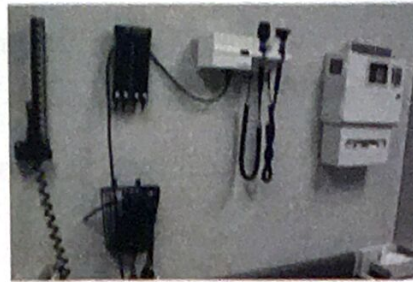


## 8-1-1 ##

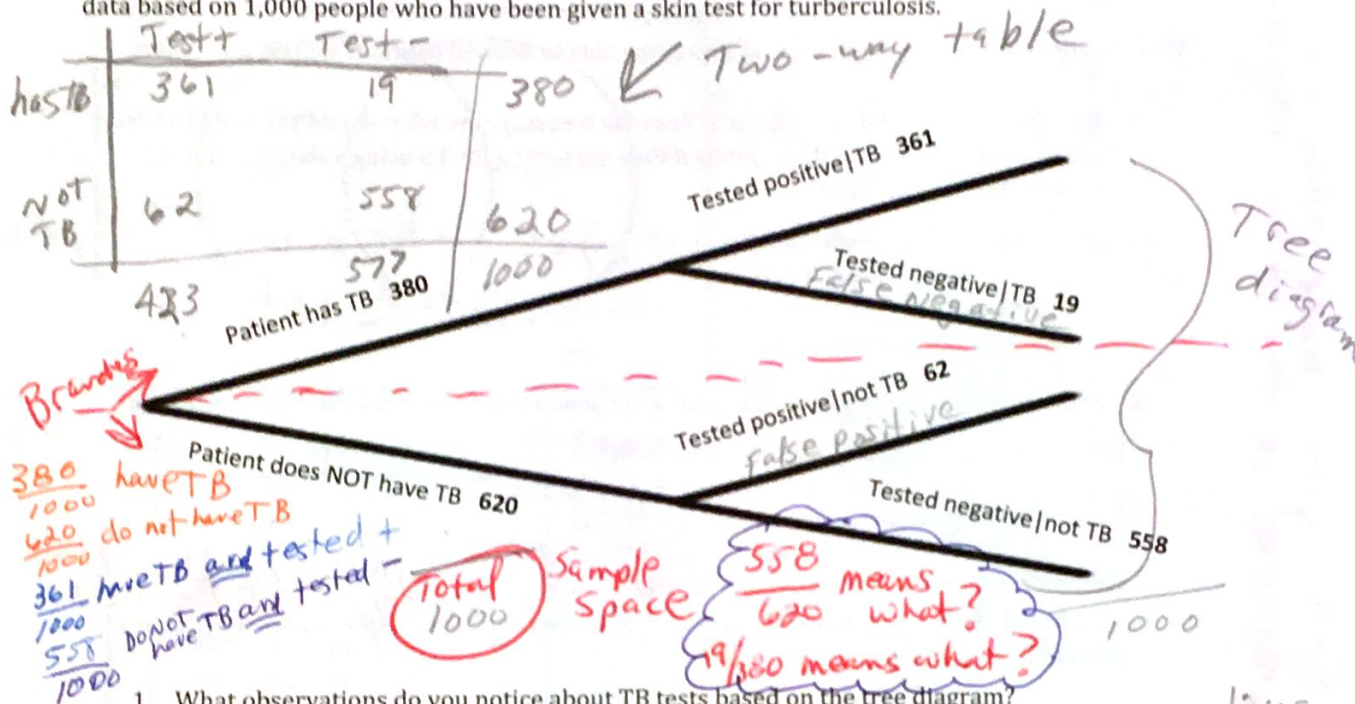
## 8.1 TB or Not TB?

### A Develop Understanding Task



CC BY https://file:///p/xxebv

Tuberculosis (TB) can be tested in a variety of ways, including a skin test. If a person has tuberculosis antibodies, then they are considered to have TB. Below is a tree diagram representing data based on 1,000 people who have been given a skin test for tuberculosis.



- What observations do you notice about TB tests based on the tree diagram?  
False positives are more likely than false negatives. more than 1/3 of the population has T.B.
- You may have noticed that 380 patients have TB, yet not all 380 patients with TB tested positive. In statistics, the notation: "Tested negative | TB" means 'the number of patients who tested negative, given that they have TB'. Determine the probability that a person who has TB could receive a negative result compared to others who have TB. What does this mean?

$$\rightarrow P(N|TB) = \frac{19}{380}$$

Probability that someone tests negative GIVEN they have TB 2%

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$$P(TB) = \frac{380}{1000}$$

Probability someone has TB 38%

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