

**NAME:**

Math 103: College Algebra and Trigonometry  
Quiz 8, 5 December 2008

The following three questions are worth a total of 10 points. The majority of the credit you receive will be based on the completeness and the clarity of your responses. Show your work, and avoid saying things that are untrue, ambiguous, or nonsensical.

1. (2 points) Let  $P$  be the point  $\left(7, \frac{4\pi}{3}\right)$  in polar coordinates. Write  $P$  in rectangular coordinates (that is,  $xy$ -coordinates). Write your answer in *exact* form.

2. (3 points) Let  $Q$  be the point  $(-24, 10)$  in rectangular coordinates. Write  $Q$  in polar coordinates. A decimal approximation is okay for  $\theta$ .

3. (5 points) Identify the shape of the curve described by the equation

$$x - 2 = 12(y + 5)^2.$$

Also give at least two properties of the curve besides just its basic shape.