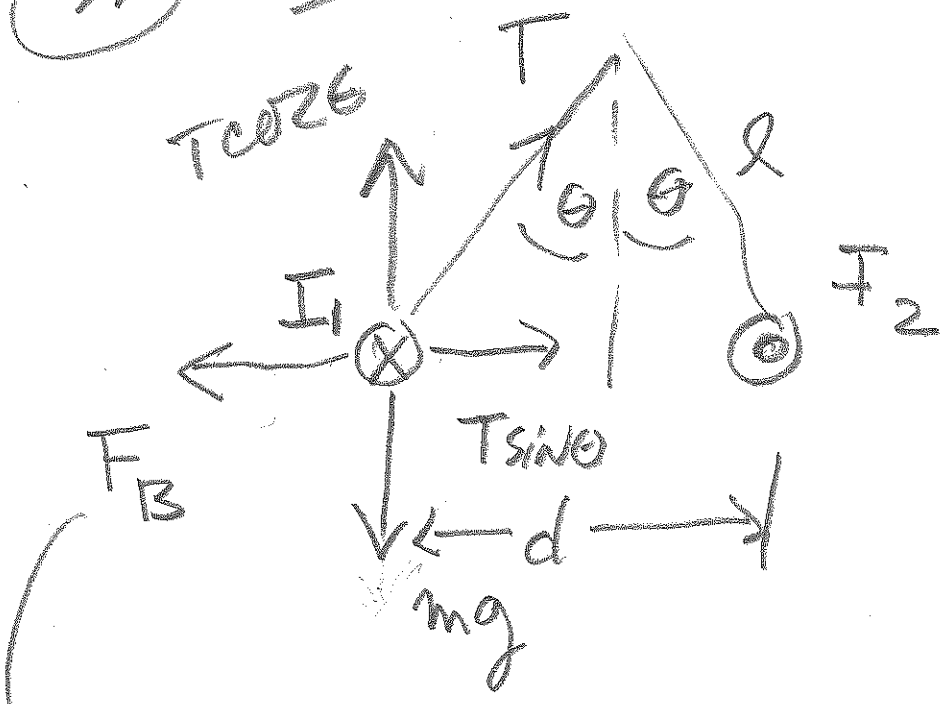
43 4-25-14

(21.) CH 28



$I_1 = I_2 = I$

$\theta = 6°$

$$F_B = \frac{\mu_0 \cdot I_1 I_2 \cdot L}{d}$$

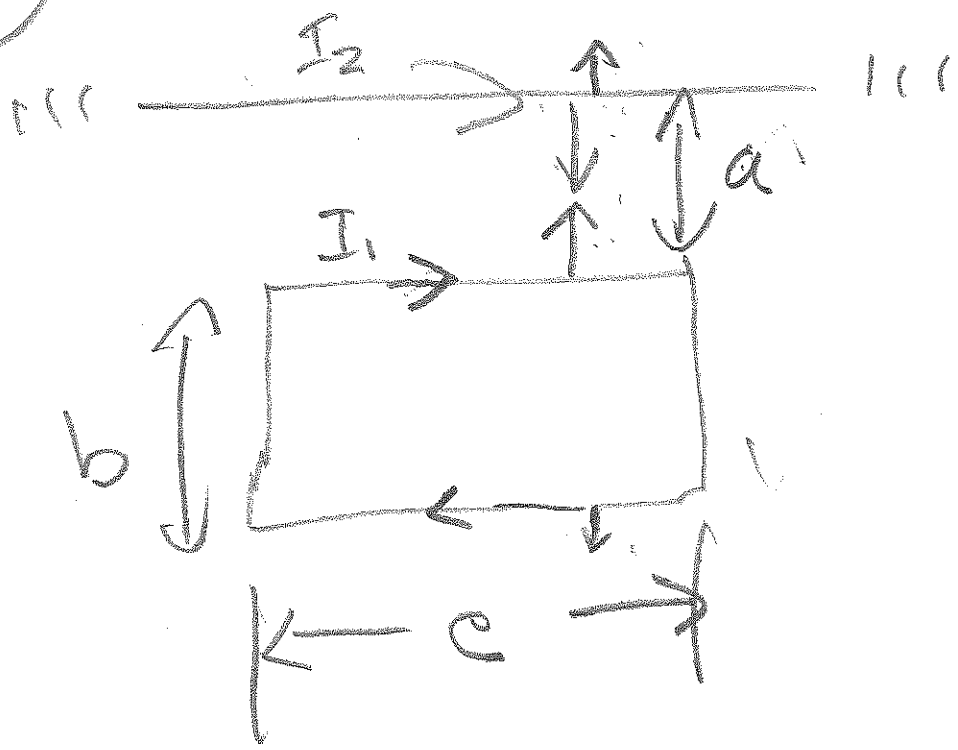
$$\frac{\mu_0 I^2 L}{d} = T\sin\theta$$

