1. p. 471, problems 1, 6

2. Compute the area of the surface given by \( \phi(r, \theta) = (r \cos(\theta), r \sin(\theta), \theta) \). Use the fact that 
\[
\int_0^1 \sqrt{1 + x^2} \, dx = \frac{1}{2} \left( \sqrt{2} + \log(1 + \sqrt{2}) \right).
\]

3. p. 471, problem 7. (to be precise, show that its surface area is infinite, but that the volume is finite)

4. p. 471, problem 8 (note that you are not required to evaluate the integral)

5. Read p. 466-467 in the book.

6. p. 480, problems 1, 3, 7

7. p. 481, problem 11