

Homework 5

The following are due on Monday, February 12:

§3.3 # 1, 3, 5, 6, 42, 43.

§3.5 (Won't be graded; just for practice with Implicit Function Theorem.)

10, 12, 16.

Bonus: Can you think of a “spherical coordinates” in \mathbb{R}^4 ? What is the Jacobian determinant $\partial(x_1, x_2, x_3, x_4)/\partial(r, \theta, \phi_1, \phi_2)$ (if your change of variables looks like this...)? Show your work for both parts. Any guesses for a spherical coordinate system in \mathbb{R}^n ?