Let $\vec{\mathbf{a}} = \langle 4, 1 \rangle$, $\vec{\mathbf{b}} = \langle 8, -3 \rangle$, and $\vec{\mathbf{v}} = \langle 1, 3, -2 \rangle$.

1. Find the projection of $\vec{\mathbf{a}}$ onto $\vec{\mathbf{b}}$, and draw a sketch to illustrate this.
2. Find two vectors perpendicular to $\vec{\mathbf{b}}$.
3. Find three vectors perpendicular to $\vec{\mathbf{v}}$.