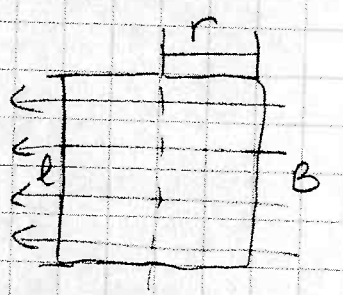
P #m

Ch 19

$B = .0065\ T$
$I = .50\ A$
$l = .16\ m$
$r = .08\ m$



a) $F_B = B \cdot I \cdot l$

$= (.0065\ T)(.50\ A)(.16\ m)$

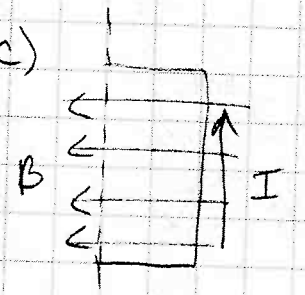
$\boxed{F_B = 5.2 \times 10^{-4}\ N}$

b) $\tau = F \cdot r$

$= (5.2 \times 10^{-4}\ N)(.08\ m) \cdot (3\ loops)$

$\boxed{\tau = 1.2 \times 10^{-4}\ Nm}$

c)

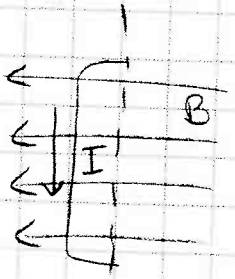


By RHR #1:

fingers = left
thumb = up

$\boxed{F_B = \text{out } \odot}$

d)



By RHR #1:

fingers = left
thumb = down

$\boxed{F_B = \text{in } \times}$