

## Additions to Errata and Comments

March 10, 2003

We thank Dick Palas and Todd Kemp for pointing these out this error.

**Page 28** Solution 1.27: The solution for part (b) is really a second way of solving part (c). Here is the correct solution for part (b):

(b) This function is not differentiable. If you set  $g(t) = \begin{pmatrix} t \\ t \end{pmatrix}$ , then  $f \circ g(t) = 2|t|$  is not differentiable at  $t = 0$  but  $g$  is differentiable at  $t = 0$ , so  $f$  is not differentiable at the origin, which is  $g(0)$ . (If  $f$  were differentiable, then by the chain rule the composition would be differentiable, and it isn't.)

**Page 56** Solution 2.11, part (a): The subspace has dimension 2, not 3.

**Page 109** First line of Solution 4.5.17:  $r$ th smallest number, not largest.

**Page 130** Solution 4.15, last line:  $\pi c^2$  should be  $\pi u^2$  (substituting  $c = \pi/2$  in  $2cu^2$ ).

**Page 135** Solution 5.2.5: In the second line of the remark, we use the notation  $\gamma^* f$ , which we haven't yet defined. It can be replaced by  $f \circ \gamma$ .

**Page 151** Solution 6.1.17, end of first paragraph of part (b): “spade”, not “space”.

**Page 154** In Exercise 6.2.3, part (b), the last line has an extra “2”. It should be

$$= \int_0^1 \left( \int_{-(1-w)}^{1-w} \left( \int_{-\sqrt{(w-1)^2-v^2}}^{\sqrt{(w-1)^2-v^2}} 2(u-v)(w-v) du \right) dv \right) dw.$$

**Page 156** Solution 6.3.9: We asked for a unit vector field, so we need to divide  $\vec{F} \begin{pmatrix} x \\ y \end{pmatrix} = \begin{bmatrix} -y \\ x-1 \end{bmatrix}$  by its length, which is  $\sqrt{(x-1)^2 + y^2} = 2$ .

**Page 173** Solution 6.8.3 (c), sub-part (c):  $\Phi_{\vec{F}}(\vec{v}_1, \vec{v}_2, \vec{v}_3)$  is meaningful if it is in  $\mathbb{R}^4$ .

**Page 177** Solution 6.9.7: In the last three lines of the four-line equation, we omitted  $|d^2 \mathbf{u}|$ .