

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
Department of Aeronautics and Astronautics

16.36: Comm. Sys. Engineering
Problem Set No. 1

Date Issued: Feb 6 2003
Date Due: Feb 13, 2003

Text Problems: 6.1, 6.4 (part 1), 6.9, 6.10, 6.11, 6.17, 6.29

Helpful hints:

6.4: You may find the following formulas useful in answering problem 6.4:

$$\sum_{i=0}^{\infty} p^i = \frac{1}{1-p}$$

$$\sum_{i=0}^{\infty} i p^i = \frac{p}{(1-p)^2}$$

6.17: You may find the following inequality useful:

$$\ln(x) \geq 1 - \frac{1}{x}$$