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**AFM Unit 1: Probability Homework 5**

**Determine if each event is independent or dependent. Then find the probability.**

1. When Luis plays Jose on his video game, the odds are 4 to 3 that Luis will win. What is the probability that he will win the next four games?

2. There are two traffic lights along the route that Laura rides from home to school. One traffic light is red 50% of the time. The next traffic light is red 60% of the time. The lights operate on separate timers. Find the probability that these lights will both be red on Laura’s way home from school.

**There are 5 pennies, 7 nickels, and 9 dimes in an antique coin collection. Suppose two coins are to be selected at random from the collection. Find each probability.**

3. P(selecting 2 pennies), if no replacement occurs

4. P(selecting 2 pennies), if replacement occurs

5. P(selecting the same coin twice); if no replacement occurs.

**Michael’s family is preparing to move to a new house. Michael is helping his mother do some packing. There are 5 clocks, 5 candles, and 6 picture frames randomly placed on a table waiting to be boxed. Michael accidentally knocks two items off the table and breaks them. Find each probability.**

6. P(breaking 2 picture frames) 7. P(breaking 2 clocks)

8. P(breaking a clock, then a candle) 9. P(breaking a clock and a candle)

**Two dice are tossed. Find each probability.**

10. P(no 2s) 11. P(two numbers alike)

12. P(two different numbers) 13. P(two evens)

14. A box contains 5 red markers, 4 black markers, and 7 blue markers. Three are selected, one after the other. Find the probability that all three are different colors if:

a. no replacement occurs b. replacement occurs each time