



Part I: For each of the following, state the name of the conic and include:

- Circles: Center and radius
- Parabolas: Vertex, focus, directrix, “a” value, and direction it opens
- Ellipses: Center, endpoints of major and minor axes, and foci
- Hyperbolas: Center, vertices, endpoints of transverse axis, slopes of asymptotes

Part II: Graph each equation on the separate sheet of graph paper provided.

1) $x^2 + y^2 = 16$

2) $x^2 = 8(y - 2)$

3) $\frac{x^2}{25} + \frac{y^2}{16} = 1$

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

5) $x^2 - 6x + y^2 - 8y = 0$

6) $(y + 2)^2 = -12(x + 3)$

7) $\frac{(x - 3)^2}{12} + \frac{(y + 2)^2}{21} = 1$

8) $4y^2 - 9x^2 = 36$

9) $(x - 3)^2 + (y + 2)^2 = 9$

10) $y^2 + 4y - 4x = 0$

11) $x^2 - y^2 = 9$

12) $2x^2 + 4y^2 + 4x - 12y = 5$

