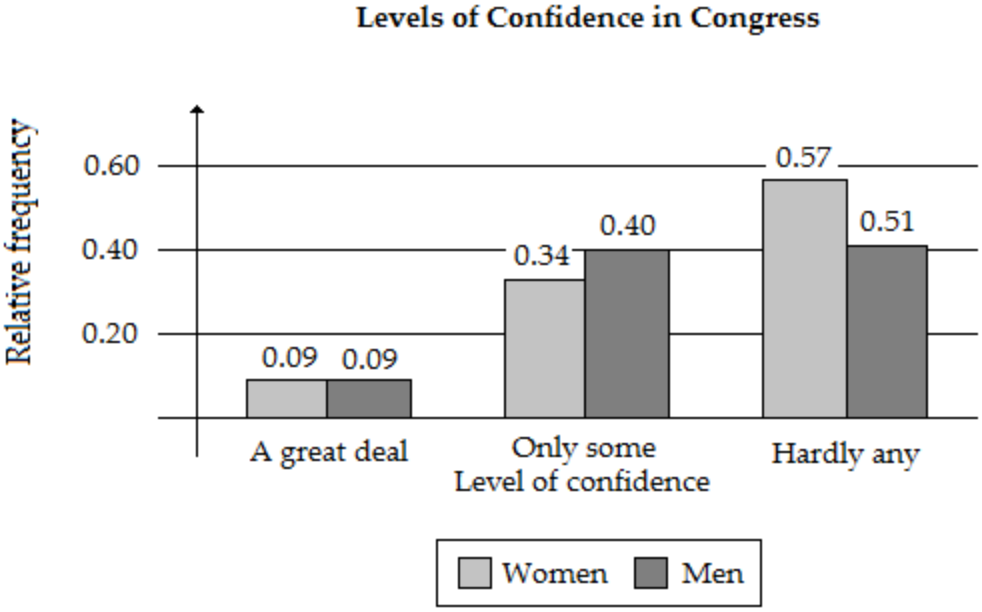
Practice Exam 2: Module 5 & 6

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

631 women and 725 men were asked how much confidence they had in Congress. The results of the survey are described by the multiple bar graph.



1) What proportion of women surveyed did NOT have a great deal of confidence in Congress? 1) _____
A) 0.43 B) 0.91 C) 0.57 D) 0.34

2) How many men had only some confidence in Congress? 2) _____
A) 215 B) 247 C) 290 D) 370

Express the indicated degree of likelihood as a probability value.

3) "It will definitely turn dark tonight." 3) _____
A) 0.67 B) 0.30 C) 1 D) 0.5

Find the indicated probability.

4) A class consists of 50 women and 21 men. If a student is randomly selected, what is the probability that the student is a woman? 4) _____
A) $\frac{1}{71}$ B) $\frac{50}{71}$ C) $\frac{50}{21}$ D) $\frac{21}{71}$

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

For a) – d) identify each probability as Marginal, Conditional, or Joint. Then find the probability as a decimal rounded to the nearest tenth place.

5) The managers of a corporation were surveyed to determine the background that leads to a successful manager. Each manager was rated as being either a good, fair, or poor manager by his/her boss. The manager's educational background was also noted. The data appear below. 5) _____

Educational Background

Manager Rating	H. S. Degree	Some College	College Degree	Master's or Ph.D.	Totals
Good	5	6	24	4	39
Fair	8	18	44	17	87
Poor	3	2	1	28	34
Totals	16	26	69	49	160

a) What is the probability that a manager has a College Degree?

b) Given that a manager is only a fair manager, what is the probability that this manager has no college background?

c) What is the probability that a someone is a poor manager, given the he or she has a college degree?

d) What is the probability that a manager has a poor rating and has a college degree?

6) **For a) – f) identify each probability as Marginal, Conditional, or Joint. Then find the probability as a decimal rounded to the nearest tenth place.** 6) _____

The table lists the drinking habits of a group of college students.

Sex	Non–drinker	Regular Drinker	Heavy Drinker	Total
Man	135	49	5	189
Woman	187	21	6	214
Total	322	70	11	403

a) Find the probability of getting someone who is a non–drinker. Round your answer to three decimal places.

b) Find the probability of getting someone who is a regular or heavy drinker. Round your answer to three decimal places.

c) Given that someone is a non–drinker, what is the probability that person is a woman?

d) Given that someone is a woman, what is the probability that she is a heavy drinker?

e) Given that someone is a man, what is the probability that he is a heavy drinker?

f) Based on the calculations, are men or women more likely to be heavy drinkers in college?

7) The number of golf balls ordered by customers of a pro shop has the following probability distribution. 7) _____

x	P(x)
3	0.14
6	0.29
9	0.36
12	0.11
15	0.10

a) What is the probability that a customer will order 6 golf balls?

b) What is the probability that a customer will order 9 or more golf balls?

c) Find the mean of the given probability distribution. Use the formula $\mu = \Sigma x \cdot P(x)$

8) Find the mean. 8) _____

x	P(x)
0	0.26
1	0.11
2	0.16
3	0.05
4	0.42

9) There are 8 members on a board of directors. If they must form a subcommittee of 6 members, how many different subcommittees are possible? 9) _____

10) There are 6 members on a board of directors. If they must elect a chairperson, secretary, and a treasurer, how many different slates of candidates are possible? 10) _____

11) How many ways can 6 people be chosen and arranged in a straight line if there are 8 people to choose from? 11) _____

12) The library is to be given 3 books as a gift. The books will be selected from a list of 18 titles. If each book selected must have a different title, how many possible selections are there? 12) _____

13) In a certain college, 33% of the physics majors belong to ethnic minorities. 10 students are selected at random from the physics majors. 13) _____

a) Identify: n = p = q =

b) What is the probability that exactly 2 belong to an ethnic minority?

c) What is the probability that no more than 2 belong to an ethnic minority?

14) A company purchases shipments of machine components. They randomly select and test 30 components. A particular shipment of thousands of components actually has a 7% rate of defects. 14) _____

a) Identify: n = p = q =

b) What is the probability that there are fewer than 3 defectives?

15) The participants in a television quiz show are picked from a large pool of appicatns with approximately equal numbers of men and women. Among the last 11 participants there have been only 2 women. If participants are picked randomly, what is the probability of getting 2 or fewer women when 11 people are picked? 15) _____

a) Identify: n = p = q =

b) What is the probability of getting 2 or fewer women when 11 people are picked?