Homework 11
(due Wednesday, April 29)

Warmup Problems (Do not turn in).

    8.4: 1c, 4, 15

    8.5: 3

Turn in answers only.

    8.4: 5 (ignore the question about surface area), 13, 16, 24, 25

    8.5: 4

Turn in full solutions.

    8.2: 18 (to simplify notation, just do the case $k = 3$; express ϕ_1, ϕ_2, ϕ_3 as linear combinations of $dx_1, \ldots, dx_n$. Then use properties of wedge product and determinant and the fact that the statement holds by definition when $\phi_j = dx_{i_j}$ are 'standard basis covectors'.).

    8.4: 9

    8.5: 7, 9, 10, 11ac

    8.6: 3, 4 (Shifrin doesn't say it, but you need to assume f and g are C^2 in these problems and also that $\partial\Omega$ is smooth, so that you can apply Stokes Theorem).