

Assignment #7

Due on Monday October 1, 2007

Read Section 7.1 on *Limits*, pp. 171–178, in Bressoud.

Do the following problems

1. Let U denote an open subset of \mathbb{R}^n . Suppose that $f: U \rightarrow \mathbb{R}$ is a scalar field and $G: U \rightarrow \mathbb{R}^m$ is vector valued function.
 - (a) Explain how the product fG is defined.
 - (b) Prove that if both f and G are continuous on U , then the vector valued function fG is also continuous on U .
2. Exercise 3 on page 178 in the text.
3. Exercise 4 on pages 178 and 179 in the text.
4. Exercise 11 on page 180 in the text.
5. Exercise 12 on page 180 in the text.