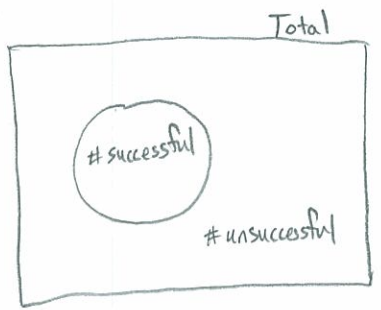


C1 Probability and odds



Probability = $\frac{\# \text{ successful outcomes}}{\text{total } \# \text{ of outcomes}}$

Odds For = $\# \text{ successful} : \# \text{ unsuccessful}$

Odds Vs. = $\# \text{ unsuccessful} : \# \text{ successful}$

Sample spaces are useful for simple problems.

- Tree diagram
- Grid

C2 Probability and Counting Methods

Probability = $\frac{\# \text{ successful outcomes}}{\text{total } \# \text{ of outcomes}}$

} use permutations and combinations to help determine # of outcomes.

Permutation: Order Matters, nPr

Combination: Order doesn't Matter, nCr or $\binom{n}{r}$

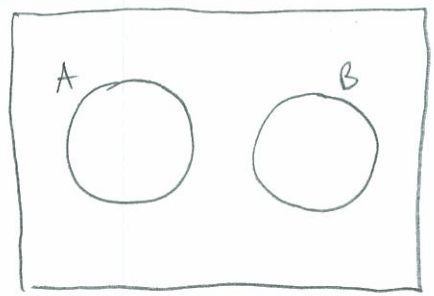
↳ remember to consider repetitions and restrictions.

Probability

C3 Mutually Exclusive Events

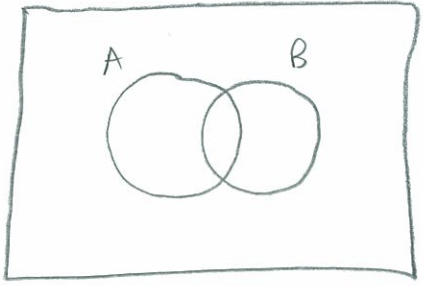
- OR problems

Mutually Exclusive



$P(A \cup B) = P(A) + P(B)$

Non-Mutually Exclusive



$P(A \cup B) = P(A) + P(B) - P(A \cap B)$

- Drawing Venn diagrams is useful when solving these problems.

C4 Dependent and Independent Events

- AND problems

Independent

$P(A \cap B) = P(A) \cdot P(B)$

Dependent

$P(A \cap B) = P(A) \cdot P(B|A)$

- Probability tree diagrams are useful when solving these problems.

