

Show all work. 5 points each.

1. Find the cross product $\mathbf{a} \times \mathbf{b}$ and verify that it is orthogonal to \mathbf{a} and \mathbf{b} where $\mathbf{a} = \langle t, t^2, t^3 \rangle$ and $\mathbf{b} = \langle 1, 2t, 3t^2 \rangle$

2. Find the equation of the plane through the points $(0, 1, 1)$, $(1, 0, 1)$ and $(1, 1, 0)$