Example 2.8	Electrons in undoped gallium arsenide have a mobility of 8,800 cm^2/V-s. Calculate the average time between collisions. Calculate the distance traveled between two collisions (also called the mean free path). Use an average velocity of 10^7 cm/s.
Solution	The collision time, t_c, is obtained from:

$$t_c = \frac{\mu_n m_e^*}{q} = \frac{0.88 \times 0.067 \times 9.1 \times 10^{-31}}{1.6 \times 10^{-19}} = 0.34 \text{ ps}$$

where the mobility was first converted to MKS units.
The mean free path, l, equals:

$$l = v_{average} t_c = 10^7 \times 0.34 \times 10^{-12} = 34 \text{ nm}$$