

43. The period of a simple pendulum is given by $T = 2\pi\sqrt{L/g}$, where L is its length. Thus,

$$L = \frac{T^2 g}{4\pi^2} = \frac{(2.0 \text{ s})^2 (9.8 \text{ m/s}^2)}{4\pi^2} = 0.99 \text{ m} .$$