0. **Collaboration and discussion.** Please give a brief statement at the top of your homework telling us the names of all the students with whom you discussed the homework problems.

1. Kleppner & Kolenkow, Problem 1.20 (10 points)
2. Kleppner & Kolenkow, Problem 2.2 (10 points)
3. Kleppner & Kolenkow, Problem 2.3 (5 points)
4. Kleppner & Kolenkow, Problem 2.5 (10 points)
5. Kleppner & Kolenkow, Problem 2.7 (10 points)
6. Kleppner & Kolenkow, Problem 2.11 (10 points)
7. Kleppner & Kolenkow, Problem 2.13 (10 points)
8. Kleppner & Kolenkow, Problem 2.14 (10 points)
9. Kleppner & Kolenkow, Problem 2.16 (15 points)

10. **A tale of two blocks** (10 points)

   The system shown below consists of two identical blocks of mass $M$ connected by a massless, flexible string of length $2L$. The string passes through a massless pulley which is fixed to the corner of the supporting table. The string and the masses move with no friction, and gravity acts downward as usual. The system is allowed to move freely from the position shown in the figure.

   Which happens first: (i) Block 1 hits the pulley, or (2) Block 2 hits the wall? Explain your answer using physics arguments.

   **Note:** We are *not* asking you to describe the details of the motion of the two blocks. We are simply asking you to predict the *order* of the two events. This problem does *not* require extensive calculations.