

18.022: Multivariable calculus - problem set 14 - fall 2006

These problems are for practice and **not to be turned in**.

Note that we use 3rd edition of the text for reference and earlier editions may number problems differently. Whilst you may attempt problems in any order, graders will appreciate if you hand in your problems in order. By all means, please try to help the graders.

1. 7.3.11
2. 7.3.12
3. 7.3.13
4. 7.3.16
5. 7.3.18
6. 7.3.19
7. Suppose that $x = x(u, v, w)$, $y = y(u, v, w)$ and $z = z(u, v, w)$ and write $F_1 dydz - F_2 dx dz + F_3 dx dy$ as $G_1 dv dw - G_2 du dw + G_3 du dv$. Express G_1 , G_2 and G_3 in terms of F_1 , F_2 , F_3 and the partial derivatives of x , y , and z with respect to u , v , and w .