

Mechanics and Special Relativity, Spring 2006

Homework Assignment # 2

(Due Wednesday, February 8, before the lecture.)

Lectures and Reading Assignments:

Readings are from “*An Introduction to Mechanics*” by Kleppner and Kolenkow.

- Lec 6, 2/3 (Fri): Polar Coordinates. **Sec. 1.9 (pp. 27–38).**
- Lec 7, 2/6 (Mon): Newton’s Laws. **Sec. 2.1, 2.2 (pp. 52–64).**
- Lec 8, 2/8 (Wed): Newton’s Laws and Applications. **Sec. 2.4 (pp. 68–79)**

Problems:

Numbered problems are from “*An Introduction to Mechanics*” by Kleppner and Kolenkow, Chapter 1 (pp. 47–49).

1. Problem 1.13
2. Problem 1.15, part (b) (Note: The answer should be a *vector*!)
3. Problem 1.16
4. Problem 1.17 (Use polar coordinates!)
5. Problem 1.19 (Hint: use Cartesian coordinates. Don’t forget: position, velocity and acceleration are all *vectors*!)
6. Problem 1.21