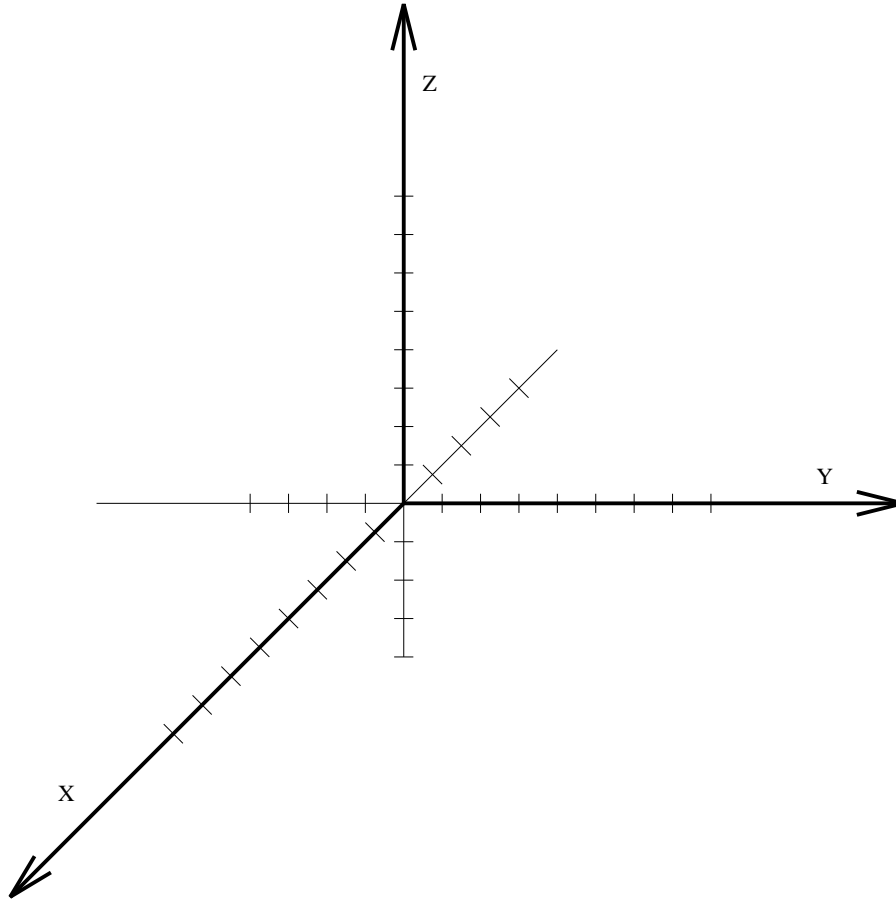


Show **ALL** work for credit; be neat. Calculators can be used for graphing and calculating only. Give exact answers when possible.

1. Plot the points $A(4, -3, 0)$ and $B(3, 4, 5)$ on the graph below and draw \vec{AB} . Write the vector \vec{AB} using the $\langle ?, ?, ? \rangle$ notation.



2. For what values of t are $\mathbf{u} = t\mathbf{i} - \mathbf{j} + \mathbf{k}$ and $\mathbf{v} = t\mathbf{i} + t\mathbf{j} - 2\mathbf{k}$ perpendicular? Explain why there are no values of t for which \mathbf{u} and \mathbf{v} are parallel.