

- 1 A person's heart beats approximately 10^5 times each day.
A person lives for approximately 81 years.

- (a) Work out an estimate for the number of times a person's heart beats in their lifetime.
Give your answer in standard form correct to 2 significant figures.

$$1 \text{ yr} = 365 \text{ days}$$

$$\begin{aligned} \text{Person's heart beat} & \quad \text{heart beat/day} \times 365 \text{ days} \times \text{y} \\ \text{in a lifetime} & : 10^5 \times 365 \times 81 \text{ (1)} \\ & = 2956500000 \end{aligned}$$

$$3.0 = 2 \text{ sf}$$

$$3 = 1 \text{ sf}$$

$$= 3.0 \times 10^9 \text{ (2 s.f.)}$$

$$\text{(1)} \quad \frac{3.0 \times 10^9}{\text{(2)}}$$