

## Homework Assignment for Week 17

1. Section 16.8: Problems 5, 9, 13, 17, 19, 25, 29.

2. Section 16.8:

Take the simplest case  $S_0 = \frac{x}{a} + \frac{y}{b} + \frac{z}{c} = 1$  with  $a, b, c > 0$  in the example "case II" of Lecture 30. Then verify Divergence Theorem for either  $\mathbf{F} = (0, N(x, y, z), 0)$  or  $\mathbf{F} = (0, 0, P(x, y, z))$ .

It may be helpful to warm up with  $\mathbf{F} = (M(x, y, z), 0, 0)$  and follow the calculation in Lecture 30 step by step (with the  $S_0$  mentioned above).