$$mg = T\cos\theta$$

DIVIDE TO ELIMINATE T: FIND I.

$$\frac{d}{2} = \ell\sin\theta$$

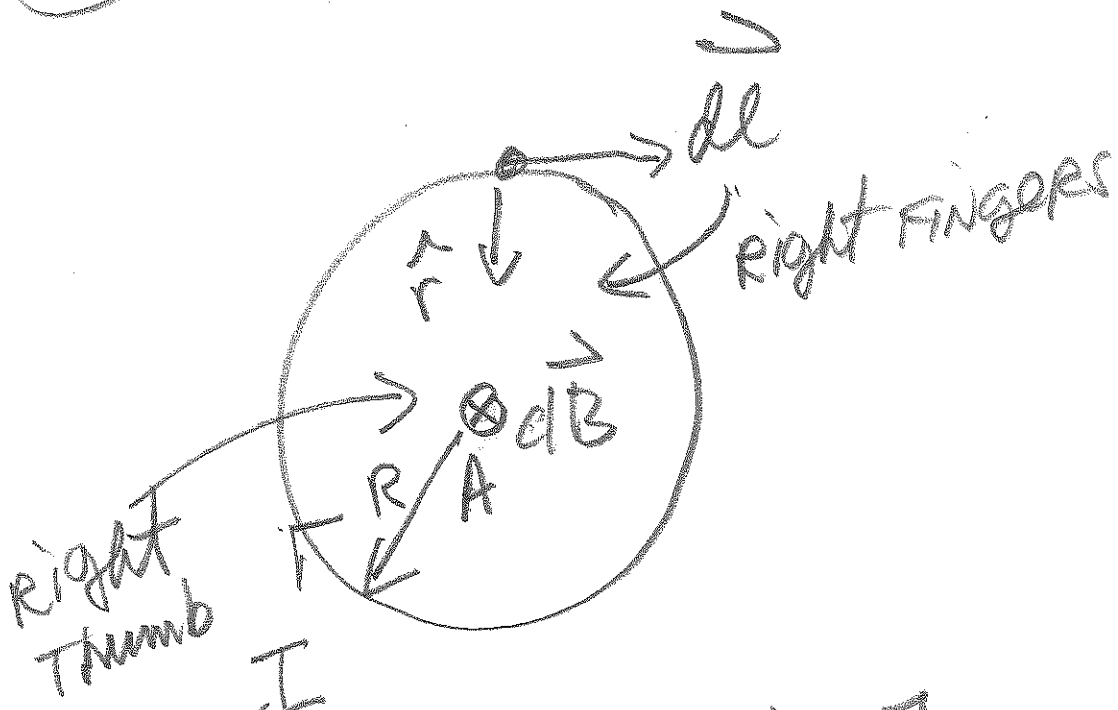
72.



$$F_{net} = \frac{\mu_0 I_1 I_2 c}{2\pi(a)} - \frac{\mu_0 I_1 I_2 c}{2\pi(a+b)}$$

on rectangle

70.



