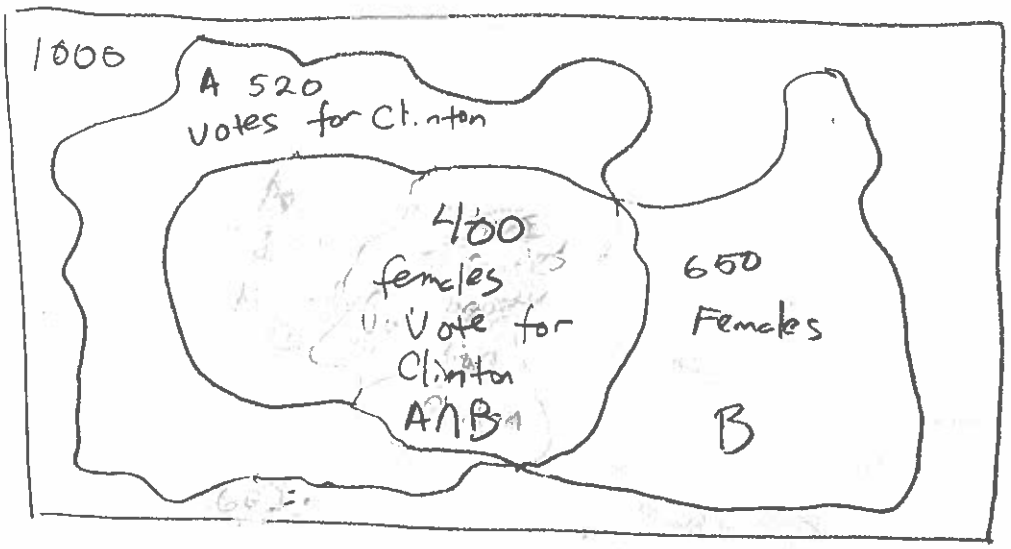
A sample of 1000 voters



(Not scaled very well, but you get the idea!)

$P(B) = .65$

$P(A) = .52$

$P(A \cap B) = .40$

We know a vote was cast by a female. What is the probability the vote was for Clinton?

$$P(A|B) = \frac{\text{area } A \cap B}{\text{area } B} = \frac{Pr(A,B)}{Pr(B)} = \frac{.4}{.65} = .61$$

The knowledge that a voter was female changed the probability of a vote for Clinton from .52 to .61.