

1. (8 points) Let $\mathbf{u} = \langle 1, 1, -1 \rangle$, $\mathbf{v} = \langle 2, -3, 5 \rangle$, $\mathbf{w} = \langle 3, 0, 1 \rangle$.
Find $\mathbf{u} \cdot (\mathbf{v} \times \mathbf{w})$.

Answer: _____

2. (1 point) True or false: If \mathbf{u} and \mathbf{v} are orthogonal, then $\text{proj}_{\mathbf{u}} \mathbf{v} = 0$

Answer: _____

3. (1 point) True or false: For any vector \mathbf{u} , $\mathbf{u} \times \mathbf{u} = 0$.

Answer: _____