

# PHYS:4761 Homework #3

Reading: Read Arfken, Weber, & Harris, Chapter 3, Sections 3.1–3.9 (p.123–181)

Due at 5:00pm, Friday, September 18, 2020.

Homework Problems:

1. (5 pts) Chapter 2, Exercise 2.2.2
2. (5 pts) Chapter 2, Exercise 2.2.15
3. (10 pts) Chapter 2, Exercise 2.2.17
4. (10 pts) Chapter 2, Exercise 2.2.23
5. (5 pts) Chapter 2, Exercise 2.2.26
6. (5 pts) Chapter 2, Exercise 2.2.35
7. (5 pts) Chapter 2, Exercise 2.2.51
8. (10 pts) Chapter 3, Exercise 3.2.4
9. (10 pts) Chapter 3, Exercise 3.2.7
10. (10 pts) Chapter 3, Exercise 3.2.8
11. (10 pts) Chapter 3, Exercise 3.3.1
12. (5 pts) Chapter 3, Exercise 3.3.3
13. (10 pts) Chapter 3, Exercise 3.4.2  
HINT: Note the the original (unrotated) coordinate system has

$$\begin{aligned}\hat{e}_1 &= 90^\circ\text{W} \\ \hat{e}_2 &= 0^\circ\text{W} \\ \hat{e}_3 &= 90^\circ\text{N}\end{aligned}$$