

Name: _____ Period: _____

G10-Probability (Review)

Show all work. Your answers must include the fraction (not simplified) and the percent.

C-Level

1. Suppose Bennett has a bag of marbles. The bag has 12 yellow marbles, 14 green marbles, and 9 red marbles. Bennett will randomly pick a marble out of the bag.

a) $P(\text{red marble}) =$

b) $P(\text{green marble}) =$

2. What is the sample space if you flip a penny and then roll one 6-sided die?

3. How many possible outcomes are there?

4. Suppose you randomly draw a card from a deck of cards, and then roll a 6-sided die.

a) $P(\text{draw a king and roll } 4) =$

b) $P(\text{draw a } 5 \text{ and roll a } 7) =$

The following problems are based on a standard 52-card deck of cards.

5.
 $P(\text{Ace}) =$

$P(\text{diamond}) =$

$P(\text{Ace} \cap \text{diamond}) =$

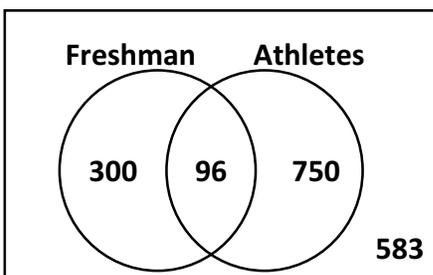
6. $P(\text{Ace} \cup \text{diamond}) =$

7. Find the probability of drawing three 7's and then drawing one King without replacement.

8. Create an area model to represent the sum of the numbers when rolling two six-sided dice.

9. Suppose you roll two standard (six-sided) dice. Find:
 $P(\text{sum} < 8 \cup \text{rolling doubles})$

Students at Franklin:



Use the Venn Diagram to the left to determine the number of:

Freshman: _____	Total number of students: _____
Freshman Athletes: _____	Athletes: _____
Non-Freshman: _____	

B-Level

10. In a random sample of 10,000 college students, a research company found that 45% were involved in a club and 27% studied 4 or more hours per day. When they reported their findings, the research company indicated that 30% of college students didn't do either one. Given this information draw and label a Venn diagram to determine the number of students who do both (studying and are involved in a club).

A-Level

12. In a random sample of 10,000 college students, a research company found that 35.7% were involved in a club and 27.8% studied 4 or more hours per day. When they reported their findings, the research company indicated that 53.4% of college students were either involved in a club **or** they studied 4 or more hours per day. Given this information, what is the probability that a college student is involved in a club and studies 4 or more hours a day?

13. In the picture below, the radius of the smallest circle is 1.5 inches. The radius of the largest circle is 13.5 inches. Assuming an arrow hits this target, and that this is completely random, what is the likelihood that the arrow will not hit the center circle?

