

67. The area enclosed by the loop  $L$  is  $A = \frac{1}{2}(4d)(3d) = 6d^2$ . Thus

$$\begin{aligned}\oint_c \vec{B} \cdot d\vec{s} &= \mu_0 i = \mu_0 j A \\ &= (4\pi \times 10^{-7} \text{ T} \cdot \text{m/A})(15 \text{ A/m}^2)(6)(0.20 \text{ m})^2 = 4.5 \times 10^{-6} \text{ T} \cdot \text{m} .\end{aligned}$$