

STAT 5201 HW1

1-1. Edition 2: Chapter1-Problem 2 (Edition 1: Chapter1-Problem 2)

1-2. Edition 2: Chapter1-Problem 7 (Edition 1: Chapter1-Problem 8)

1-3. Edition 2: Chapter1-Problem 8 (Edition 1: Chapter1-Problem 11)

1-4. The August 1996 issue of *Consumer Reports* contained satisfaction ratings for various health maintenance organizations(HMO's) used by readers of the magazine. The ratings were based on more than 20,000 response to their 1995 Annual Questionnaire. The results reflect the experience of *Consumer Reports* subscribers, who are a more affluent and educated cross-section of the U.S. population. Answer the general questions about target populations, sampling frame and units for their survey. Also do you think this survey provides valuable information for comparing health plans?

1-5. Let the joint distribution of X and Y be given in the table below:

		Y			
		1	2	3	4
X	1	0.12	0.21	0.24	0.03
	2	0.06	0.06	0.12	0.06
	3	0.02	0.03	0.04	0.01

(a) Find the marginal distributions of X and Y .

(b) Are X and Y independent?

(c) Find $E(X)$, $E(Y)$, $E(4X - 2Y)$.

(d) Find $E(XY)$, $Cov(X, Y)$ and $Var(X - 3Y)$.