

- Show all your work for each problem; show enough work to fully justify your answer.
- Simplify all answers as far as possible.
- All numerical answers must be in terms of actual numbers.
- Identify your answers clearly.

(1) [Points: 15] Here is the equation of an ellipse:  $x^2 + 3x + 4y^2 - 4y = \frac{3}{4}$ .

- Where is its center?
- What is the semimajor axis? The semiminor axis?
- Sketch the curve on the coordinate system shown here.

