

## Homework 1

Due at the beginning of class Jan. 17

From Thornton and Marion (T&M):

Chapter 1: 25, 26, 28

Appendix A: Exercises A-1, A-2, A-3, A-5, A-6, and answer the following:

- On A-3: Would you have anticipated a problem with this integral? Why or why not?
- On A-6: Is the restriction  $|x| < 1$  required?

Appendix D: Exercises D-1 to D-7, and answer the following:

- On D-6: Show also that  $y = D \sin(x + \alpha)$  where  $D$  and  $\alpha$  are real constants (give the relation between  $D$ ,  $\alpha$  and  $A$ ,  $B$  explicitly just as for  $C$ ,  $\delta$  in D-6).

### Guidelines for homework

- Discuss your homework with classmates as much as you like, but *write your homework solutions on your own!* There will be a severe grade penalty for copying.
- As a scientist in training, you need to learn to communicate scientific information in an effective, efficient manner. You should consider homework assignments as practice in this art. It is your responsibility to present your homework solutions in a readable, logical manner — not mine to decipher and interpret them. There will be a grade penalty.
- In an incorrect solution, I will reward statements in homework and on exams that show you know it is incorrect and why. I will also reward any effort above and beyond what is explicitly asked for in a problem.