

Homework No. 6

Due: March 6, 2008

1. Problem 9.1 on page 302 of the text.
2. Problem 9.3 on page 303 of the text.
3. Problem 9.11 on page 304 of the text.
4. Prove the Information Inequality (Divergence inequality) in two ways:

(a) Use the inequality $\log_2 x \geq \left(1 - \frac{1}{x}\right) \log_2 e$

(b) Jensen's inequality.