Math2210 Quiz 1   (Sections 10.4, 11.1)   Summer, 2008   Dylan Zwick

Name _____ Date _____

<u>Instructions</u>: Please show all of your work as partial credit will be given where appropriate, **and** there may be no credit given for problems where there is no work shown. All answers should be completely simplified, unless otherwise stated.

1. For $x=\sqrt{3-t}$ and $y=2\sqrt{t-1}$ such that $1\leq t\leq 3$, eliminate the parameter and graph the curve. Indicate if the curve is simple and/or closed.
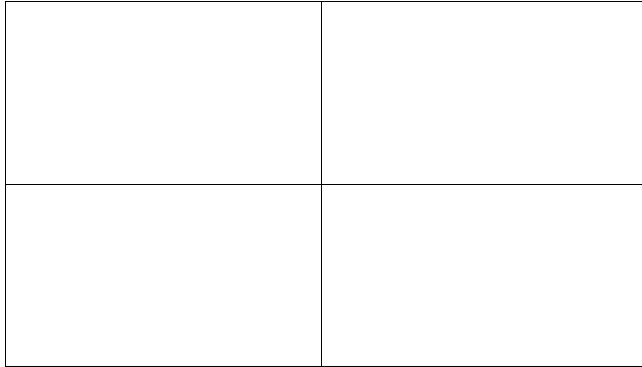
Simple: T   or   F   (circle one)

Closed: T   or   F   (circle one)

2. Find the distance between the points (-2, 1, 2) and (4, -3, 6).

distance = _____

3. Find $\dfrac{dy}{dx}$ and $\dfrac{d^2y}{dx^2}$ (without eliminating the parameter) for $x = 4t^5$ and $y = -2t^3$ such that $t \neq 0$.

$$\dfrac{dy}{dx} = \underline{\hspace{8cm}}$$

$$\dfrac{d^2y}{dx^2} = \underline{\hspace{8cm}}$$

4. Find the equation of the sphere that has the line segment joining the two points in question #2 as a diameter.

Center of sphere: _____

Equation of sphere: _____