Sampling with and Without Replacement

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Sampling with replacement	Sampling without replacement
Binomial distribtuion	Hypergeometric distribution model (WITHOUT repl)
Trials are independent of one another	Trials are NOT independent
Can be used instead of hypergeometric ifN is large and Pr(success) is small	Useful when N is small, and trials are non independent

Hypergeometric distribtuion:
- Trials are not completely independent from one another
- Trying to esimtate proportion of failrues/surceesses or prescnese/absense but iwthout reclacement
- Outcome of first trial effects second trial ebcause proprotion of reds and whites is not the same
- Not used very often with large sample sizes

Recap
- Discrete is counts
- Combinations and permutations
- Bernoulli, binomial, and poisson distributions