

P.I. A.S.23: Calculate the probability of a series of independent events, a series of dependent events, two mutually exclusive events, two events that are not mutually exclusive

1. In a game, you choose a card from a box containing 4 red cards, 6 blue cards, and 5 yellow cards. You do not replace the first card in the box before choosing again. What is the probability of choosing a blue card and then choosing a yellow card?
2. A bag contains 2 yellow marbles and 5 red marbles. Two marbles are drawn at random. One marble is drawn and not replaced. Then a second marble is drawn. What is the probability that the first marble is red and the second one is yellow?

[A] $\frac{5}{2}$

[B] $\frac{1}{5}$

[C] $\frac{5}{21}$

[D] $\frac{5}{42}$

3. A bag contains 5 white marbles and 1 yellow marbles. Two marbles are drawn at random. One marble is drawn and not replaced. Then a second marble is drawn. What is the probability that the first marble is yellow and the second one is white?

[A] $\frac{1}{6}$

[B] 1

[C] $\frac{1}{5}$

[D] $\frac{1}{30}$

4. A drawer contains 5 red socks, 7 white socks, and 4 blue socks. Without looking, you draw out a sock and then draw out a second sock without returning the first sock. What is the probability that the first sock and the second sock are both red?

[A] $\frac{1}{16}$

[B] $\frac{1}{20}$

[C] $\frac{1}{12}$

[D] $\frac{25}{256}$

5. Four cards are drawn at random without replacement from a standard deck of 52 cards. Find P(4 diamonds).

[A] $\frac{1}{256}$

[B] $\frac{11}{4,165}$

[C] $\frac{4}{13}$

[D] $\frac{1}{13}$

6. Compare the quantities in Column A and Column B.

Column A $P(B)$ if A and B are independent,Column B $P(B \text{ after } A)$ if A and B are dependent,

$P(A \text{ and } B) = \frac{1}{4}$, and $P(A) = \frac{1}{2}$.

$P(A) = \frac{1}{2}$.

[A] The quantity in Column A is greater.

[B] The quantity in Column B is greater.

[C] The quantities are equal.

[D] The relationship cannot be determined from the information given.

Integrated Algebra Practice: A.S.23 #2

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[1] $\frac{1}{7}$ _____

[2] $\frac{C}{1}$ _____

[3] $\frac{A}{1}$ _____

[4] $\frac{C}{1}$ _____

[5] $\frac{B}{1}$ _____

[6] $\frac{D}{1}$ _____