P # C

Ch 20 - Worksheet

a) $A = .17\ m^2$

$B = .085\ T$

$\Delta t = .045\ sec$

Find Φ_2: $\Phi = B \cdot A$

$= (.085\ T)(.17\ m^2)$

$\Phi_2 = .01445\ T \cdot m^2$

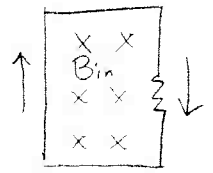
Find Φ_1: Φ = zero (parallel to B)

Find $\mathcal{E}$: $\mathcal{E} = \frac{\Delta \Phi}{\Delta t} = \frac{(.01445\ T \cdot m^2) - 0}{.045\ sec}$

$\boxed{\mathcal{E} = .32\ V}$

b) - Loop is becoming perpendicular to B, so Φ_m increases

- $\mathcal{E}$ acts to oppose change, so $\mathcal{E}$ produces B in the opposite direction as existing B (Bin)



- By RHR #2, I is clockwise

- Through resistor, $\boxed{I = \text{Down}}$