

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

Name:

Student ID #:

**Question 1.** Find the slope of the tangent line to the polar curve  $r\theta = 1$  at  $\theta = \pi/2$ .

**Question 2.** Describe the region consisting of points inside the sphere with radius 3 and center  $(-1, 2, -2)$  and above the  $xy$ -plane using two inequalities.

**Question 3.** Find the area that lies inside the curve  $r = 1 + \sin\theta$  and outside the curve  $r = 1 - \sin\theta$ .

**Your Solution.**