

Chapter 15Problem 44

What is the period of a 1.00 m long pendulum?

For a simple pendulum

$$\omega = \sqrt{\frac{g}{L}} = \sqrt{\frac{9.8 \text{ m/s}^2}{1.00 \text{ m}}}$$

$$\omega = 3.13 \frac{\text{rad}}{\text{s}}$$

The time period is then

$$T = \frac{2\pi}{\omega} = \frac{2\pi}{3.13 \frac{\text{rad}}{\text{s}}} = \boxed{2.01 \text{ s}}$$

