

36. (a) We interpret the question as asking for N multiplied by the flux through one turn:

$$\Phi_{\text{turns}} = N\Phi_B = NBA = NB(\pi r^2) = (30.0)(2.60 \times 10^{-3} \text{ T})(\pi)(0.100 \text{ m})^2 = 2.45 \times 10^{-3} \text{ Wb} .$$

- (b) Eq. 31-35 leads to

$$L = \frac{N\Phi_B}{i} = \frac{2.45 \times 10^{-3} \text{ Wb}}{3.80 \text{ A}} = 6.45 \times 10^{-4} \text{ H} .$$