Name: _____ Date: _____

Independent and Dependent Events

1. A bag contains 5 red, 3 green, 4 blue, and 8 yellow marbles. Find the probability of randomly selecting a green marble, and then a yellow marble if the first marble is replaced.

_____

2. A sock drawer contains 5 pairs of each color socks: white, green and blue. What is the probability of randomly selecting a pair of blue socks, replacing it, and then randomly selecting a pair of white socks?

_____

3. In a standard deck of cards, what is the probability of picking a diamond and then another diamond without replacement?

_____

4. Randy has 4 pennies, 2 nickles, 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?

_____

5. Two students are chosen at random from a class of 30. What is the probability that both you and your friend are chosen?

_____

6. 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?

_____

7. Using the letters in the state ARKANSAS. Find the probability of picking an **S** and then an **A** without replacement.

_____

8. Using the letters in the state ARKANSAS. Find the probability of picking a **K** and then a **N** without replacement.

_____

9. Using the letters in the state ARKANSAS. Find the probability of picking a **R** and then a **S** without replacement.

_____

Determining if 2 Events are Independent

Check the following events and determine if they are independent.   **P(A ∩ B) = P(A) ● P(B)**

10. P(A) = 0.45   P(B) = 0.30   P(A ∩ B) = 0.75

Conclusion: _____

Check your calculations here.
Show ALL work.

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11. P(A) = 0.12   P(B) = 0.56   P(A ∩ B) = 0.0672

Conclusion: _____

Check your calculations here.
Show ALL work.

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12. P(A) = $\dfrac{4}{5}$ P(B) = $\dfrac{3}{8}$ P(A ∩ B) = $\dfrac{7}{40}$

Conclusion: _____

Check your calculations here.
Show ALL work.

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13. P(A) = $\dfrac{7}{9}$ P(B) = $\dfrac{3}{4}$ P(A ∩ B) = $\dfrac{7}{12}$

Conclusion: _____

Check your calculations here.
Show ALL work.