Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Quiz 1 Reivew Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Block:\_\_\_\_\_\_\_\_\_\_\_

Venn Diagrams, Mutually Exclusive/Overlapping

Using the information below, construct a Venn diagram and answer the probability questions. SHOW ALL WORK.



In a survey of 50 people, 22 people said they liked hotdogs, 27 people said they liked tacos, and 7 people said they liked both tacos and hotdogs.

 **1. Fill in and label the Venn diagram.**

 **Answers: 3 decimal places**

1. What is the probability that a person chosen at random

likes hotdogs? 2.\_\_\_\_\_\_\_\_\_\_\_

1. What is the probability that a person chosen at random likes tacos **and** hotdogs? 3.\_\_\_\_\_\_\_\_\_\_\_

1. What is the probability that a person chosen at random likes tacos **or** hotdogs 4.\_\_\_\_\_\_\_\_\_\_\_
2. What is the probability that a person chosen at random **does not** like hotdogs? 5.\_\_\_\_\_\_\_\_\_\_\_

**The Venn Diagram below shows the number of people in the cafeteria. Some students ate a ham sandwich (H) and some had a cookie (C) for dessert.**

1. How many people are in the cafeteria? 6.\_\_\_\_\_\_\_\_\_\_\_

**H**

**C**

**26**

**20**

**24**

**10**

1. P (H) 7.\_\_\_\_\_\_\_\_\_\_\_
2. P (H ∩ C) 8.\_\_\_\_\_\_\_\_\_\_\_
3. P (H ∪ C) 9.\_\_\_\_\_\_\_\_\_\_\_
4. P (C)’ 10.\_\_\_\_\_\_\_\_\_\_\_

11. In a bowl of marbles, there are 6 red ones, 8 green ones, and 10 blue ones.

 Pick 2 marbles.

1. With replacement: P(blue and green) \_\_\_\_\_\_\_\_\_\_\_\_
2. With replacement. P(green and red) \_\_\_\_\_\_\_\_\_\_\_
3. Without replacement. P(red and blue) \_\_\_\_\_\_\_\_\_\_\_
4. What is the probability of choosing two red marbles. (Hint: same as P(red and red) without replacement.)

 \_\_\_\_\_\_\_\_\_\_\_\_

The following events **are independent.**

12. P(A) = 0.3 P(B) = 0.7 P(A and B) = \_\_\_\_\_\_\_\_\_\_\_\_

13. P(A) = 0.45 P(B) = 0.2 P(A and B) = \_\_\_\_\_\_\_\_\_\_\_\_

14. Complete the Two-Way Frequency Table below.

A survey of 150 men and 160 women about their lunches. Of those surveyed, 45 men and 95 women said they brought a lunch to work. The others did not bring a lunch.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Bring Lunch** | **Not Bring Lunch** | **Total** |
| **Men** |  |  |  |
| **Women** |  |  |  |
| **Total** |  |  |  |