IEOR 165
SPRING 2004
February 26, 2004
QUIZ 1

The following table gives the percentage of women and percentage of men full-time workers whose annual salaries for 1980 fall in different salary groupings.

Earnings Range	% of Women	% of Men
$4,999 or less	2.8	1.8
$5,000 to $9,999	10.4	4.7
$10,000 to $14,999	16.8	8.2
$15,000 to $19,999	24.2	14.9
$20,000 to $24,999	16.5	13.4
$25,000 to $29,999	10.4	12.2
$30,000 to $34,999	6.8	10.8
$35,000 to $39,999	5.2	9.5
$40,000 to $44,999	4.6	8.8
$45,000 and over	2.3	15.7

The annual salary of a man has a mean of 28,000 and standard deviation of 4,000. The annual salary of a woman has a mean of 21,800 and standard deviation of 3,000. Suppose random samples of 1000 men and 1200 women were chosen. Use the above table to find the probability that

(a) More men than women earned between $20,000 and $39,999;
(b) At least half of the women earned either more than $20,000 or less than $5,000;
(c) 200 or fewer men and 120 or fewer women earned between $35,000 and $44,999;
(d) The total annual earning of 500 men is smaller than the total annual earning of 650 women.