Vectors - cross product and 3D

1. find $\vec{A} \times \vec{B}$ in fig.1

2. for $\vec{a} = 3\hat{i} + 6\hat{j} + 3\hat{k}$ and $\vec{b} = 4\hat{i} - 5\hat{j} + 5\hat{k}$ find (a) the angle between $\vec{a}$ and $\vec{b}$ and (b) $\vec{a} \times \vec{b}$

3. for $\vec{a} = 3\hat{i} - \hat{j}$, $\vec{b} = 2\hat{i} + 4\hat{j}$ and $\vec{c} = 7\hat{k} - \hat{j}$ find $\left(\vec{a} \times \vec{b}\right) \cdot \vec{c}$