

**KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS**  
**DEPARTMENT OF MATHEMATICS AND STATISTICS**  
**MATH 201 - QUIZ 2**

Name:

Student ID #:

**Question 1.** Find the area of the region inside the circle  $r = 3 \cos \theta$  and outside the cardioid  $r = 1 + \cos \theta$ .

**Question 2.** Graph the polar curve  $r = \sin^2 \theta$  and find its length.

**Your Solution.**