

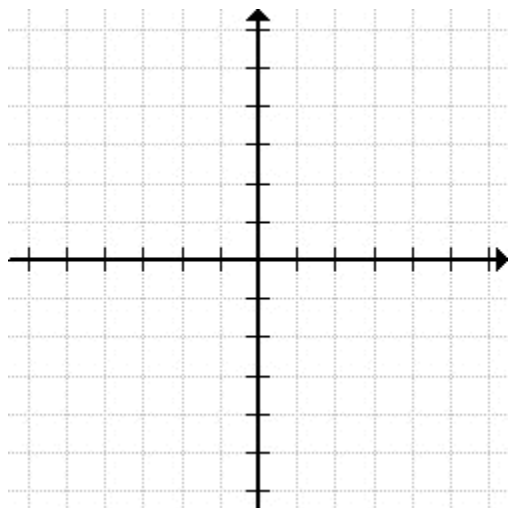
MAT 150 – Homework 18
Section 5.4

NAME _____

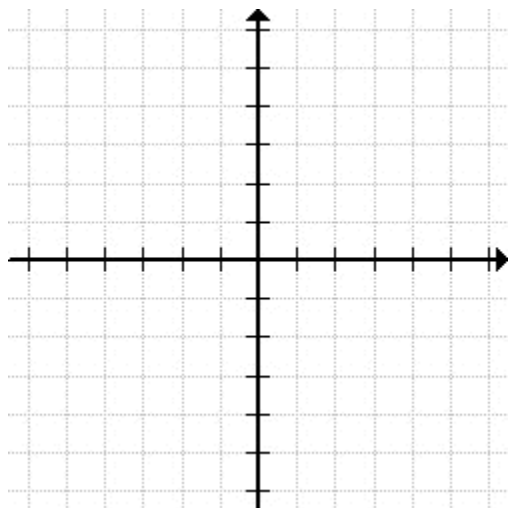
Directions: Show all work and write your final answer in the space provided.

1. Find the equation of the hyperbola with center at $(0, 0)$, focus at $(0, 5)$, and vertex at $(0, 3)$. 1. _____

2. Graph $x^2 + y^2 + 2x - 4y = 31$



3. Graph and find the center, vertices, foci, and asymptotes of the hyperbola $y^2 - 4x^2 = 16$.



Center: _____

Vert: _____

Foci: _____

Asy: _____

Asy: _____

4. Find the equation of the hyperbola with center at $(-3, 1)$, focus at $(-3, 6)$, and vertex at $(-3, 4)$. 4. _____

5. Find the equation of the hyperbola with focus at $(-4, 0)$ and vertices at $(-4, 4)$ and $(-4, 2)$. 5. _____

6. Find the equation of the asymptotes for the hyperbola $9(y + 3)^2 - 4(x - 2)^2 = 36$. Asy: _____

Asy: _____

7. Find the center, vertices, foci, and asymptotes for the hyperbola $4x^2 - y^2 - 24x - 4y + 16 = 0$.

Center: _____

Vert: _____

Foci: _____

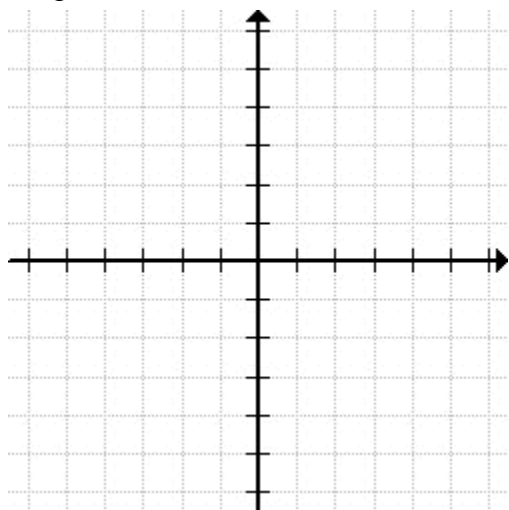
Asy: _____

Asy: _____

8. Find the equation of the hyperbola with center at $(1, 4)$, focus at $(-2, 4)$, and vertex at $(0, 4)$. 8. _____

9. Find the equation of the parabola with focus at $(3, 6)$ and directrix the line $y = -3$. 9. _____

10. Graph and find the center, vertices, foci, and asymptotes for the hyperbola $2y^2 - x^2 + 2x + 8y + 3 = 0$.



Center: _____

Vert: _____

Foci: _____

Asy: _____

Asy: _____