**Worksheet E3** : Review for Unit 3Test

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_

The spinner shown is spun once. For each problem, find:

 a. the probability of each event,

 b. the odds in favor of each event. *Give your answers as* ***reduced fractions****.*

Green

 8

Red

 1

White

 7

White

 2

Green

 4

Blue

 3

Blue

 6

Blue

 5

1. The number is even.

2. The spinner lands on Blue.

3. The number is 5 **or** white.

4. The number has a factor of 6 **or** not green.

5. A bag contains 12 red marbles, 14 blue marbles, and 11 green marbles. If one marble is randomly selected from the bag, what is the probability that the marble is blue **or** green?

a.  b.  c.  d.  e. 

1. A circular spinner is divided into 6 equal parts. If the spinner is spun 4 times, what is the probability that an even number is spun all 3 times? *(Think of each spin as a separate event.)*

1. If you In conducting an experiment, you roll a single standard 6 sided die four times. Each time your roll it, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is 1/6 due to the Law of Large Numbers

a. theoretical b. complementary c. mutually exclusive d. inclusive

Questions 8 – 13 refer to a bag that contains 9 blue marbles, 8 green marbles, and 5 red marbles. *(Show your answers as* ***reduced fractions or percents to the nearest tenth****. )*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_8. What is the probability of selecting a red marble?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_9. What is the probability of selecting a red **or** a green marble?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_10. If the probability of selecting a blue marble is 9/22, what is the probability of not selecting a blue marble?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_11. What is the probability of selecting a green marble, **replacing that marble**, **and** then selecting a blue marble?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_12. What is the probability of selecting a green marble, **without replacement**, **and** then selecting a blue marble?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_13. What is the probability of selecting a blue marble **and** then selecting another blue marble **without replacement**?

## Theoretical vs. Experimental Probability

A 6 sided die is tossed. What is the theoretical probability of

14. Rolling 5\_\_\_\_\_\_\_\_\_\_ 15. Rolling even or 5\_\_\_\_\_\_\_\_\_\_

The coin is tossed 20 times with the results at the right. Using these results, what is the

experimental probability of

**Results**

# H H H T T T T H T T

# H H T T H T H H H H

16. Heads\_\_\_\_\_\_\_\_\_\_ 17. Tails\_\_\_\_\_\_\_\_\_\_

Questions 22-24 refer to a six-sided die with the numbers 1 through 6. *(Show answers as* ***reduced******fractions****.)*

\_\_\_\_\_\_\_\_\_\_22. What is the probability of rolling an even number?

\_\_\_\_\_\_\_\_\_\_23. What is the probability of rolling a multiple of 3?

\_\_\_\_\_\_\_\_\_\_24. What is the probability of rolling an odd number **or** a factor of 6? Show work.

Determine if the following scenarios are **independent** or **dependent**.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_25. Flipping a coin 5 times.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_26. In a group of 23 students, what is the probability that 2 people have the same birthday?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_27. Selecting a marble from a bag, replacing it, and then selecting another marble from the bag.

A card is drawn from a standart 52-card deck. Tell whether the events A and B are inclusive or mutually exclusive. Then find P(A or B).

28. A: The card is black.

 B: The card is a 5.

29. A: The card is a even card.

 B: The card is a diamonds.

30. A: The card is even.

 B: The card is odd.

31. A: The card is less than 7.

 B: The card is a black king.

 C: The card is a black queen.

32. In a standard 52 card deck, what is the probability you will get a 5 given that it is a black card.

33. In a standard 52 card deck, what is the probability you will get a number less than 6 given that it hearts.

34. You are dealt a hand of three cards, at random from a deck. Find the probability you get no aces.

35. You are dealt a hand of three cards, at random from a deck. Find the probability you get all hearts.