Write Dependent or Independent.

 “With Replacement”\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ “without replacement” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Multiplication Rule**

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 A bag contains 5 red, 3 green, 4 blue, and 8 yellow marbles.

**REPLACE: Independent**

1. $P(green ∩yellow)$ 2. $P(red∩blue)$

3. $P(yellow∩blue)$ 4. $P(red∩red)$

**DO NOT REPLACE: Dependent**

5. $P\left(green ∩yellow\right)$ 6. $P\left(red∩blue\right)$

7. $P(yellow∩blue)$ 8. $P(red∩red)$

1. In a standard deck of cards, what is the probability of picking a diamond and then another diamond without replacement?
2. A test includes several multiple choice questions, each with 5 choices. Suppose you don’t know the answers for three of these questions, so you guess. What is the probability of getting all three correct?
3. Randy has 4 pennies, 2 nickels, and 3 dimes in his pocket. If he randomly chooses 2 coins, what is the probability that they are both dimes if he doesn’t replace the first one?

Find each probability. Round decimals to 3 places.)

INDEPENDENT events.

 P(M) = 0.8 P(N) = 0.25 P(R) = 0.6

12. P(M and N) 13. P(M and R) 14. P(N and R)

50 students were surveyed. 30 of them said they liked soccer and 35 said they liked lacrosse. 20 said they liked both soccer and lacrosse.

**Lacrosse**

**Soccer**

Round all probabilities to 3 decimal places

15. Complete the Venn Diagram.

16. 

17. 

18. 

19. 

Match the name and formula.

A. Mutually Exclusive Addition Rule

B. Overlapping Addition Rule

C. Multiplication Rule for Independent Events

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