Assignment #16 – MATH 2421
Summer 2008

Harder Name: _____

- Due on Monday, 21 July 2008 at 6 p.m. in the MERC Lab.
- Attach this cover sheet to this assignment.
- Copy all of your work onto engineering pad paper!
- Give enough details about each problem so that I should NOT need to refer back to the text.

Section 12.5

(I) Complete Problem #5 on p. 1062.

(II) Complete Problem #7 on p. 1062.

(III) Complete Problem #12 on p. 1062.

(IV) Complete Problem #16 on p. 1062.

(V) Complete Problem #20 on p. 1062. Remember that $y = 2$ is a constant.

Section 12.6

(VI) Complete Problem #30 on p. 1075. Hint: The value of the integrand is constant over the entire surface S.

(VII) Complete Problem #34 on p. 1075. Hint: Cones give us nice expressions for dS!

(VIII) Complete Problem #37 on p. 1075. For the surface $z = f(x, y)$, we have

$$Net\ Upward\ Flux = \iint_R (-Mf_x - Nf_y + P)\, dA.$$

(IX) [2 *pts.*] Complete Problem #40 on p. 1075. It's the lower cone, but you are evaluating upward flux through that cone.