

King Fahd University of Petroleum and Minerals  
Department of Mathematics and Statistics  
Math-201 Semester-092 QUIZ I

NAME:

S.No.

ID:

Maximum Marks: 15

Section:03

Time Allowed: 25 minutes

(1) For which value of  $t$  is the curve  $x = 2\sin t, y = 3\cos t, 0 < t < 2\pi$  concave upward.

(2) Find the length of the curve  $x = e^t - t, y = 4e^{\frac{t}{2}}, -8 \leq t \leq 3$ .

(3) Sketch the graph of the polar equation  $r = 1 - 2\cos\theta$ .