13. (a) In Chapter 27, the electric field (called E_C in this problem) which "drives" the current through the resistive material is given by Eq. 27-11, which (in magnitude) reads $E_C = \rho J$. Combining this with Eq. 27-7, we obtain

$$E_C = \rho n e v_d \ .$$

Now, regarding the Hall effect, we use Eq. 29-10 to write $E = v_d B$. Dividing one equation by the other, we get $E/E_c = B/ne\rho$.

(b) Using the value of copper's resistivity given in Chapter 27, we obtain

$$\frac{E}{E_c} = \frac{B}{ne\rho} = \frac{0.65\,\mathrm{T}}{(8.47\times 10^{28}/\,\mathrm{m}^3)(1.60\times 10^{-19}\,\mathrm{C})(1.69\times 10^{-8}\,\Omega\cdot\mathrm{m})} = 2.84\times 10^{-3} \ .$$