

Quiz #03 – MATH 2421
Summer 2006

Kawai

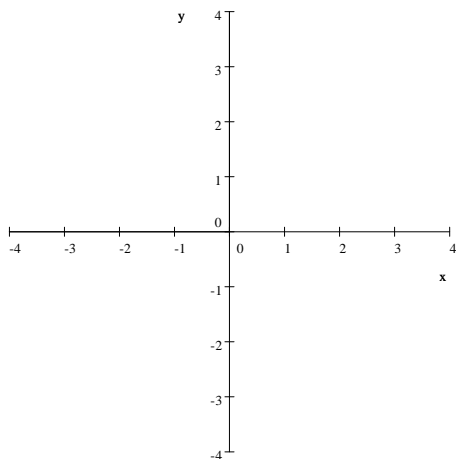
Name : _____

Directions: No calculators, books, or notes. Show algebra. Be sure to highlight your final answer!

(#1) Conics

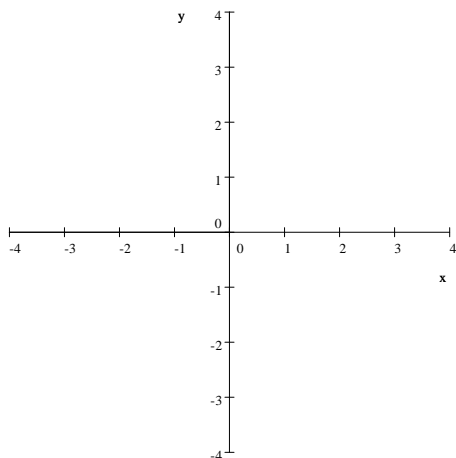
(a) Make a reasonable graph of these conics on the set of axes below.

$$\frac{x^2}{4} + \frac{y^2}{9} = 1 \quad \text{and} \quad 4y^2 - 9x^2 = 36$$



(b) Make a reasonable graph of this function:

$$f(x) = -x^2 - 4x - 3$$



(#2) Integrate or die.

Find the position function $\mathbf{r}(t)$, if $\mathbf{r}(0) = \langle 2, 3, 5 \rangle$ and

$$\mathbf{v}(t) = \langle \sin(2t), \sqrt{t+1}, 3e^{-3t} \rangle.$$