Independent and Dependent Events Practice Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

In #1-4, tell whether the events A and B are dependent or independent. Then find P(A and B).

1.A bag contains 6 red balls and 5 green balls. You randomly draw one ball, replace it, and randomly draw a second ball.

Event A: The first ball is green

Event B: The second ball is green.

2. You write each of the letter of the word BRILLIANT on pieces of paper and place them in a bag. You randomly draw one letter, do not replace it, then randomly draw a second letter.

Event A: The first letter is an L

Event B: The second letter is a T

3. A bag contains 4 red jellybeans, 3 yellow jellybeans, and 6 purple jellybeans. You randomly draw one jellybean, replace it, and randomly draw a second jellybean.

Event A: The first jellybean is purple

Event B: The second jellybean is yellow

4. You write each of the letters of the word MASTERMIND on pieces of paper and place them in a bag. You randomly draw one letter, do not replace it, then randomly draw a second letter.

Event A: The first letter is an N

Event B: The second letter is an M

5. A bag contains 5 blue marbles and 9 red marbles. You choose one marble at random, then choose another marble at random. Find the probability that both marbles are blue when

a) you place the first marble

b) you do not replace the first marble

In Exercises 6-9, a snack-size bag of M&Ms candies is opened. Inside, there are 10 red candies, 13 blue, 8 green, 13 brown, 3 orange, and 9 yellow. Three candies are pulled from the bag in succession, without replacement.

6. Determine the probability that the first candy drawn is blue, the second is red, and the third is green.

7. Determine the probability that the first candy drawn is brown, the second is orange, and the third is yellow.

8. What is the probability that the first two candies drawn are green and the third is red?

9. What is the probability that the first candy drawn is orange, the second is blue, and the third is orange?

Given you have a standard deck of 52 cards WITH REPLACEMENT what is the probability that you select:

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| 10. A card that is black and a card that is a five? | 11. P(even card and a heart) | 12. A card that is a face card and a card that is a club? |
| 13. P (spade and diamond)  | 14. A card that is less than 4 (aces are low) and a card that is black? | 15. A card that is red and a card that is a face card? |