

**King Fahd University of Petroleum and Minerals**  
**Department of Mathematics and Statistics**  
**Math 201 - Quiz 1**

Name:

Student ID #:

**Question 1.** Consider the parametric curve

$$x = t^2 + 1, \quad y = 1 - t^4, \quad 0 \leq t.$$

- (1) Eliminate the parameter to find the cartesian equation of the curve.
- (2) Sketch the curve, indicate with an arrow the direction in which the curve is traced as the parameter increases, and identify it.

**QUESTIONS 2 IS ON THE BACK OF THE PAGE.**

**Question 2.** Find the exact length of the parametric curve  $x = 2\sqrt{2} \cos t$ ,  $y = \frac{1}{2} \sin 2t$ ,  
 $-\frac{\pi}{2} \leq t \leq \frac{\pi}{2}$ .