

1. The kinetic energy is given by  $K = \frac{1}{2}mv^2$ , where  $m$  is the mass and  $v$  is the speed of the electron. The speed is therefore

$$v = \sqrt{\frac{2K}{m}} = \sqrt{\frac{2(6.7 \times 10^{-19} \text{ J})}{9.11 \times 10^{-31} \text{ kg}}} = 1.2 \times 10^6 \text{ m/s} .$$