Topic: Conditional Probability   **Date**: _____

Learning Objective(s) _____:

_____

_____

Main Ideas/ Questions	Notes
Main Ideas/ Questions 'OR' Characteristics	**Notes** **Conditional Probability** – The _____ which a 2nd event will occur AFTER the 1st event has _____ occurred P(A | B) = Find P(A) 'given' event B has already happened → $\frac{P(A \cap B)}{P(B)}$ **Written as a fraction first! ***These are _____ events!****

1.   P(Jack | red card)

2.   P(red card | Jack)

3.   A face card randomly drawn from a deck is a king.

4.   A queen randomly drawn from a deck is a diamond.

5.   P(King | even card)

6.   The probability that a student is passing Geometry is 73%. The probability of a student passing Geometry and passing the EOC is 65%. Find the probability that a student passes the EOC given that they are passing Geometry.

7.   The probability that Patricia smokes is $\frac{4}{7}$. The probability that she smokes and develops lung cancer is $\frac{2}{5}$. Find the probability that Patricia develops lung cancer given that she smokes.

Notes

Two-Way Frequency Tables – When data is collected and **_COUNTED_** and _____ descriptions are possible

	SUV	Sports	Total
Male	21		60
Female		45	180
Total			240

Examples

Using the table above, answer the following questions.

1. What is the probability of a person being a female?

2. What is the probability of a being a male and owning a sports car?

3. What is the probability of a male owning a sports car?

4. What is the probability of being a female or owning an SUV?

5. What percent drives an SUV?

6. What is the probability of a female driving an SUV?

7. Find the P(Male)'

8. Find the P(female and owning a sports car)

9

Notes

	Math	Science	Language Arts	Social Studies
9th				
10th				

Fill in the table with the information below. Then, find the probability of each scenario.

1. Out of 350 10th graders, 10% liked Math, 40% liked Science, 24% liked Language Arts, and 26% liked Social Studies as their favorite subjects.

2. There were a total of 100 students who liked Math, 200 who liked Science, 120 liked Language Arts, and 140 liked Social Studies.

3. P($\overline{Math}$)

4. P(10th grader and likes language arts)

5. P(9th grader ∩ Science)

6. P(Math ∪ 10th grader)

7. P(Language Arts | 9th grader)

8. What is the probability that a 10th grade student likes Social Studies?

9. P(9th grader | Math)

10