

## Review 1 Math 261

Any term in **bold face** know the definition well enough to state it on the test. The definition you give should be very similar to the one in the book or one with similar detail.

Section 12.1 - 12.2 Terms: coordinates, distance, vector, **magnitude, unit vector, standard basis vectors**

know and be able to apply properties of vectors (795)

sample problems 790 # 9 , 799 #9,15,33

Section 12.3 Terms: **dot product , parallel vectors**, angle between two vectors, **orthogonal, projection, orthogonal projection**,

know and be able to apply properties of dot product (801)

Sample problems Example 3, Exercises 23,39,45,46

Section 12.4 Terms: **cross product, determinant**, Volume of parallelepiped, Area of parallelogram

Be able to use  $A = |\mathbf{a} \times \mathbf{b}|$ ,  $V = |\mathbf{a} \cdot (\mathbf{b} \times \mathbf{c})|$

know and be able to apply properties of cross product (808-809)

Sample problems Example 3, Example 4 Example 5, Exercises 5,19, 27,33,45

Section 12.5 Terms: **vector equation of a line**, parametric equations of a line, symmetric equations of a line, **vector equation of a plane**, scalar equation of a plane , distance between points, lines and planes

Sample problems Exercises 5,9, 23, 33, 34, 48

Section 12.5 Terms: cylinder, quadratic surfaces, Table 1

Section 13.1- 13.2 Terms: **vector function , derivative- $\mathbf{r}'(t)$ , tangent vector, tangent line**, definite integral

be able to apply differentiation rules (850)

Sample problems 13.2 Example 3,4, Exercise 4,19,23,35

Section 13.3 Terms: **arc length, arc length function  $s(t)$** , curvature  $\kappa(t)$ , **unit tangent vector, normal vector**, binormal vector, normal plane

Sample problems, Example 1,3, Exercise 3,21,50

Section 13.4 Terms: **velocity vector, speed, acceleration**

Sample problems Example 6 Exercise, 5,9,15,22