

Reading Assignment # 7

Math 13 - Prof. Orellana

April 14, 2010

Read Sections 3.1, 3.2 and 3.3

Don't forget to let me know the pages where you found the answers.

1. What types of functions will be the focus of this chapter?
2. What is the definition of a **path in \mathbb{R}^n** ?
3. Give the general equation of a line as a function $\mathbf{x} : \mathbb{R} \rightarrow \mathbb{R}^3$ as given in Example 1 in Section 3.1.
4. Give the general form of a circular helix.
5. What is the difference between a curve and a path?
6. What is the definition of the derivative of a path, and what name do we use?
7. What is the vector parametric equation for the tangent line? Give two ways to write it. What is the physical significance of the tangent line?
8. What are we trying to measure in Section 3.2?
9. What is the definition of the length of a path?
10. Define a vector field and explain how one would sketch a vector field in \mathbb{R}^2 or \mathbb{R}^3 . Give an example and sketch it.