Reading Assignment # 19

Math 13 - Prof. Orellana

May 21, 2010

Read Sections 7.1

Don't forget to let me know the pages where you found the answers. You should write full sentences when you do these assignments to help you study from them before the next exam.

1. Besides parametrically, how else can a surface be described? What are potential problems with these descriptions that motivate introducing parametric equations for surfaces?

2. State the definition of a parametrized surface.

3. What are the parametric equations of a sphere of radius a? Of a cylinder of radius a?

4. What is a coordinate curve? Draw a figure to explain better.

5. What is a torus? What is the parametrization of this surface?

6. Describe how we compute the equation for the tangent plane of a surface at a point if the surface is given by parametric equations.

7. What is the definition of a piecewise smooth parametrized surface? Give an example.

8. How is the vector $\mathbf{T}_s \times \mathbf{T}_t$ used to find the Riemann sum that approximates the surface area?

9. What double integral is equal to the surface area?

10. What is the surface area of the graph $f(x, y)$ over D?