

Honors Algebra 2 – Unit 3 Practice Quiz

For each of the following equations, identify the type of conic section. Don't use your calculator.

1 a) $3x^2 + 2y^2 = 10$

b) $x^2 - y = 12$

c) $2x^2 + 2y^2 = 12$

d) $3x^2 - 2y^2 = 10$

e) $x - 2y^2 = 10$

2 Write the following equation in standard form:

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

3 Write the following equation in standard form:

$$9x^2 + 4y^2 + 36x - 24y + 36 = 0$$



For each of the following conic sections, give all of the important information—center, vertex, directrix, vertices, foci, etc. Sketch a picture showing the conic section.

4 $(x+2)^2 + (y-1)^2 = 16$

5 $(y-1)^2 = -8x$

6 $4(x+2)^2 + 16(y-1)^2 = 16$

7 $(x-2)^2 - \frac{(y+3)^2}{9} = 1$

8 Write the equation of the parabola with vertex at $(3, -5)$ and directrix $x = 0$.

9 Write the equation of the ellipse with a major axis of length 34 and foci at $(2, \pm 15)$.

10. What are the definitions of each of the conic sections? (For example, a circle is the set of all points equidistant from a point called the center).

11. Given an equation be able to identify the type of conic section that it represents.

