Unit 1 Quiz 1: Conics (through Ellipses) – A
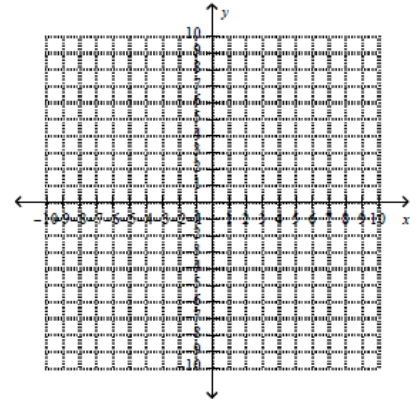
Name(s): _____   **Date:** _____   **Period:** _____

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For #1-3,   (a) write each equation in standard form   (b) Identify/classify the related conic   (c) graph the conic
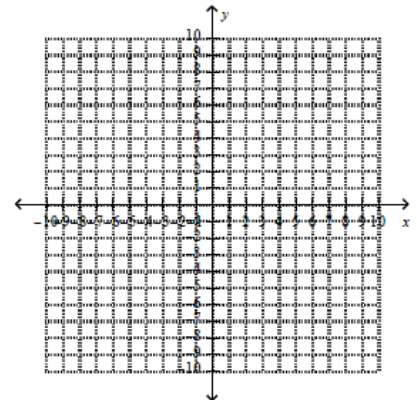
1.) $9x^2 + 4y^2 + 8y - 32 = 0$

a.   b. _____   c.

Final:_____

2.) $x^2 + 4x - 4y + 16 = 0$

a.   b. _____   c.

Final:_____

3.) $x^2 + y^2 + 2x - 6y - 6 = 0$

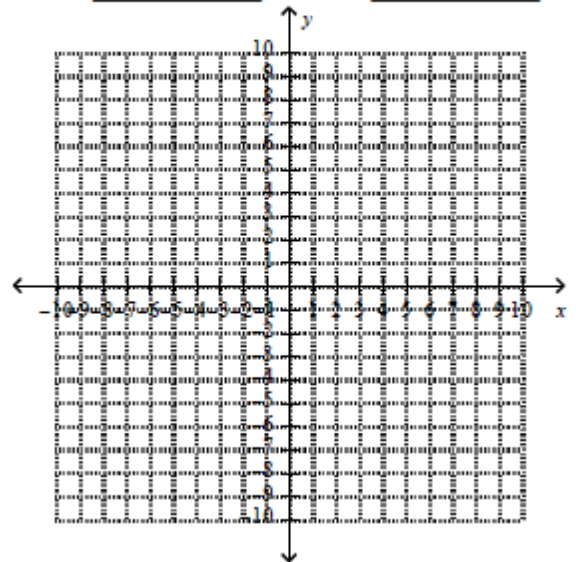a.   b. _____   c.
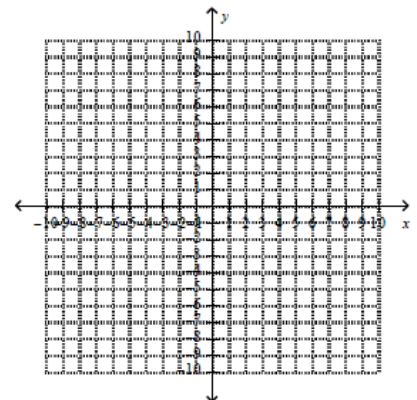
Final:_____

4.) *Write the equation for the ellipse in standard form, list characteristics, then graph the ellipse.*

$5x^2 + 10x + 3y^2 - 6y - 7 = 0$

Center: _____

$a^2 =$ _____ so $a =$ _____

$b^2 =$ _____ so $b =$ _____

EXTRA CREDIT

A.) <u>PICK ONE</u> of the following conics. Identify any applicable characteristics of the conic (center, focus, vertex, directrix, …)

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

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

$$f(x) = 3x^2 - 60x + 306$$

B.) Write an equation for the ellipse with the following characteristics:

Vertices: $(-7, -3), (13, -3)$

Foci: $(-5, -3), (11, -3)$

Final:_____