

Advanced Algebra  
Conics: Hyperbolas – Homework

*Write the given equations of hyperbolas in Standard Form and sketch a graph, labeling the center, vertices and foci. Sketch the asymptotes as an aid to making the graphs.*

1)  $x^2 - 25y^2 + 25 = 0$

2)  $9x^2 - 25y^2 - 45x - 50y + 56 = 0$

3)  $x^2 - 9y^2 + 36y - 72 = 0$

4)  $16y^2 - x^2 + 2x + 64y + 63 = 0$

*From the given information, write the equation of each hyperbola in General Form:*

5) Center (0, 0), vertex (3, 0), vertex (-3, 0)

6) Vertices (0, 2) and (6, 2), asymptotes  $y = \frac{2}{3}x$  and  $y = 4 - \frac{2}{3}x$

7) Vertices (2, 3) and (2, -3), foci (2, 5) and (2, -5)

8) Vertices (2, 3) and (2, -3), passing through the point (0, 5)