Name:_____ **MATH 210 Quiz 1 (Sep 2, 2005)** no calculators!

**(1)** Which of the points $A(1,2,3)$, $B(3,1,3)$, $C(4,1,0)$ is closest to the origin?

Compute: $\overrightarrow{AB} =$

What is the length of the vector $\overrightarrow{AB}$?

**(2)** Let $\overrightarrow{u} = \langle 1,2,0 \rangle$, $\overrightarrow{v} = \langle a,b,c \rangle$. Find

- $\overrightarrow{u} \cdot \overrightarrow{v} =$
- $\overrightarrow{v} \cdot \overrightarrow{u} =$
- $\overrightarrow{u} \times \overrightarrow{v} =$
- $\overrightarrow{v} \times \overrightarrow{u} =$

**(3)** Write (an) equation(s) of the line $L$ containing the points $A(2,0,0)$ and $B(1,1,0)$.

Where does $L$ intersect the $yz$-plane?