

STAT 221 Introduction to Probability and Statistics Winter 2012

Quiz 13

Assigned on Fri Feb 3; due on Mon Feb 6. You may work with a group of as many as 4 students, submitting one quiz with all names, provided that you all contribute to the work. You may use your notes. Also, please include your section number (8am: section 2, 9am: section 3) and “quiz 13” along with your name(s).

Suppose that two students are to be selected at random from a group of six students. Four of these students are male (Alex, Ben, Chad, Dave), and two are female (Ellen, Fay).

1. List all 15 outcomes in the sample space. [*Hints*: Use initials, so AB represents the outcome that Alex and Ben are the two people chosen. Notice that AB and BA are the same two people, so these are the same outcome and should only be listed once.]

Now consider the random variable W = number of women selected.

2. Report the possible values of this random variable.

3. Determine the probability for each possible value of W . [*Hint*: Assume that because the two students are selected at random, all 15 outcomes in the sample space are equally likely.]

4. Calculate the expected value of W .

5. Write a sentence interpreting what this expected value means.