Name:_____ Date:_____
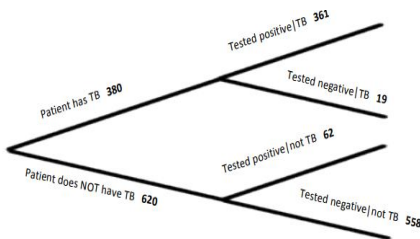
Conditional Probability

Conditional Probability: Conditional probability is the measure of an event, given that another event has occurred.

Example: What is the probability that given a student is in room D302 is wearing sneakers?

Tree Diagram	Venn Diagram	Two-Way Tables
This tool helps us calculate the number of possible outcomes and organize our data in branches.	This tool shows groups and which elements that belong to each group.	This tool organizes data about two categorical variables. These are often used to summarize large amounts of information.

Tree Diagram

Patient has TB **380**
— Tested positive|TB **361**
— Tested negative|TB **19**

Patient does NOT have TB **620**
— Tested positive|not TB **62**
— Tested negative|not TB **558**

Example:
1. $(test + |TB) \rightarrow$ reads the patients who tested positive given they have TB
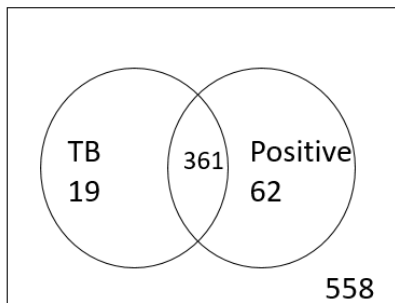
$(test + |TB) =$

2. $(test - |TB) \rightarrow$ reads the patients who tested negative given they have TB $(test - |TB) =$

Venn Diagram

TB
19   361   Positive
                62

558

Example:
I.   How many patients have TB and tested positive?

2.   What is the probability that a patient does not have TB and tests negative?

Two-Way Tables

	TB	No TB	Total
+	361	62	423
-	19	558	577
Total	380	620	1000

Example:
I. What is the probability that a patient does not have TB?