Questions to be answered

1. Book problems 1.26, 1.28, 1.35, 1.39, 1.43, 1.47, 2.1, 2.4.

2. NOTE: the book gives answers for the odd-numbered problems. For these problems, I will be checking your answers carefully on a line-by-line basis. Do not leave out any steps, and be sure to explain anything you write down that is not the result of simple algebraic manipulation.

3. HINTS: P1.26 is straightforward.
   For P1.28: a demonstration of the law of conservation of momentum is a trivial one for two particles. Read the discussion in Taylor’s book, §1.5, up to equation (1.24), then imitate for three particles. Be sure to explicitly state which vectors are anti-parallel.
   P1.35 and 1.39 are meant to be reminders of the type of problems solved in Phys 201 (or an equivalent-level course).
   For P1.43, do not be worried by the word “prove”. Just demonstrate that you understand the directions of the sine and cosine components of the vectors $\hat{r}$ and $\hat{\phi}$.
   For P1.47, using the book’s notation, begin part (b) with $\vec{r} = \rho \hat{\rho} + z \hat{z}$.
   For P2.4, you can start by finding the volume swept out per unit time.