Algebra 2 - Mr. C. Name_____

Practice: Week 3 - Ellipses, Classifying Conic Sections Date_____ Period____

Use the information provided to write the standard form equation of each ellipse.

1) $x^2 + 4y^2 - 6x - 48y + 89 = 0$

2) $16x^2 + 9y^2 - 224x + 162y + 217 = 0$

3) $36x^2 + 25y^2 + 360x - 200y + 400 = 0$

4) $25x^2 + y^2 - 200x - 16y + 364 = 0$

Identify the center and vertices of each. Then sketch the graph.

5) $\frac{x^2}{25} + \frac{(y-3)^2}{4} = 1$

6) $\frac{(x-1)^2}{36} + \frac{(y+1)^2}{25} = 1$

7) $\frac{x^2}{36} + \frac{(y+1)^2}{25} = 1$

8) $\frac{x^2}{16} + \frac{(y-3)^2}{4} = 1$

Classify each conic section.

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

10) $-3x^2 - 24x + y - 43 = 0$

11) $x^2 - y^2 - 25 = 0$

12) $9x^2 + 4y^2 + 90x + 16y + 205 = 0$

13) $36x^2 + y^2 + 144x - 2y + 109 = 0$

14) $x^2 + y^2 + 8x - 8y + 31 = 0$

15) $-x^2 - 10x + y - 24 = 0$

16) $-16x^2 + 25y^2 - 50y - 375 = 0$

Answers to Practice Q4HW2 - Ellipses, Classifying Conic Sections (ID: 1)

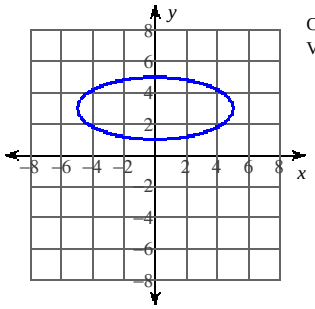
1) $\frac{(x-3)^2}{64} + \frac{(y-6)^2}{16} = 1$

2) $\frac{(x-7)^2}{81} + \frac{(y+9)^2}{144} = 1$

3) $\frac{(x+5)^2}{25} + \frac{(y-4)^2}{36} = 1$

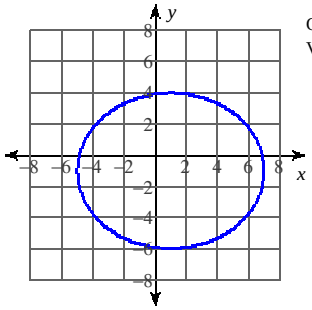
4) $\frac{(x-4)^2}{4} + \frac{(y-8)^2}{100} = 1$

5)



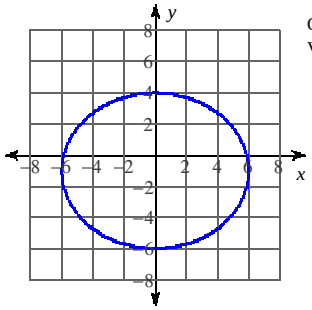
Center: (0, 3)
Vertices: (5, 3)
(–5, 3)

6)



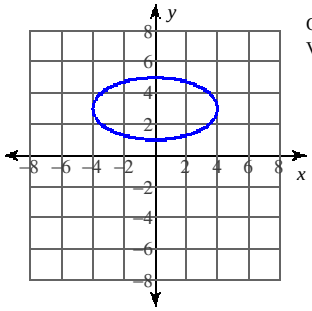
Center: (1, –1)
Vertices: (7, –1)
(–5, –1)

7)



Center: (0, –1)
Vertices: (6, –1)
(–6, –1)

8)



Center: (0, 3)
Vertices: (4, 3)
(–4, 3)

9) Circle

10) Parabola

11) Hyperbola

12) Ellipse

13) Ellipse

14) Circle

15) Parabola

16) Hyperbola