

Formula Sheet for Magnetic Fields Test

$$\mathbf{B}_{\text{current-carrying wire}} = \frac{\mu_0 i}{2\pi r}$$

$$\mathbf{B}_{\text{coil}} = \mu_0 ni$$

$$\mathbf{F}_{\text{chg moving in B-fld}} = q\vec{v} \times \vec{B}$$

$$\mathbf{F}_{\text{current-carrying wire in B-fld}} = i\vec{L} \times \vec{B}$$

$$\mu_0 = 4\pi \times 10^{-7} \frac{\text{T} \cdot \text{m}}{\text{A}}$$

$$\vec{F}_{\text{net}} = q\vec{E} + q\vec{v} \times \vec{B}$$

$$\mathbf{a}_{\text{centripetal}} = \frac{v^2}{R}$$

$$i_{\text{max defl for galv}} = 5 \times 10^{-4} \text{ A}$$