Name: Date: Period:

**Read each problem carefully. In order to receive full credit, you must show ALL work.**

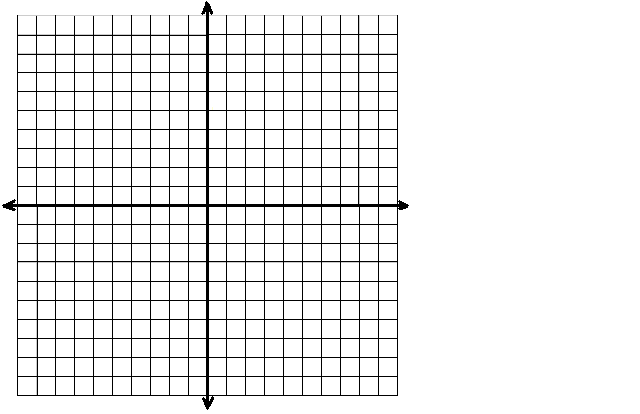
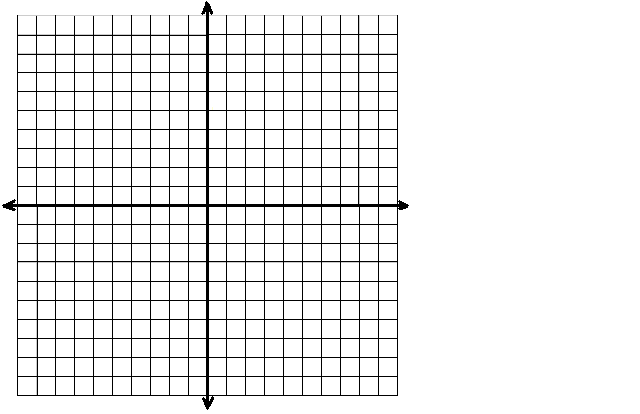
1. Find the distance between the two points. Then, find the midpoint of the line segment connecting the two points. (8, -5) (3, 4)

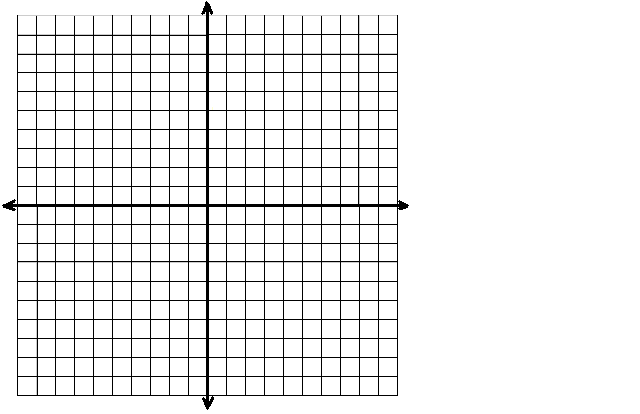
**Graph each equation.**

1. 3.

Focus: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Center: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Directrix: \_\_\_\_\_\_\_\_\_\_\_\_ Radius: \_\_\_\_\_\_\_\_\_\_\_\_\_\_



 4.

Center: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

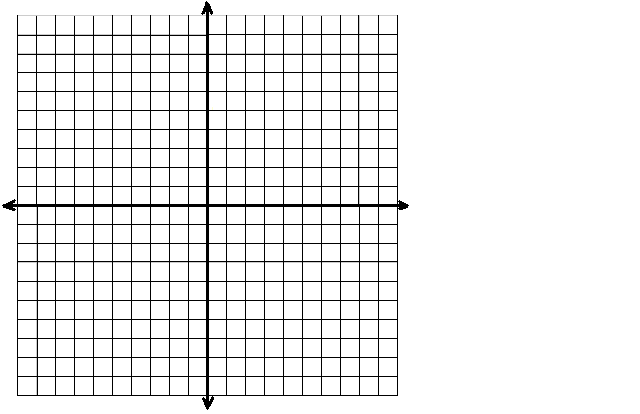
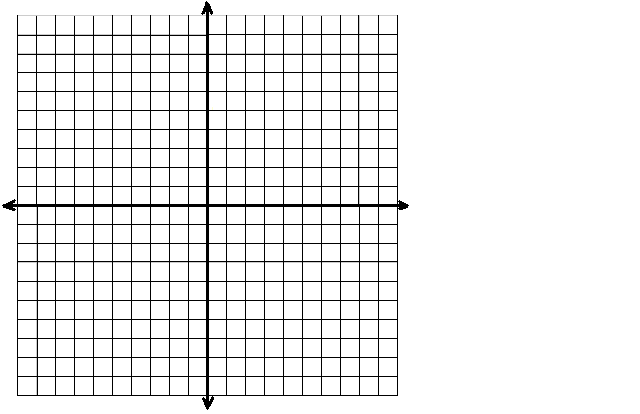
Radius: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. 6.

