

72. From Eq. 20-24, we obtain

$$T = \frac{2}{3} \left( \frac{K_{\text{avg}}}{k} \right) = \frac{2}{3} \left( \frac{5.00 \times 10^6 \text{ eV}}{8.62 \times 10^{-5} \text{ eV/K}} \right) = 3.9 \times 10^{10} \text{ K} .$$