Notes 3.3 The Addition Rule

1. Two events A and B are _____ if A and B _____
   _____.

   Example 1:   Decide if the events are mutually exclusive.

   a. Select a card from a standard deck   A: The card is a jack   B: The card is a face card

   b. Select a student: A: The student is 20 years old.   B. The student has blue eyes.

   c. Selected a registered vehicle: A: The vehicle is a Ford.   B. The vehicle is a Toyota.

2. **The Addition Rule for the Probability of A or B**

   If events A and B are mutually exclusive, then the rule for addition is _____.

   If events A and B are not mutually exclusive, then the rule for addition is _____

   Example 2:

   a. You select a card from a standard deck. Find the probability that the card is a 9 or a King.

   b. You roll a die. Find the probability of rolling a number greater than 3 or an odd number.

   c. A card is selected from a standard deck. Find the probability that the card is a 10 or a heart.

   Example 3: A blood bank catalogs the types of blood, including positive or negative Rh-factor, given by donors during the last five days. The number of donors who gave each blood type is shown in the table.
   A donor is selected at random.

   1. Find the probability that the donor has type O or type A blood.

   2. Find the probability that the donor has type B blood or is Rh-negative.

		O	A	B	AB
RH – factor	**Positive**	156	139	37	12
	Negative	28	25	8	4

   3. Find the probability that the donor has type B or type AB blood.

   4. Find the probability that the donor has type A blood or is Rh-positive.

Assignment: