KFUPM--Term 181

Math 201 Quiz # 1(a) Time: 20 minutes Date: 7-10-2018

Name	ID #	Sr #	Sec. 09	Marks(15)

Q1. Sketch the polar curve $r = \cos 2\theta$ and find the slope of tangent line to this curve when $= \frac{\pi}{4}$.

Q2. Find an equation of the largest sphere with center $(5,4,9)$ that is contained in the first octant. Determine whether the point $(1,4,3)$ lies inside, on or outside this sphere. Justify your answer.

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Math 201 Quiz # 1(b) Time: 20 minutes Date: 7-10-2018

Name	ID #	Sr #	Sec. 09	Marks(15)

Q1. Sketch the polar curve $r = 3\cos\theta$. Find the points on this curve where the tangent line is horizontal.

Q2. Show that the equation: $3x^2 + 3y^2 + 3z^2 = 10 + 6y + 12z$, represents a sphere. Find its center and radius and determine whether the origin lies inside, on or outside this sphere. Justify your answer.

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Math 201 Quiz # 2(c) Time: 20 minutes Date: 7-10-2018

Name	ID #	Sr #	Sec. 13	Marks(15)

Q1. Sketch the curve $2r = 1 + 2\sin\theta$ and identify it. Also find the slope of tangent line to this curve when $\theta = \frac{\pi}{3}$.

Q2. Find the distances between x-, y-, z-axes and the midpoint of the line segment through the points $A(1, 2, -3)$ and $B(3, -4, 1)$, respectively.

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Math 201 Quiz # 1(d) Time: 20 minutes Date: 7-10-2018

Name	ID #	Sr #	Sec. 13	Marks(15)

Q1. Sketch the curve with polar equation $2r = \cos\theta$. Also find its Cartesian equation and identify it.

Q 2. Find an equation of a sphere if one of its diameters has endpoints $(1, 6, -9)$ and $(5,4,3)$. Determine whether the origin lies inside, on or outside this sphere. Justify your answer.