

PHYS:4761 Homework #7

Reading: Read Arfken, Weber, & Harris, Chapter 5, Sections 5.6–5.8 (p.292–297)
Chapter 6, Sections 6.1–6.5 (p.299–324)

Due at the beginning of class, Thursday, October 19, 2023.

Homework Problems:

1. (10 pts) Chapter 5, Exercise 5.5.1
NOTE: There is an error the matrix U in Example 5.5.1 in the text. This error will lead to the opposite signs for the coefficients of χ_2 and χ_3 in part (a)(3). That answer is acceptable, and the rest of the problem can be done as stated.
2. (10 pts) Chapter 5, Exercise 5.6.1
3. (10 pts) Chapter 5, Exercise 5.7.2
4. (10 pts) Chapter 6, Exercise 6.2.3
5. (10 pts) Chapter 6, Exercise 6.2.6
6. (10 pts) Chapter 6, Exercise 6.2.12
7. (5 pts) Chapter 6, Exercise 6.4.5
8. (5 pts) Chapter 6, Exercise 6.4.7
9. (10 pts) Chapter 6, Exercise 6.5.1
10. (10 pts) Chapter 6, Exercise 6.5.16
11. (10 pts) Chapter 6, Exercise 6.5.19