

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

NAME \_\_\_\_\_

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

1. Find the volume of the parallelepiped determined by  $\mathbf{a}$ ,  $\mathbf{b}$  and  $\mathbf{c}$ .
  
  
  
  
  
  
  
  
  
  
2. Find parametric equations for the line through the point  $(3, 1, 2)$  and parallel to  $\mathbf{a}$ .
  
  
  
  
  
  
  
  
  
  
3. Find the equation of the plane containing the points  $(0, 0, 0)$ ,  $(2, 1, -2)$  and  $(0, 3, 4)$ .
  
  
  
  
  
  
  
  
  
  
4. Find the distance from the point  $(3, 4, 1)$  to the plane  $x + 3y - 2z = 2$ .