

## Directions of Vectors

$$\langle x, y, z \rangle \quad \langle 1, -3, 2 \rangle$$

$$x\hat{i} + y\hat{j} + z\hat{k} \quad 1\hat{i} - 3\hat{j} + 2\hat{k}$$

$$\text{magnitude, direction} \quad \left[ \sqrt{14}, \begin{matrix} +x \\ -y \\ +z \end{matrix} \right] \hat{r}$$

## TOPICS

- Magnetic force  $\rightarrow$  free particle,  
current-carrying wire
- Circular motion from magnetic fields
- Electric/Magnetic forces
- Motional EMF