1. Find the equation of an ellipse which has center at the origin, major axis of length 6 and minor axis of length 4.

2. Many conic sections are not functions (they fail the vertical line test). How can we view such a conic section on a graphing calculator? We may need to graph two separate pieces!

(a) \( y^2 = 2ax \) is the equation of what type of conic? ________________

Solve the equation for \( y \): \( y = \) ________________

Write the two functions that you enter into the calculator:

\[ Y_1 = \] ________________ \hspace{1cm} \[ Y_2 = \] ________________

Viewing window for complete graph: [____, ____] \( \times \) [____, ____]

(b) \( \frac{x^2}{9} + \frac{y^2}{16} = 1 \) is the equation of what type of conic? ________________

Solve the equation for \( y \):

\( y = \) ________________

Write the two functions that you enter into the calculator:

\[ Y_1 = \] ________________ \hspace{1cm} \[ Y_2 = \] ________________

Viewing window for complete graph: [____, ____] \( \times \) [____, ____]

(c) \( \frac{x^2}{4} - \frac{y^2}{9} = 1 \) is the equation of what type of conic? ________________

Solve the equation for \( y \):

\( y = \) ________________

Write the two functions that you enter into the calculator:

\[ Y_1 = \] ________________ \hspace{1cm} \[ Y_2 = \] ________________

Viewing window for complete graph: [____, ____] \( \times \) [____, ____]