## Probability Definitions and Concepts

1. When dealing with independent events, what are the mathematical operation equivalents to the words "and" and "or"?

And => multiply
Or => add
2. When we know the probabilities of all events in a sample space, what is the sum of all those probabilities?
$100 \%$ or 1

Draw three Venn diagram of two events, A and B, then shade in:
3. $\mathrm{P}(\mathrm{A})$
4. $P(A \cap B)$
5. $\mathrm{P}($ not A$)$

5)

6. In a deck of 52 cards, what is the probability of picking the 2 of diamonds of the top of a well shuffled deck?

$$
\frac{1}{52}
$$

7. With a 6 -sided die, what is the probability of rolling:
a. An even number
b. A 2

$$
\frac{1}{6}
$$

c. An odd number

$$
\frac{1}{2}
$$

d. A number greater than 4

$$
\frac{1}{3}
$$

e. A prime number

$$
\frac{1}{2}
$$

8. Same as \#7, but with a 20 -sided die.
a) $\frac{1}{2}$
b) $\frac{1}{20}$
c) $\frac{1}{2}$
d) $\frac{16}{20}=>\frac{4}{5}$
e) $\frac{8}{20}=>\frac{2}{5}$
9. Define the compliment of an event. Then, determine the compliment of $\mathrm{P}(\mathrm{A})=.78$. The compliment of an event are the outcome(s) where the event does not happen. If $\mathrm{P}(\mathrm{A})=.78$, then $\mathrm{P}\left(\mathrm{A}^{c}\right)=.22$
10. If I flip a coin three times, what is the probability of getting three heads? Three tails?
$P(\mathrm{HHH})=0.125$
$P(T T T)=0.125$
