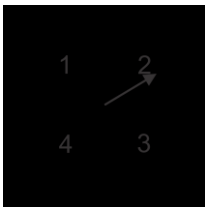
12.1 Intro to Probability

CA #1

Name:_____

1. Mr. Sullivan loves playing games of chance. In one game there is a spinner with 4 equal areas and a coin. To win, Sully has to flip a coin and spin the spinner. To win, he must roll an even number with heads, or an odd number with tails.

a. Find the 8 outcomes in sample space, S, for the situation above.



S =

b. Find $P(\text{Win})$. c. Find $P(Win^C)$. d. Find P(Win| 2). e. Find P(win|>2).

2. Three students love playing the ol' Xbox one during spring break. The table to the right represents the total number of games played.

a. Find the totals for each column and row. Record them in the table.

Number of times Games played on Spring Break

	Fortnite	NBA 2K	Just Dance	Total
Phillip	8	1		57
Ralphy			9	
Genorace	32	19	12	
Total	44			150

Suppose one game is selected at random from the experiences recorded in the table. Find the following probabilities.

b. $P(\text{Ralphy})$	c. $P(\text{NBA 2K}^C)$	d. $P(\text{Fortnite} \mid \text{Ralphy})$	e. $P(\text{Ralphy} \mid \text{Fortnite})$
f. $P(\text{Philip} \cup \text{Just Dance})$	g. $P(\text{Philip} \cap \text{Just Dance})$	h. $P(\text{Philip} \cup \text{Ralphy})$	i. $P(\text{Genorace}^C)$
j. $P(\text{NBA 2K} \mid \text{Genorace})$	k. $P(\text{Genorace} \mid \text{NBA 2K})$	l. $P(\text{Fortnite} \cap \text{Ralphy})$	m. P(Fortnite | Philip ∪ Ralphy)

3. Write a statement that uses probability notation to describe the probability $\frac{48}{69}$.

4. Write a statement that uses probability notation to describe the probability $\frac{44}{150}$.

12.1 Corrective Assignment Answers

1. a S = {H1, H2, H3, H4, T1, T2, T3, T4} b. $\frac{4}{8}$ c. $1 - \frac{4}{8} = \frac{4}{8}$ d. $\frac{1}{2}$ e. $\frac{2}{3}$ 2b $\frac{30}{150}$ c. $1 - \frac{37}{150} = \frac{113}{150}$ d. $\frac{4}{30}$ e. $\frac{4}{44}$
f. $\frac{78}{150}$ g. $\frac{48}{150}$ h. $\frac{87}{150}$ i. $\frac{87}{150}$ j. $\frac{19}{63}$ k. $\frac{19}{37}$ l. $\frac{4}{150}$ m $\frac{12}{87}$ 3. $P(\text{Philip} \mid \text{Just Dance})$ 4. $P(\text{Fornite})$