lindep

1. Let \( \mathbf{v} = (1, 2), \mathbf{w} = (2, 4), \mathbf{u} = (3, 5) \). Which sets of vectors are linearly dependent? Explain.
   a. \( \mathbf{v}, \mathbf{w} \)  
   b. \( \mathbf{v}, \mathbf{u} \)  
   c. \( \mathbf{w}, \mathbf{u} \)

2. Let \( \mathbf{v} = (1, 2), \mathbf{w} = (2, 5), \mathbf{u} = (3, 3) \). Are these 3 vectors linearly dependent? Explain.

3. Let \( \mathbf{v} = (1, 3, 2) \). Find \( \mathbf{w} \) so that \( \mathbf{v}, \mathbf{w} \) are linearly dependent. Find \( \mathbf{w} \) so that \( \mathbf{v}, \mathbf{w} \) are linearly independent.