

12.42. Solve: (a) $\vec{A} \times \vec{B} = (3\hat{i} + \hat{j}) \times (3\hat{i} - 2\hat{j} + 2\hat{k})$
 $= 9\hat{i} \times \hat{i} - 6\hat{i} \times \hat{j} + 6\hat{i} \times \hat{k} + 3\hat{j} \times \hat{i} - 2\hat{j} \times \hat{j} + 2\hat{j} \times \hat{k}$
 $= 0 - 6\hat{k} + 6(-\hat{j}) + 3(-\hat{k}) - 0 + 2\hat{i} = 2\hat{i} - 6\hat{j} - 9\hat{k}$

(b)

