

Name:

MATH 1001, Probability Quiz, Spring 2003

Remember, there will be little or no partial credit given on questions in this quiz.

MATCHING (2 point each) Fill in each blanks with the letter next to the correct definition. There are more choices than there are terms, but there is only one correct definition of each term.

\_\_f\_\_ 1. Sample Space

\_\_b\_\_ 2. Probability

\_\_a\_\_ 3. Permutation

\_\_e\_\_ 4. Random Experiment

a Ordered selection.

b A number between 0 and 1 which measures how likely an outcome is.

c The number of outcomes of a random experiment.

d By experiment.

e A process whose outcome is uncertain.

f The set of outcomes of a random experiment

5. (2 points). My son has 5 stuffed animals, and I ask him to pick 3 of them to take on a trip. How many ways can he do this? It doesn't matter which order he picks them in; in only matters which ones he ends up taking.

$${}_5C_3 = \frac{5 \times 4}{2 \times 1} = 10$$

6. Consider the random experiment of rolling a fair 6-sided die. ("Fair" means each outcome is equally likely.)

a. (1 point) Write down the sample space for this experiment. (In other words, write down  $S$ .)

$$S = \{1, 2, 3, 4, 5, 6\}$$

b. (1 point) What is  $N$ , the size of the sample space?

$$N = 6$$

c. (1 point) What is the probability of any outcome in the sample space? (Remember, this is a fair die.)

$$\frac{1}{6}$$

d. (1 point) Write down the event described by "the number on the die is odd."

$$E = \{1, 3, 5\}$$

e. (2 points) Find the probability that the number on the die is odd.

$$\frac{\text{Number of outcomes in E}}{N} = \frac{3}{6} = \frac{1}{2}$$