

Right-Hand Rule

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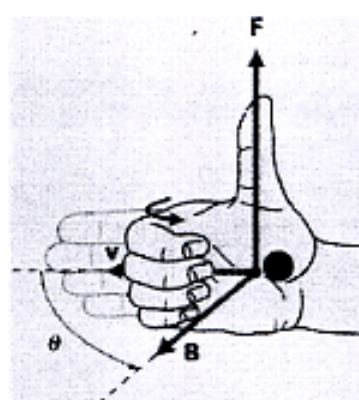
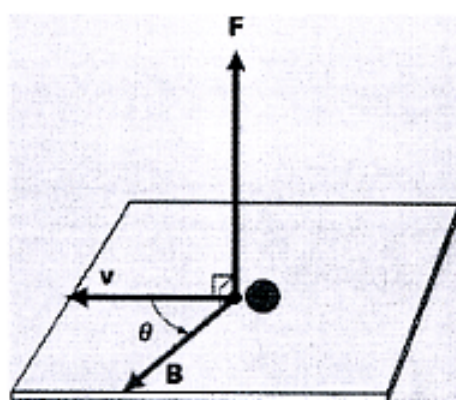
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I. Cross-product:

$$\mathbf{A} \times \mathbf{B} \quad |\mathbf{A} \times \mathbf{B}| = |\mathbf{A}||\mathbf{B}|\sin\theta \quad (\text{where } \theta \text{ is the angle between } \mathbf{A} \text{ and } \mathbf{B}).$$

Example:

$$\mathbf{F} = q\mathbf{v} \times \mathbf{B}$$



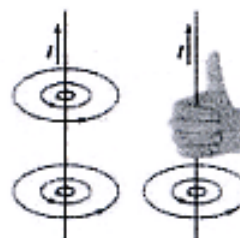
\mathbf{v} (velocity of positive charged particle)
 \mathbf{B} (magnetic field the charge is moving thru)
 \mathbf{F} (force on moving particle due to field)

direction fingers are pointing
 direction palm is facing
 direction thumb is pointing

II. Magnetic Field due to Current I

i) Straight wire carrying current I

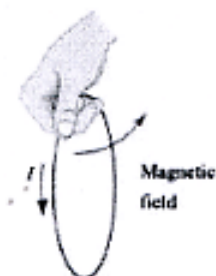
Direction of current - thumb
 Direction B - curled fingers



(I is conventional current + to -, not electron current)

ii)

Circular loop carrying current I



Direction B - curled fingers
 Direction of current - thumb