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$$K = \frac{1}{2}mv^2 = eV \text{ より、} \quad (\text{エネルギー保存則}) \quad \dots \textcircled{1}$$

$$e = 1.6 \times 10^{-19}C, \quad V = 1000V \text{ を代入して、}$$

$$\begin{aligned} K &= 1.6 \times 10^{-19} \cdot 1000 \\ &= 1.6 \times 10^{-16}J \end{aligned}$$

$$v = \sqrt{\frac{2eV}{m}} \text{ より、} \quad (\textcircled{1}\text{式の変形})$$

$$e = 1.6 \times 10^{-19}C, \quad V = 1000V, \quad m = 9.1 \times 10^{-31}kg$$

$$\begin{aligned} v &= \sqrt{\frac{2 \cdot (1.6 \times 10^{-19}) \cdot 1000}{9.1 \times 10^{-31}}} \\ &= 1.88 \times 10^7 m/s \end{aligned}$$