Review For MAT 365 Test 2

Definitions of the words in **boldface** may be asked on the exam.

2.6 Linear transformation, linear independent, span, basis, dimension vector space, C^n-function
Propositions/Theorms to know and be able to use:17,22
Sample Problems: Example 9 , Exercise 7, 8a, 8b

2.7 eigenvalue, eigenvector,diagonalization
Propositions/Theorms to know and be able to use: 3
Sample Problems:Example 5, Exercise 3

3.1 graph, smooth manifold, parameterization
Propositions/Theorms to know and be able to use: 10
Sample Problems:Example 11,12,14,20

3.2 tangent space
Propositions/Theorms to know and be able to use: 4,7
Sample Problems: examples 3,8

3.3 Taylor polynomial
Propositions/Theorms to know and be able to use:
Sample Problems:Example 16

Chapter 4 indicator function(4.1.1) integral(4.1.12)
Propositions/Theorms to know and be able to use: Fubini's Theorem(4.5.10)

4.8 Characteristic polynomial, trace determinants
Propositions/Theorms to know and be able to use: 3,5,6,7,8,19,23
Sample Problems: Example 18, Know proofs of 3, 5,19

4.9 k-parallelogram, unit n-dimenstional cube
Propositions/Theorms to know and be able to use: 1,4,7
Sample Problems: Example 8. Exercise 4

4.10 polar coordinates,cylindrical coordinates spherical coordinates
Propositions/Theorms to know and be able to use:3,7,10,12
Sample Problems: Examples 5,11 Exercise 9,19