

King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics

Math 201 Section#: Serial #: Quiz I(a) (Term 191)

Name : ID #..... Marks/6

1. Describe motion of the particle with position (x, y) where
 $x = 2 + \cos t$, $y = 3 + \sin t$ and $0 \leq t \leq 2\pi$.

2. Find values of t for which the parametric curve $x = t^3 - 12t$, $y = t^2 - 7$ is concave upwards.

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1. Sketch the parametric curve $x = \cos(\pi - t)$, $y = \sin(\pi - t)$, $\pi \leq t \leq 2\pi$.
Indicate the direction in which it is traced.

2. Find equations of two tangent lines through the point $(0, 4)$ for the parametric curve
 $x = t^3 - 4t$, $y = t^2$.

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Math 201 Section#: **Serial #:** **Quiz I(c) (Term 191)**

Name : **ID #**..... **Marks**/6

1. Convert parametric equation $r = \cos \theta + \sin \theta$ in Cartesian coordinates and sketch the graph of the resulting equation.

2. Find area of the surface generated by revolving the curve $x = \cos^2 t, y = \sin^2 t \left(0 \leq t \leq \frac{\pi}{2}\right)$ about the x -axis.