

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

$$x = \sec(\theta), \quad y = \tan(\theta), \quad -\pi/2 < \theta < \pi/2.$$

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

QUESTIONS 2 IS ON THE BACK OF THE PAGE.

Question 2. Find the area of the surface obtained by rotating the parametric curve $x = \cos(t) - \sin(t)$, $y = \cos(t) + \sin(t)$, $0 \leq t \leq \pi$ about the x -axis.