

**KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS**  
**DEPARTMENT OF MATHEMATICS & STATISTICS**

MATH 201-11

Quiz # 2

Feb 19, 2015

NAME:	ID#:
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**SHOW ALL YOUR WORK**

1. **(4points)** Set up the integral to calculate the area inside the circle  $r = 4 \cos \theta$  and to the left of the line  $r = 3 \sec \theta$ . Do not evaluate the integral.

2. **(3points)** Find the slope of the cardioid  $r = 1 + \cos \theta$  at  $\theta = 5\pi/6$ .

3. **(3points)** Find length of the curve  $r = a \sin^2 \frac{\theta}{2}$ ,  $0 \leq \theta \leq \pi$ .