

KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS  
DEPARTMENT OF MATHEMATICS & STATISTICS  
MATH 201-09  
Quiz # 1  
Sept 16, 2014

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

- (4points)** Find the Cartesian equation of the curve  $x = 1 + \sin t$ ,  $y = \cos t$ ,  $0 \leq t \leq \pi$ .  
Sketch the curve and indicate with an arrow the direction in which the curve is traced.

- (3points)** Find the exact length of the curve  $x = \cos^3 t$ ,  $y = \sin^3 t$ ,  $0 \leq t \leq \frac{\pi}{2}$ .

- (3points)** Find the polar coordinates of the point  $(-\sqrt{3}, 1)$  with  $r \leq 0$  and  $-\pi \leq \theta \leq \pi$ .