

STUDENT SOLUTION MANUAL FOR  
VECTOR CALCULUS, LINEAR ALGEBRA, AND DIFFERENTIAL FORMS:  
A UNIFIED APPROACH

Notes and errata

Posted June 3, 2009

PAGE 9 Exercise 1.1.5 has been rewritten to read:

The vectors given for exercise 1.1.5 should be replaced, for instance by the vectors in  $\mathbb{R}^n$

$$\begin{bmatrix} 1 \\ 1 \\ \vdots \\ 1 \\ 1 \end{bmatrix}, \quad \begin{bmatrix} 1 \\ 2 \\ \vdots \\ n-1 \\ n \end{bmatrix}, \quad \begin{bmatrix} 0 \\ 0 \\ 3 \\ 4 \\ \vdots \\ n-1 \\ n \end{bmatrix}$$

The solution is then

$$\begin{bmatrix} 1 \\ 1 \\ \vdots \\ 1 \\ 1 \end{bmatrix} = \sum_{i=1}^n \vec{\mathbf{e}}_i \quad \begin{bmatrix} 1 \\ 2 \\ \vdots \\ n-1 \\ n \end{bmatrix} = \sum_{i=1}^n i\vec{\mathbf{e}}_i \quad \begin{bmatrix} 0 \\ 0 \\ 3 \\ 4 \\ \vdots \\ n-1 \\ n \end{bmatrix} = \sum_{i=3}^n i\vec{\mathbf{e}}_i$$

PAGE 55 Solution 2.6.9:  $\vec{\mathbf{w}}_1, \dots, \vec{\mathbf{w}}_n$  should be  $\underline{\mathbf{w}}_1, \dots, \underline{\mathbf{w}}_n$  and  $\vec{\mathbf{v}}_1, \dots, \vec{\mathbf{v}}_k$  should be  $\underline{\mathbf{v}}_1, \dots, \underline{\mathbf{v}}_k$

PAGE 56 Second solution for exercise 2.7.3: In the next-to-last line on the page,  $6x$  should be  $6x^2$

PAGE 136 Note on solution 4.8.1: It follows from theorem 4.8.7 that computing the determinant using development by the first row is equivalent to computing it using the first column. For the matrix  $A$ , using the first row is easier, because of the 0 in the first row. For  $B$  and  $C$ , using the first column is easier.

PAGE 251 Spelling mistake in the caption: differentiation, no diferentiation.

