

Unit 5 Chapter 13 Homework 4

34) $T = 15.5s$
 $L = ?$

A) $T = 2\pi\sqrt{\frac{L}{g}}$
 $15.5 = 2\pi\sqrt{\frac{L}{10}}$

$240.25 = 39.478\left(\frac{L}{10}\right)$

$L = 60.86m$

B) $T = 2\pi\sqrt{\frac{60.86}{9.8}}$

$T = 37.93s$

35) $\frac{120 \text{ osc.}}{3 \text{ min}} \times \frac{1 \text{ min}}{60 \text{ sec}} = 0.67 \text{ Hz}$

$g = 9.8 \text{ m/s}^2$

A) $T = \frac{1}{f}$
 $T = \frac{1}{0.67}$

$T = 1.5s$

B) $T = 2\pi\sqrt{\frac{L}{g}}$
 $1.5 = 2\pi\sqrt{\frac{L}{9.8}}$

$L = .56m$