Math 2300-007: Quiz 13/14

Name: _____ Score: _____

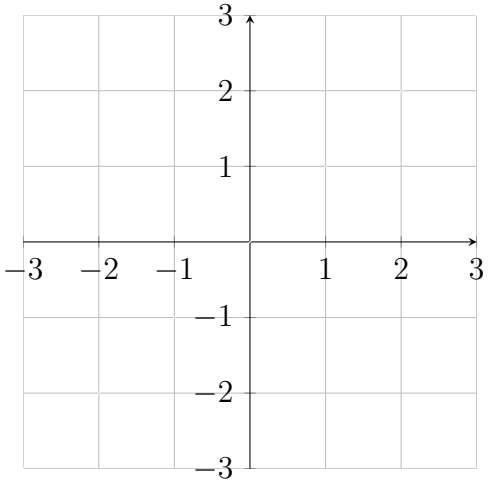
1. A ray (a half-line) is parameterized by $\begin{cases} x = 2 + 3t^2 \\ y = -1 + 4t^2, \end{cases}$ where $-\infty < t < \infty$.

   (a) (2 points) Does $(2, 1)$ lie on the ray? Explain.

   (b) (2 points) What is the speed of motion along the line as a function of t?

   (c) (2 points) What is the slope of the line?

   (d) (1 point) On the axes provided, draw the graph of the ray.



2. (3 points) Eliminate the parameter to find a cartesian equation of the curve described by the parametric equations

$$\begin{cases} x = 3\sin(t) \\ y = \cos(t) - 1, \end{cases} \qquad \text{where } 0 \leq t < 2\pi.$$

You do not need to solve for x or y in your answer.

3. (**Quiz 14**: 10 points) This weekend, something fun I'm doing is....