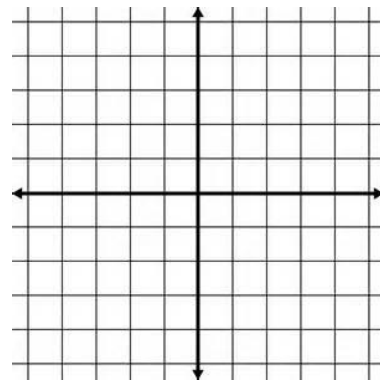


➤ In Class Practice: Write the standard equation of this hyperbola. Give the coordinates of the center, vertices, co-vertices, foci, and asymptotes. Then sketch the graph.

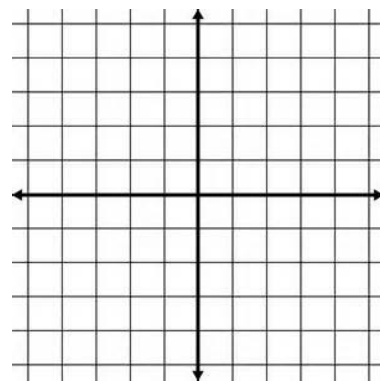
1.  $4x^2 - 9y^2 - 8x + 54y = 113$



2.  $y^2 - 9x^2 - 6y = 36 + 36x$



3.  $3y^2 + 20x = 23 + 5x^2 + 12y$



➤ Assignment: textbook p. 720 #15 - 22 (omit 17 & 18)