

2011Q2

$$(a) P(\text{party Y} | \text{male}) = \frac{48}{200} = .24$$

$$(b) P(\text{party Y} | \text{male}) = \frac{48}{200} = .24$$

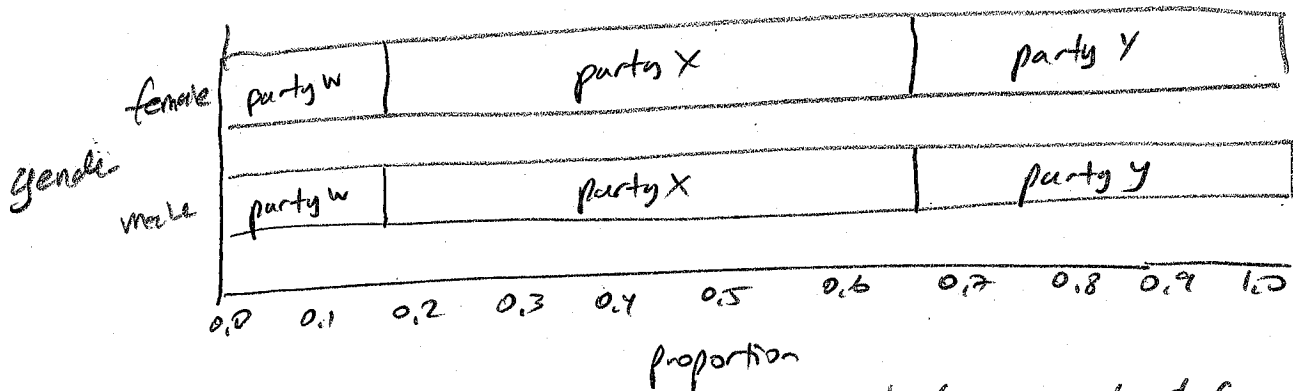
$$P(\text{party Y}) = \frac{168}{500} = .336$$

Because the probability of party Y is different for males vs. for all people, the events "is a male" and "is registered for party Y" are not independent.

(c) in Lawrence township overall % of parties match Franklin:

$$\% \text{ party W} = \frac{88}{500} = .176, \quad \% \text{ party X} = \frac{244}{500} = .488, \quad \% \text{ party Y} = \frac{168}{500} = .336$$

but in Lawrence party is independent of gender:



(percentages would match between male & female)