

46. The given value 7.0 mW should be 7.0 mWb. From Eq. 32-1, we have

$$\begin{aligned}(\Phi_B)_{\text{in}} &= (\Phi_B)_{\text{out}} \\&= 0.0070 \text{ Wb} + (0.40 \text{ T})(\pi r^2) \\&= 9.2 \times 10^{-3} \text{ Wb} .\end{aligned}$$

Thus, the magnetic flux at the sides is inward with absolute-value equal to 9.2 mWb.