

Please complete the following problems on separate paper. Show all your work legibly, and draw a box around the final numerical answer where applicable. Use one staple in the upper left-hand corner to connect multiple pages, and slip the entire assignment in the drop-box for your Tutorial Section at the bottom of the stairs of Burton Tower in McLennan Physical Laboratories (MP). Assignments must be in the box by 5:00 PM on the due date.

Supplemental Problem:

Using sense organs in her legs, a spider can detect vibrations in the web when her prey is captured. When trapped in one web, a 1.0×10^{-3} kg insect causes the web to vibrate at 15 Hz. What is the force constant of the web?

From the Textbook:

12.12, 12.19, 12.24

Some suggested problems from the Textbook (not to be turned in):

Questions 4 and 14 on page 426 (questions are not the same as problems)

Problems 12.3, 12.7, 12.15, 12.21, 12.23, 12.36

Question 2 on page 463

Some PHY138Y Laboratories that relate somewhat to this material:

Air Track II – Part 3 (non-core)

Curved Air Track (non-core)

Torsion Pendulum (core)

Oscillations of a Sphere on a Concave Surface (non-core)