

WRITE YOUR NAME:

MAC 2313 B51 Spring 2024

Written homework #1

Due Tuesday January 16th, in Canvas

Question 1. Find the distance between the points $(-5, 4, 2)$ and $(-7, 2, 1)$.

Question 2. Find a unit vector in the same direction as $\langle 2, 3, -6 \rangle$.

Question 3. Compute the dot product of the vectors $\mathbf{u} = \langle 4, 1, 1 \rangle$ and $\mathbf{v} = \langle 1, -1, 0 \rangle$, and also find the angle between the vectors.

Question 4. Calculate the projection of the vector $\mathbf{u} = \langle -1, 4 \rangle$ onto the vector $\mathbf{v} = \langle -4, 2 \rangle$. Also draw a rough sketch to see whether your answer seems reasonable.