

) If $\vec{a} = i - 7j + 7k$ & $\vec{b} = 3i - 2j + 2k$ find $\vec{a} \times \vec{b}$ and $|\vec{a} \times \vec{b}|$

$$\vec{a} \times \vec{b} = \begin{vmatrix} i & j & k \\ 1 & -7 & 7 \\ 3 & -2 & 2 \end{vmatrix}$$

$$= i\{-7(2) - (-2)(7)\} - j\{2 - 21\} + k\{-2 + 21\}$$

$$= i(-14 + 14) - j\{-19\} + k(19)$$

$$\therefore \vec{a} \times \vec{b} = 19j + 19k$$