

Reading: Chapter 1.1-6

Problems:

1. Goldstein, Problem 1.3.
2. Goldstein, Problem 1.4.
3. Goldstein, Problem 1.8.
4. Goldstein, Problem 1.13. The velocity of escaping gases is, actually,  $v' = 2.1 \times 10^3$  m/s.
5. Goldstein, Problem 1.19. The term 'spherical' indicates that the mass can move over the surface of a sphere, in distinction from a motion over the circumference of a circle.
6. Problem from December '02 Final: A smooth wedge of mass  $M$  has a triangular cross section with a side inclined at an angle  $\theta$  to the horizontal base. The wedge can slide without friction along a horizontal support. Placed on the side of the wedge is a mass  $m$  that can slide with no friction along the side. Find vectors of the acceleration for the wedge and for  $m$  after the bodies are released from rest.

