

**Math 303, Worksheet #2**  
**Fall 2008**

Name: \_\_\_\_\_

Use these vectors in each of the problems below.

$$\vec{v}_1 = 3\vec{i} - 2\vec{j}$$

$$\vec{v}_2 = \vec{i} + \vec{j}$$

$$\vec{v}_3 = 4\vec{i} + 3\vec{j}$$

$$\vec{v}_4 = 3\vec{i} - 2\vec{j} + \vec{k}$$

$$\vec{v}_5 = -2\vec{i} + \vec{j} + 3\vec{k}$$

$$\vec{v}_6 = \vec{i} + \vec{j} + \vec{k}$$

1. Compute each of the following without technology, then check your work on Maple:

a.  $\vec{v}_1 + \vec{v}_2$

b.  $\|\vec{v}_1\|$

c.  $3\vec{v}_3$

d.  $\|2\vec{v}_1 - \vec{v}_3\|$

e.  $3\vec{v}_4 - \vec{v}_5$

f.  $\|\vec{v}_4\|$

2. Sketch the following vectors on the same set of axes:  $\vec{v}_1$ ,  $\vec{v}_2$ ,  $\vec{v}_1 + \vec{v}_2$ .

3. Use Maple to visualize the vector  $2\vec{v}_6 - \vec{v}_4$ .

4. Use Maple to compute  $\|2\vec{v}_6 - \vec{v}_4\|$ .