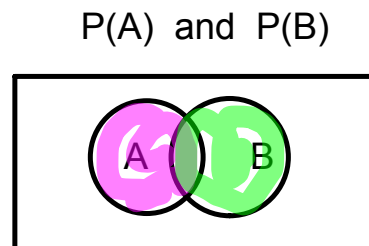
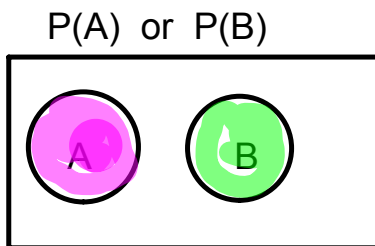


Lecture 3.3 Addition Rule for Probability and Mutually Exclusive

Assign: p161 - 165 1 - 18 all ; 10 - 28 evens (on 26 skip 'e')

Mutually Exclusive is when events A and B cannot occur simultaneously.



where they overlap is the 'and'

Decide if the events are mutually exclusive..

Ex #1. Draw one card: A is draw a 10. B is draw a King.

Ex #2. Select a student: A is select a male student. B is select a nursing student.

Ex #3. Select a blood donor: A is the donor's blood is type O.  
B is a female.

Formal Addition Rule:  $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$

If events A and B are mutually exclusive, then the rule can be simplified to

$$P(A \text{ or } B) = P(A) + P(B)$$

Ex #1. Given the numbers 0, 1, 2, ..., 9, what is the probability of picking a number that is odd or above 6.

Ex #2. What is the probability of picking a 10 or a heart from a deck of cards?

Ex #3.

		O	A	B	AB	total
Rh	Positive	156	139	37	12	344
Factor	Negative	28	25	8	4	65
	Totals	184	164	45	16	409

Ex #3A Find the probability that the donor has type O or type B blood.

Ex #3B. Find the probability that the donor has type B blood or is Rh-negative.