Name _____   Date _____

Elementary Statistics   Period _____

Chapter 4 Quiz Review
(4.1—4.4)

Write what each symbol represents:

1. $P(A)$ _____

2. $P(\bar{A})$ _____

3. $P(A \cap B)$ _____

4. $P(A \cup B)$ _____

5. $P(B|A)$ _____

6. $P(\bar{A})/P(A)$ _____

7. What is the range of all possible probabilities?

8. If you don't leave your answer as a fraction in lowest terms, how should you round your answers when finding probabilities?

9. Describe the differences between the following types of probabilities:

    a. Relative frequency probability

    b. Classical probability

    c. Subjective probability

10. Describe the law of large numbers?

11. Give an example of two events that are mutually exclusive or disjoint.

12. Give an example of two events that are dependent.

13. Give an example of two events that are independent.

14. Suppose the newspaper states that the probability that a person texts while driving is 27%. What is the complement of the event "texting while driving"? Find the probability of the complement.

15. You draw 2 cards from a standard deck of 52 cards without replacing the first one before drawing the second.

    A standard deck of cards has 4 suits (diamonds, hearts, spades, and clubs)
    with 13 cards in each suit (Ace, King, Queen, Jack, 10, 9, 8, 7, 6, 5, 4, 3, 2)

    a. Find P(Jack on 1st card AND Queen on 2nd card)

    b. Find P(both cards are Aces)

    c. Find the probability of drawing a 9 and a 10 in either order.

16. You roll a fair die numbered 1 through 6 and spin a spinner with the colors red, orange, yellow, and green.

    a. What is the sample space of all possible outcomes?

    b. What is the probability of rolling a 1 on the die OR spinning yellow?

    c. What is the probability of rolling a 1 on the die AND spinning yellow?

    d. What is the probability of rolling (a 1 and red) or (a 2 and green)?

17. The probability that you win a given lottery is 0.45.

    ➔ Use the given probability to determine the odds against winning this lottery.

    ➔ If this lottery used the odds against winning as the payoff odds and you placed an $18 bet, what would be your net profit?