HOME WORK

Q-1 Find Unit Vector along $\overline{AB}$ if $A = (-2, -1, 3)$ and $B = (1, 1, 0)$.

Q-2 If $\bar{a} = (3, -2, 1)$ and $\bar{b} = (-1, 1, 2)$ then find

(i) $\bar{a} \cdot \bar{b}$ (ii) $|\bar{a} \cdot \bar{b}|$ (iii) $\bar{a} + \bar{b}$

Q-3 If $\bar{a} = (2, 1, -1)$ and $\bar{b} = (3, -6, 2)$ then find

(i) $\bar{a} \times \bar{b}$ (ii) $|\bar{a} - \bar{b}|$

Q-4 If $\bar{a} = (3, 4, 0)$ and $\bar{b} = (0, 2, -5)$ then find

(i) $3\bar{a}$ (ii) $4\bar{a} - 3\bar{b}$ (iii) $|\bar{a} \times \bar{b}|$

Q-5 Find Unit vector along $\overline{AB}$ if $A = (-4, -7, 1)$ and $B = (1, -6, 2)$.

Q-6 Find Cross Product of vectors $\bar{a} = (3, -3, 1)$ and $\bar{b} = (4, 9, 2)$.

Q-7 If $\bar{a} = (-1, 2, 3)$, $\bar{b} = (3, -2, -5)$ and $\bar{c} = (6, 2, -2)$ then find

(i) $\bar{a} + \bar{b}$ (ii) $\bar{a} \cdot \bar{c}$ (iii) $\bar{b} \cdot (\bar{a} + \bar{c})$ (iv) $\bar{b} \times \bar{c}$

(v) $3(\bar{b} - \bar{c})$ (vi) $|\bar{c} \times \bar{a}|$ (vii) $|\bar{b} \cdot \bar{a}|$

Q-8 Find Vector Addition and Dot Product :-

$A = (3, -3, 1)$ and $B = (4, 9, 2)$

Q-9 If $\bar{a} = (-2, 3, 5)$, $\bar{b} = (3, -1, 2)$ and $\bar{c} = (7, 1, -1)$ then find

(i) $\bar{a} + \bar{b}$ (ii) $\bar{a} \cdot \bar{c}$ (iii) $\bar{b} \cdot (\bar{a} + \bar{c})$

(iv) $\bar{b} \times \bar{c}$ (v) $3(\bar{b} - \bar{c})$ (vi) $|\bar{c} \times \bar{a}|$ (vii) $|\bar{b} \cdot \bar{a}|$

Q-10 Find Unit Vector along $\overline{AB}$ if $A = (-2, 0, 5)$ and

$B = (4, -1, 3)$

Q-11 Find dot Product of vectors $(2, 1, 0)$ and $(1, 4, 3)$

Q-12 Write down the properties of Vector addition.

Q-13 Explain with example :-

(i) magnitude of a Vector

(ii) Unit Vector

(iii) Dot Product of Vectors

(iv) Vector Addition

(v) Cross Product