

**MATH 311 – CALCULUS 3**  
**Spring 2006**  
**QUIZ 2**

NAME \_\_\_\_\_

Let  $\mathbf{a} = \langle 2, 1, -2 \rangle$ ;  $\mathbf{b} = \langle 0, 3, 4 \rangle$ ;  $\mathbf{c} = \langle 5, -2, 4 \rangle$ .

1.  $\mathbf{b} \bullet \mathbf{c} =$

2.  $\text{comp}_{\mathbf{b}} \mathbf{a} =$

3. Find the cosine of the angle between  $\mathbf{a}$  and  $\mathbf{b}$ .

4. Find the area of the parallelogram determined by  $\mathbf{a}$  and  $\mathbf{b}$ .