

Physics 325: Problem Set #9

Due Wednesday, November 28, 2007, 9:00 am (in class)

- Text: Riley, Hobson, and Bence, Mathematical Methods for Physics and Engineering, 3rd Edition;
- Please Read 11.1, 11.4-11.6, 12.1-12.5;

1. Page 409, Exercise 11.1.

2. Page 409, Exercise 11.2.

Note: Make sure you read 11.4 to understand how to determine if a vector field is conservative before you work on this problem. Hopefully by now you understand the meaning of "an exact differential", which has many applications in physics.

3. Page 427, Exercise 12.6.

4. Page 428, Exercise 12.14.

5. Page 429, Exercise 12.20.