

WebAssign**Lab #9: Energy, Power, and Internal Energy (Homework)**

Yinglai Wang

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Instructor: Virendra Saxena


Current Score : 2 / 2 **Due** : Tuesday, March 20 2012 11:59 PM EDT1. 2/2 points | [Previous Answers](#)

Use your program for the viscously damped spring to solve this problem. Make sure you change the parameters as specified below.


A mass $m=7.7$ kg is attached to the end of a spring with a spring constant of $k=17.5$ N/m. The mass moves through a viscous damping medium with a damping constant $b=1.8$ kg/s giving a velocity dependent damping force $F_{damp} = -bv$.

The motion occurs in zero gravity so **set the force of gravity to ZERO** in your program. Also **set the equilibrium position $L_0=0$** . The mass is initially motionless and displaced from equilibrium by a distance $y_{initial}=0.2$ m.

What is the energy of the spring-mass system at the initial position of the mass? (the spring-mass system does not include the damping medium)

 $E_{initial} =$  J

What is the energy of the spring-mass system when the mass first passes through the equilibrium position? (you may wish to include a logical test to help you find when this occurs)

 $E_{final} =$  J