King Fahd University of Petroleum and Minerals
Department of Math & Stat
Math 201, Sections: 2, 5, 14 (071)
Quiz 1(a)

Time: 15 Minutes **Marks: _____/9**

Name: _____

ID #: _____ Serial #: _____

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

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Quiz 1(b)

Time: 15 Minutes **Marks: _____/9**

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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. Set up an integral to calculate arc length of the curve:

$$x = e^t \sin t, y = e^t \cos t; \qquad (0 \leq t \leq \pi).$$

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Quiz 1(c)

Time: 15 Minutes **Marks: _____/9**

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1. For the curve: $x = t^2, y = t^3 \qquad (-\infty < t < \infty)$, find $\dfrac{dy}{dx}$ and $\dfrac{d^2y}{dx^2}$ without eliminating the parameter t.

2. Find the length of the curve: $x = 3t, y = 2t^{3/2} \qquad (0 \leq t \leq 4)$.

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Quiz 1(d)

Time: 15 Minutes **Marks: _____/9**

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1. Find area of the surface generated by revolving the curve: $x = 3t^2, y = 2t^3$ $(0 \leq t \leq 1)$ about the y-axis.