Conics Review Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Part 1: Given the standard form of each conic section, classify, graph and give all important information for each.**

|  |  |
| --- | --- |
| Conic Section | Needed information for each |
| Circles | Center, radius |
| Parabolas | Vertex, focus, directrix |
| Ellipses | Center, vertices, co-vertices, foci |
| Hyperbolas | Center, vertices, foci, asymptotes |

1.  2.  3. 

4.  5.  6. 

7.  8.  9. 

10.  11.  12. 

13. 

**Part 2: Using what is given, find the requested answer.**

14. What is an equation of the line tangent to the circle  at ?



15. Find the equation of a circle with its center at  and a radius of 16.

16. What is the focus of the graph shown?

a) (0, -3) b) (0, 3) c) (-3, 0) d) (3, 0)

17. Identify the center and radius of the circle.

18. Write the equation of the parabola with vertex (0,0) and directrix x=2.

19. Find the foci and asymptotes of .

20. Find the distance between the vertices of . What are the vertices?

21. What is the distance between the focus and the directrix of ?

22. Find the vertex, foci and directrix of the parabola .

23. Write the equation of a circle that passes through (0, -10) and whose center is (0,0).

24. Find the vertices, co-vertices and foci of the ellipse .

25. Find the center, vertices and foci of the hyperbola: 

26. Write the equation of a hyperbola with foci (-2,4) and (12,4) and vertices at (2,4) and (8,4)

27. Find the vertices, co-vertices, and foci of the ellipse .

28. Write the equation of the ellipse with a vertex of (3,0) and co-vertex of (0,2).

29. Find the vertex, focus and directrix of the parabola.

30. Find the vertices and asymptotes of the hyperbola: .

31. Write the equation of the circle with a center of (4,-5) and radius of .

**Part 3: Classify and use completing the square to put the following in standard form.**

32.  33. 

34.  35. 

36.  37. 

38.  39. 