Vertices: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Vertices: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Co-vertices: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Co-vertices: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

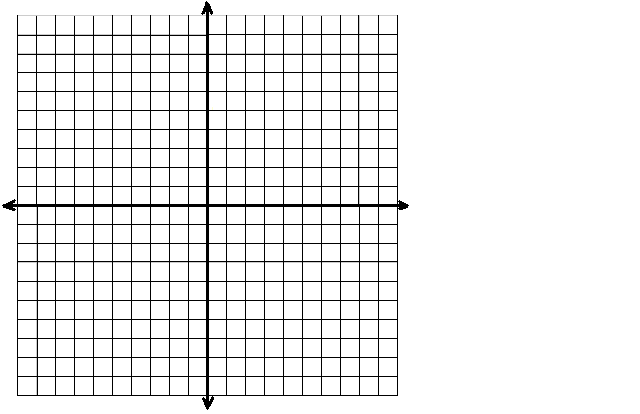
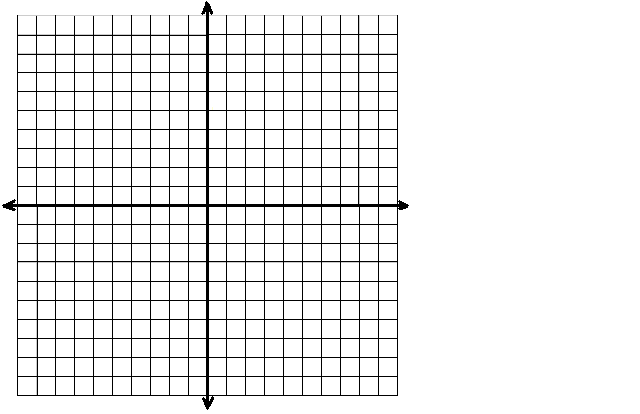
Foci: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Foci: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



7. 8.

Vertices: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Vertices: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Foci: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Foci: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



**Write an equation for each conic section.**

9. Parabola with a vertex at (0, 0) and a focus and (0, 2). 10. Circle with a center at (5, -7) and radius 4.

11. Ellipse with a center at (2, 4), vertex at (-4, 4) 12. Hyperbola with covertices at (-6, -2) and (-2, -2) and co-vertex at (2, 1). and vertices at (-4, 1) and (-4, -5).

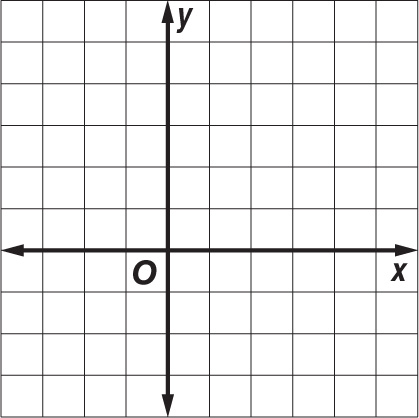
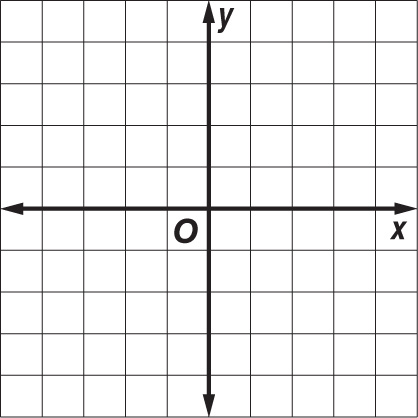
**Classify the conic section and write its equation in standard form.**

13. 14.

15. 16.4 – 16*x* – *y* + 21 = 0

**17.**  – 6*y* – 4 – 8*x* = 95

18. Solve the following system by graphing. 19. Solve the system of inequalities by graphing.

**** = 9 – + < 1

*y* = – *x* + 4

*x* ≥ 4

20. Find the exact solution(s) of the system of equations algebraically.

– 2*y* = 11

3 + = 24