Nov. 10 Worksheet

1. Make a frequency distribution table from the following data.

The data set of 25 test scores is:

55, 78, 81, 62, 95, 88, 70, 65, 59, 72, 85, 90, 75, 68, 51, 83, 79, 73, 67, 92, 58, 86, 74, 60, 99

Test Score Intervals	Frequency	Relative Frequency
99 - 90	4	.16
89 - 80	5	.2
79 - 70	7	.28
69 - 60	5	.2
59 - 50	4	.16
total =	25	1

2. What sign do we use for the union of A and B?

$A \cup B$

3. What sign do we use for the intersection of A and B?

$A \cap B$

4. How do we write the compliment of A?

A'

5. What is the formula for finding the probability of A and B occurring (union)? What if they are mutually exclusive?

$P(A \cup B) = P(A) + P(B) - P(A \cap B)$

Mutually exclusive = $P(A \cup B) = P(A) + P(B)$

6. In a standard deck of 52 playing cards, a single card is drawn. Find the probability of drawing a **King** or a **Red card**.

$\frac{7}{13}$ chance for king or red card

7. A survey of 1,200 people in the city of Riverwood was conducted about their coffee preferences.

- 700 people had tried a Latte.
- 550 people had tried a Cappuccino.
- 300 people had tried both a Latte and a Cappuccino.

If a person from Riverwood is chosen at random, what is the (empirical) probability that they have tried one of the coffee types but not both?

$\frac{13}{24}$ people

8. A carnival game costs $2 to play. The table below shows the possible payouts (X) and their associated probabilities (P(X)).

Payout (X)	**$10**	**$5**	**$0**
Probability (P(X))	$0.10	$0.30	$0.60

What is the expected net gain or loss for a player of this game?

gain of $0.50

9. Which of the following two tables is an acceptable probability distribution?

A probability distribution must meet two conditions:

- must equal 1 when added together
- probabilities have to be between 0 and 1

X	10	20	30	40	50
P(x)	0.20	0.35	0.15	0.30	0.05

= 1.05

invalid

X	1	2	3	4	5
P(x)	0.15	0.10	0.45	0.35	-0.05

invalid

10. Find the missing probability value to complete the following distribution.

X	1	5	9	13	17
P(x)	0.08	0.22	.25	0.15	0.30