

# 小テスト09解答

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$$\text{Q1} \quad N = \frac{I}{e} = 1.9 \times 10^{19} \text{ s}^{-1}$$

$$\text{Q2 (1)} \quad i = \frac{1.0}{2.0 \times 10^{-2}} = 50 \text{ A/m}^2$$

$$\text{(2)} \quad i = \sigma E \text{ より } E = 2.5 \times 10^{-3} \text{ V/m}$$
$$V = Ed = 5.0 \times 10^{-3} \text{ V}$$

$$\text{Q3} \quad R = 1.0 \times 10^6 \frac{3.0 \times 10^{-2}}{2.0 \times 10^{-4}} = 1.5 \times 10^8 \Omega$$

$$\text{Q4} \quad P = VA = \frac{V^2}{R} = 60 \quad \text{家庭用電源は100Vだから, } R = 1.7 \times 10^2 \Omega$$