

MATH 223

Selected Hints and Answers for Assignment 3

Chapter 2: 21, 23, 26, 30, 31

21: (1): There is a problem when $t = 0$.

(2) Certain multiples of $\pi/2$ may be troublesome.

(3) What is the domain of the natural logarithm function? When are fractions undefined?

23: Show that the set satisfies the definition of a vector space. As for dimension, let n be a positive integer and consider the linear dependence or independence of the set of functions $\{x^1, x^2, \dots, x^n\}$.

26: Use ordinary rules of differentiation