

AP Physics 1 Review Questions

Integrating Content, Inquiry and Reasoning

1. A pendulum of 3.00 m in length completes 20 back-and-forth swings in 60 seconds. What is the acceleration of gravity?
2. The time-keeping swing of a grandfather clock has a period of 2 seconds. How tall is the pendulum in the grandfather clock?
3. Consider three pendulums with the same length, 4.500 m. Two of the pendulums are located on Earth: one in Fairbanks, Alaska, and the other in Jakarta, Indonesia. The third is located on the moon. Look up the acceleration due to gravity for each location and determine the period of each pendulum.
4. A pendulum bob is attached to a ceiling by a long, massless string. The bob is pulled to an angle of 14° from the vertical and is 0.150 m above its lowest point.
 - a. What is the length of the string?
 - b. What is the period of the pendulum? Assume the pendulum is on the surface of the Earth.