**Math 2 Unit 9 Probability Review Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **One card is randomly selected from a standard deck of cards. What is the probability of choosing a six and a diamond from a standard deck of cards?**
2. A coin and a die are tossed. Calculate the probability of getting tails **and then** a number that is not divisible by 2.
3. What is the probability of drawing 2 queens cards one after the other from a standard deck of cards?
4. A card is randomly selected from a standard deck of 52 cards. What is the probability that is it a five **or** a club? (Hint: Remember to subtract the intersection!)
5. **One** card is randomly selected from a standard deck of 52 cards. What is the probability of getting a spade and a face card?
6. Sheila did a survey of 71 of her friends about whether they liked Justin Bieber or Justin Timberlake better. Thirty-two said they liked Bieber, 25 said they liked Timberlake, and 4 said they liked both.
   1. Create a Venn Diagram of the information.
   2. How many like Bieber or Timberlake?
   3. How many like neither Bieber nor Timberlake?
7. Two coins are tossed. What is the probability of getting a tail, followed by a head?
8. A card is chosen from a standard deck what are the odds of it being a heart?
9. There are 7 Language, 4 Math, and 2 History classes that a college student can take. A student must take a class.What is the probability that the student will take a Language or a Math class?
10. If the probability of making a field goal is 78%, what is the probability of **not** making a field goal 4 attempts in a row?
11. What is the probability of drawing a 10, given that a black card is drawn?
12. A box of numbered chips contains the numbers 1 to 100. If a chip is drawn at random, what is the probability that it is a multiple of 2 or 7?
13. Jamie has 4 shirts, 8 ties, 3 hats, and 5 pairs of slacks. Determine:
14. the number of different outfits consisting of a shirt, tie, hat, and pair of slacks.
15. the number of different outfits consisting of a shirt, pair of slacks, and either a tie or a hat.
16. A pet store contains 35 light green parakeets (14 females and 21 males) and 44 sky blue parakeets (28 females and 16 males). Arrange this information in a two-way table.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Male | Female | Total |
| Light Green Parakeet |  |  |  |
| Sky Blue Parakeet |  |  |  |
| Total |  |  |  |

1. You randomly choose one of the parakeets. What is the probability that it is a male or a sky blue parakeet?
2. What is the probability that the randomly chosen parakeet is both green and female?
3. What is the probability that the randomly chosen parakeet is male and is blue?
4. A bag contains 20 marbles. The probability of drawing a red marble is 0.50, the probability of drawing a blue marble is 0.30, and the remainder of the marbles are yellow.
   1. List the elements of the sample space (using set notation).
   2. What is the probability of randomly selecting a yellow or blue marble?
   3. What is the probability of randomly selecting a red marble and then another red marble?
   4. What is the probability of randomly selecting a blue marble, returning it, and then a yellow marble. (Remember, this is called drawing *with replacement*).

|  |  |  |  |
| --- | --- | --- | --- |
|  | Swimmers | Runners | Total |
| 9th Grade | 4 | 16 | 20 |
| 10th Grade | 16 | 64 | 80 |
| Total | 20 | 80 | 100 |

1. What is the probability of selecting a runner given that they are in 10th grade?
2. What is the probability of selecting a person who is a swimmer or 9th grader?
3. What are the odds of selecting a 9th grade runner?
4. What is the probability of selecting a swimmer given that they are in 9th grade?

**Determine if the following are joint or disjoint**

1. Rolling a die and drawing a red card
2. Picking a green marble then a blue marble
3. Drawing a black card then a face card