

This quiz has 2 problems worth 10 points.

1. (3 points) Project the vector $\mathbf{b} = (1, -6, 8)$ onto the line through $\mathbf{a} = (2, 1, -3)$. Check that $\mathbf{e}$ is perpendicular to $\mathbf{a}$.

2. Let $(1, 0)$, $(2, 1)$, $(3, 4)$, $(5, 1)$ be four points in the xy -plane.

(a) (3 points) Write down the unsolvable equations for a line $y = C + Dx$ through the four points.

(b) (3 points) Set up the normal equations to solve for $\hat{x}$.

(c) (1 points) In fact, $\hat{x} = (0.7143, 0.2857)$. What does this tell you?