## Solutions to problems in Chapter 5

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March 26, 2007

This template may be used for either submitted problems or solutions. Any introductory text goes here. Note that each problem or solution is an item in an enumerated list, and that the problem number goes in the square brackets immediately following the word 'item'.

To typeset the document you may use either 'pdflatex', which is the easiest way, or 'latex' followed by 'dvipdf' or 'dvipdfm'. Please submit both the latex source and the final pdf version of your solution. Thanks very much.

5.6 This is the (non)solution to problem 5.6. It contains some text and some mathematics:

$$e^{i\pi} + 1 = 0, \qquad \psi = \widetilde{\psi} e^{i(kx - \omega t)}.$$
 (1)

5.9 This is the (non)solution to problem 5.9, illustrating some math constructs like pp and dd

$$\frac{\mathrm{d}\psi}{\mathrm{d}x} + \frac{\partial^2 y}{\partial x^2} = \int \chi \,\mathrm{d}x,\tag{2}$$

and another, illustrating bold italic vectors:

$$\frac{\mathrm{D}u}{\mathrm{D}t} = \frac{\partial u}{\partial t} + v \cdot \nabla u. \tag{3}$$

5.10 Here is a problem or solution in two parts:

- (a) Solution to part a.
- (b) Solution to part b

Any concluding comments go here.