Math 7 Probability Name: _____
Test Review Date_____Hour___

Directions: ***Read each question carefully***. Answer each question completely. **ALL FRACTIONS SHOULD BE IN SIMPLEST TERMS**! Show all your work for full credit! Good luck!! ☺

1) Explain the difference between experimental and theoretical probability.

2) Make a tree diagram to find the number of choices that are possible if you choose one of 3 kinds of fruit (apple, orange, or grape), one of 2 kinds of vegetables (bean, or carrot), and one kind of potato (baked or ff)

Total number of Choices: _____ P(grape & carrot): _____

3) You select 40 marbles from a bag. The results are as follows: 4 blue marbles, 12 green marbles, 8 red marbles, 7 white marbles, and 9 yellow marbles. Find the experimental probability that you select a blue. List it as a fraction.

P(blue) = _____

P(not white)=_____

P (yellow or red) =_____

4) Eight balls (numbered 1 to 8) are placed in a bag. One ball is selected at random. Find the following probabilities:

P(4) = _____ P(not 4) = _____

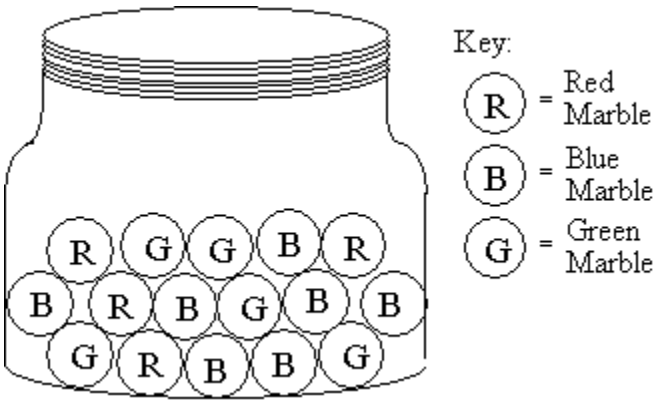
P (a number greater than 10) = _____ P(a number less than 3) = _____

5) A box contains 6 green blocks and 1 white block. The blocks are randomly selected one at a time. What is the theoretical probability that you will pick a green block the first time? List it as a fraction.

P(green): _____

6) The diagram shows the content of a jar of marbles. What is the probability of randomly removing a blue marble from the jar? List it as a fraction.

P(blue): _____



7) The following is the results of rolling a standard number cube. Use the table below to answer the following questions.

Number	Number of times rolled
1	6
2	3
3	11
4	7
5	8
6	10

a) Find the **theoretical probability** of rolling a 2. _____

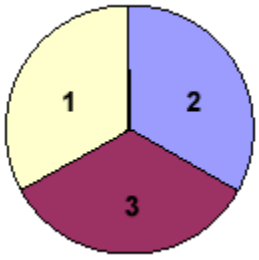
b) Find the experimental probability that a 3 was rolled.

Fraction: _____ Decimal: _____ Percent: _____

c) Find the experimental probability that a number greater than 4 was rolled

Fraction: _____ Decimal: _____ Percent: _____

8) Joanna is playing a game with her friends. They are trying to guess the number of outcomes when they spin a spin the spinner below and roll a 6 sided number cube (a die). How many possible outcomes are there when Joanna spins the spinner and rolls the die? (**HINT: What would be helpful for you to make in order to answer this question?)**



# of Outcomes:_____

9) When a coin is tossed 3 times, there 8 outcomes. What is the probability that the coin lands on tails all 3 times?

_____

MULTIPLE CHOICE: SHOW YOUR WORK!!

10) Sydney will role a 6 sided number cube (a die) 6 times. Each time she rolls it, the probability that she will roll a 2 is $\frac{1}{6}$ Which statement is true?

A. Exactly one roll with be a 2.

B. There is a chance that all 6 rolls will be a 2.

C. The second roll will be 2.

D. If the first 5 rolls are not a 2, the last roll will be 2.

11) The bookstore at Cole's school sells 4 different colored pens: blue, black, red, and purple. They come in 2 types, erasable and non-erasable. Equal number of all colors and types of pens are distributed to students at random. What is the probability that a student will receive a red erasable pen? **(Hint: What strategy will you use to help you answer this probability question?)**

A. $\frac{1}{8}$ B. $\frac{1}{4}$ C. $\frac{3}{8}$ D. $\frac{1}{2}$

12) You mix the letters S, E, M, I, T, R, O, P, I, C, A, and L thoroughly. Without looking, you draw one letter. Find the probability that you select a vowel. Write your answer as a fraction in simplest form.

A. $\frac{12}{5}$ B. $\frac{5}{12}$ C. $\frac{1}{3}$ D. $\frac{7}{12}$

13) You mix the letters S,E,L,E,CT,E, and D thoroughly. Without looking, you draw one letter. What is the probability of drawing the following:

P(not E)

A. $\frac{3}{8}$; 0.375; 37.5%

B. $\frac{8}{5}$; 1.6; 16%

C. $\frac{5}{8}$; 0.625; 62.5%

D. $\frac{8}{3}$; 2.667; 26.667%

14) Paul is playing a game where he picks a letter of the alphabet out of a bag. There are 26 different letters in the bag. What is the probability that the letter Paul picks is in the word Classroom?

A. $\frac{9}{26}$ B. $\frac{7}{26}$ C. $\frac{7}{24}$ D. $\frac{5}{26}$

15) The McCarthy's have 3 children. What is the probability that all children are all boys? (Hint: What strategy might be helpful in answering this question?)

A. $\frac{1}{16}$ B. $\frac{1}{8}$ C. $\frac{1}{4}$ D. $\frac{1}{2}$

16) The McCarthy's have 3 children. What is the probability that at least 2 of them are boys?

A. $\frac{1}{16}$ B. $\frac{1}{8}$ C. $\frac{1}{4}$ D. $\frac{1}{2}$

17)

Drink Survey

Drink	Number of Shoppers Who Preferred It
A	9
B	10
C	10
D	3
E	9

What is the probability that 1 shopper, selected at random, preferred neither Drink E nor Drink B?

A. $\frac{22}{41}$ B. $\frac{19}{41}$ C. $\frac{32}{41}$ D. $\frac{19}{22}$

18) A Lights-A-Lot quality inspector examines a sample of 25 strings of lights and finds that 6 are defective.

a. What is the experimental probability that a string of lights is defective?

A. $\frac{3}{500}$ B. $\frac{3}{25}$ C. $\frac{1}{40}$ D. $\frac{6}{25}$

b. What is the best prediction of the number of defective strings of lights in a delivery of 1000 strings of lights?

A. 6 lights B. 25 lights

C. 200 lights D. 240 lights

19) A coin is tossed. If heads appears, a spinner that can land on any number from 1 to 6 is spun. If tails appears, a second coin is tossed instead of spinning the spinner. What are the possible outcomes?

A. H1 H2 H3 H4 H5
B. H1 H2 H3 H4 H5 H6
C. H1 H2 H3 H4 H5 H6 TH TT
D. HH HT

20) Estella is designing an experiment while she gets dressed. She has the following choices to make:

Pants: Checked, Pleated, Wool, Corduroy
Shirt: Silk, cotton, t-shirt

Create a tree diagram or table to show the sample space of Estella's experiment.

Find the probability of wearing the following as a fraction:

P(Checked Pants and Cotton shirt): _____

P(Wool pants):_____