Gravity + Charge Force + Magnetic Force

$\vec{F}_G = G\frac{m_1 m_2}{r_{12}^2}\hat{r}_{12}$ $F_Q = k\frac{q_1 q_2}{r_{12}^2}\hat{r}_{12}$ Not like the other 2 at all

$G\frac{m_1}{r_{12}^2}\hat{r}_{12}$ ← Field $\vec{g}$ = gravitational field

$k\frac{q_1}{r_{12}^2}\hat{r}_{12}$ ← electric field

Magnetic Force

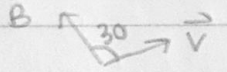
$F_B = q\vec{v}\times\vec{B}$ ← "magnetic field"

in N magnetic flux density

$\vec{H}$ = magnetic field

$\vec{B}$ = field quantity

Graphic Problems



$F_B = qv\sin\theta$

Units for B are Tesla (T) Wb/m^2

Gauss (G) $1\times10^4 G = 1T$

$\vec{F}_B \perp \vec{B}$

$\vec{F}_B \perp \vec{v}$

$\vec{F}_B$ is always a $\vec{F}_c$

$r = mv/qB\sin\theta$

$T(F_B) = 2\pi m/qB\sin\theta$