Name:_____ Date:_____
Geometry Band:_____

Probability Test

Instructions: Read all directions. Show all work. [total = 17]

LT#6: Find permutations and combinations.

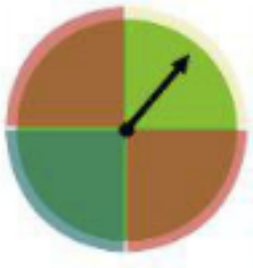
12. Suppose a password contains 4 lowercase letters. How many permutations are possible if no letters are repeated? [2 pts]

13. What is the value of ${}_6C_3$? [2 pts]

LT#7: Find theoretical and experimental probability.

The spinner at the right is divided into four equal sections. Find the theoretical probability of landing on the given section(s) of the spinner. [1 pt each]

14. $P(\text{orange})$ **15.** $P(\text{blue})$



16. $P(\text{not green})$

17. Could a student use the formula $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$ to solve a problem about mutually exclusive events and get the correct answer? Explain. [2 pts]

18. Is it possible for r to be greater than n in ${}_nC_r$? Explain. [2 pts]

LT#8: Find probabilities of independent and dependent events.

19. Suppose you choose a tile at random from a bag containing 5 X's, 4 Y's, and 3 Z's. You replace the first tile in the bag and choose again. What is the probability of choosing 2 Y's? [3 pts]

20. Suppose you choose a marble at random from a bag containing 3 blue, 5 yellow, and 7 red marbles. You choose a second marble without replacing the first. What is the probability of choosing 2 blue marbles? [3 pts]