

Name:

ID:

Q1. If $\vec{a} = \langle 1, -2, -2 \rangle$, $\vec{b} = \langle -1, 0, 1 \rangle$ and $\vec{c} = \text{proj}_{\vec{a}} \vec{b}$, find the scalar $\vec{c} \cdot (\vec{a} \times \vec{b} - \vec{a})$.

Q2. Given the points $A(-1, \sqrt{6}, 2)$, $B(-2, 0, 3)$ and $C(2, 0, -1)$, let M be the midpoint of BC . Find the angle between BC and the median AM .