Name: _____ Per: _____ Date: _____

Probability Practice

AP Statistics

1. Two dice are rolled. List your sample space. Then, find the probability that the sum is

(a) equal to 1.

(b) equal to 4.

(c) greater than 9.

(d) less than 13.

2. A card is drawn at random from a standard deck. Find the probability that

(a) the card is a diamond.

(b) the card is a 10.

(c) the card is a diamond or a 10.

(d) the card is an even number or an odd number.

(e) the card is a black card or a face card.

(f) the card is an ace or an odd number.

3. Two cards are drawn from a deck without replacement. Find the probability that

(a) both cards are black.

(b) both cards are aces.

(c) one card is a king and one card is an 8.

4. A die is rolled twice. Find the probability of

(a) not rolling a 6.

(b) rolling an even number.

(c) not rolling a number less than 3.

5. A jar contains 5 red marbles, 7 green marbles, and 10 white marbles. Two marbles are drawn from the jar at random, without replacement. Find the probability

(a) the second marble is white given the first marble is white.

(b) the second marble is green given the first marble is red.

6. Three fair coins are tossed. Find the probability of

(a) three tails.

(b) At least two heads.

7. There are 40 students total taking a combination of chemistry, English, both, or neither. 14 students are taking English, 29 students are taking chemistry, and 5 students are taking both English and chemistry.

(a) Draw a two-way table and a Venn diagram to illustrate the problem.

Select a random person. Find the probability that

(b) a student is taking chemistry or English.

(c) a student is taking chemistry but not English.

(d) a student is taking English but not Chemistry.

(e) a student is taking neither.

8. At Dawnview High there are 400 juniors. 270 take Computer Science, 300 take English, and 50 take Business studies. All those taking Computer Science take English, 20 take Computer Science and Business studies and 35 take English and Business studies. Using a Venn diagram, calculate the probability that a pupil drawn at random will take

(a) Draw a Venn diagram to illustrate the problem.

Select a random junior from Dawnview High school. Find the probability that

(b) English but not Business studies or Computer Science.

(c) English but not Business studies.

(d) Business only.

(e) None of the courses listed.

9. A person takes part in a medical trial that tests the effect of a medicine on a disease. Half the people are given medicine and the other half are given a sugar pill, which has no effect on the disease. The medicine has a 60% chance of curing someone. But, people who do not get the medicine still have a 10% chance of getting well.

(a) Draw a tree diagram and a two-way table to illustrate the problem.

Select a random person from the study. Find the probability that

(b) the person is cured.

(c) the person is not cured.

(d) the person took a sugar pill given they were cured.

(e) the person took medicine given they were not cured.