$$\vec{dB} = \frac{\mu_0}{4\pi} \frac{I\vec{dl} \times \hat{r}}{r^2}$$

$$dB = |\vec{dB}| = \frac{\mu_0 I dl \sin\theta}{4\pi R^2}$$

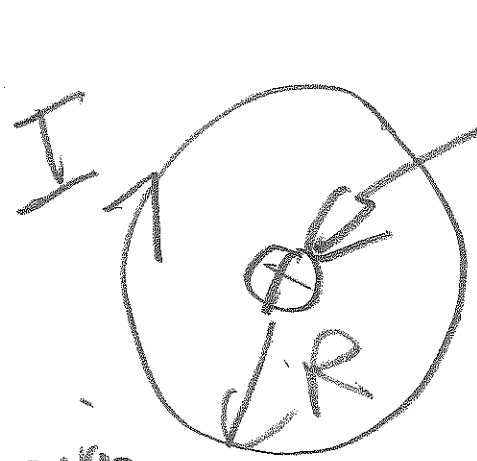
$$R = \frac{D}{2}$$

$$dB = \frac{\mu_0 I dl}{4\pi R^2}$$

$$\oint_{RING} dB = \frac{\mu_0 I}{4\pi R^2} \oint_{RING} dl$$

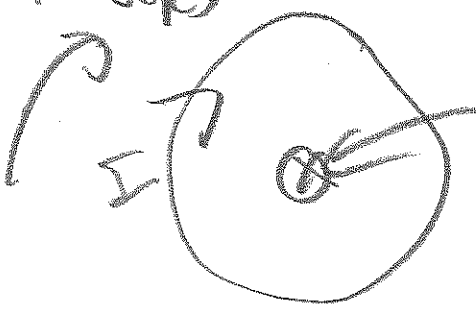
$$= \frac{\mu_0 I}{4\pi R^2} \cdot (2\pi \cdot R)$$

$$= \frac{\mu_0 I}{2R} = B = |\vec{B}|$$



$$R = \frac{D}{2}$$

RIGHT FINGERS



RIGHT THUMB ALONG $\vec{B}$.

side view (loop)

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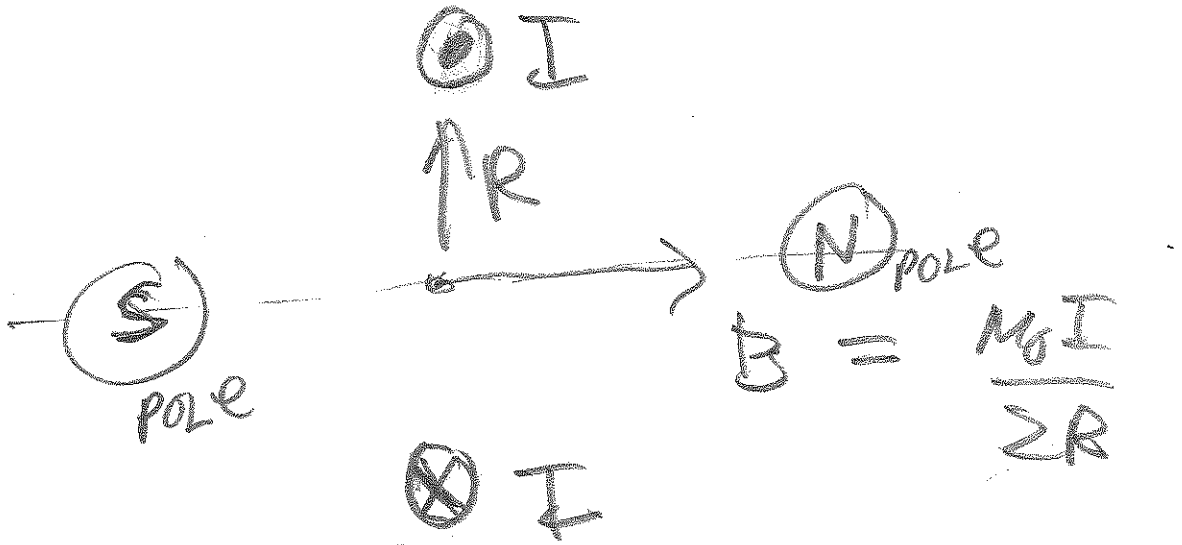

inside a magnetic material, this is a loop of atomic electron current causing B.

TAB 5 - 5 - 1C

Ch 28, 29 Robbins Isolation - 13 random

4B 5 - 2 - 14 comet #5

study Lab

PT2 follow up