

60. The current is in the  $+\hat{\mathbf{i}}$  direction. Thus, the  $\hat{\mathbf{i}}$  component of  $\vec{B}$  has no effect, and (with  $x$  in meters) we evaluate

$$\begin{aligned}\vec{F} &= (3.00 \text{ A}) \int_0^1 \left( -0.600 \text{ T/m}^2 \right) x^2 dx \left( \hat{\mathbf{i}} \times \hat{\mathbf{j}} \right) \\ &= -1.80 \hat{\mathbf{k}} \left( \frac{1^3}{3} \right) \text{ A}\cdot\text{T}\cdot\text{m} \\ &= -0.600 \text{ N } \hat{\mathbf{k}} .\end{aligned}$$