Chapter 14 - Simple Harmonic Motion

Physics 206

Group 1 Problems:
Problem 1:

(a) $m = \dfrac{FT^2}{4\pi^2 \Delta x}$

(b) $y = \dfrac{\sqrt{3}A}{2}$

(c) $\dfrac{Fx}{\Delta x}$ up

Problem 2:

$$v = 0.281 \text{ m/s}$$
$$a = 1.05 \text{ m/s}^2$$

Problem 3: -2420 J

Group 2 Problems:
Problem 4:

$$A = 0.025 \text{ m}$$
$$\phi = -0.927 \text{ rad}$$

Problem 5:

$$\ell = 2 \text{ m}$$

Problem 6:

$$T_{ideal} = 2\pi\sqrt{\frac{L}{g}}$$
$$T_{physical} = 2\pi\sqrt{\frac{11L}{10g}}$$

Group 3 Problems:
Problem 7:

$$t = 0.130 \text{ s}$$