

HW #2

To receive full credit, you must provide a detailed explanation of how you arrived at your answers.

Question 1. Find the projection of $\langle -1, 8, 1 \rangle$ onto $\langle 3, -2, -3 \rangle$.

Question 2. Find the area of the triangle with vertices $P = (-2, 5, 5)$, $Q = (-2, 6, 6)$, $R = (2, -2, 5)$.

Question 3. Find the two unit vectors that are orthogonal to $\langle 4, 1, -1 \rangle$ and $\langle 6, 4, 1 \rangle$.

Question 4. Consider the points $A = (2, 0, -1)$, $B = (-3, 1, 1)$, $C = (-1, 4, 0)$, $D = (2, 1, 5)$. Find the volume of the parallelepiped with adjacent edges AB , AC , and AD .