

Quiz 1

Name: _____ Section and/or TA: _____

Answer all questions in a clear and concise manner. Unsupported answers will receive *no credit*.

1. (2 points) Let $\mathbf{u} = \langle 1, 4, -2 \rangle$ and $\mathbf{v} = \langle 2, 3, 7 \rangle$. Find $\mathbf{u} + \mathbf{v}$.

Solution: $\mathbf{u} + \mathbf{v} = \langle 1 + 2, 4 + 3, -2 + 7 \rangle = \langle 3, 7, 5 \rangle$

2. (3 points) Let $\mathbf{u} = \langle 1, 4, -2 \rangle$ and $\mathbf{v} = \langle 2, 3, 7 \rangle$. Determine if \mathbf{u} and \mathbf{v} are orthogonal.

Solution: $\mathbf{u} \cdot \mathbf{v} = (1)(2) + (4)(3) + (-2)(7) = 2 + 12 - 14 = 0$. Hence \mathbf{u} and \mathbf{v} are orthogonal.
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