Week 2 Homework and Quiz Review

1. True/False. 2.13 in valid probability. ANSWER: False

2. True/False. The union of two events is the probability of both events occurring. ANSWR: False

3. Determine if each variable below is discrete or continuous:
   - Number of cars in the parking lot. ANSWER: Discrete
   - Width of tree trunk. ANSWER: Continuous

4. Given: We have a sample space S with several events defined on it. S={2, 4, 6, 7, 9, 12}. And the events are X={2, 6, 7} and Y={4, 6, 12}.
   - What is contained in X ∩ Y? ANSWER: {6}
   - What is contained in X U Y? ANSWER: {2, 4, 6, 7, 12}
   - What is the complement of Y (NOT in Y) compare to original set? ANSWER: {2, 7, 9}

5. Consider the following probability of distribution of number of people we are likely to find waiting in line at a restaurant.

Number waiting	P(x)
0	.50
1	.30
2	.10
3	.10

   - What is the average (mean)? ANSWER: 0.80
   - What is the standard deviation? ANSWER: 0.98
   - What is P(x=1)? ANSWER: 0.30
   - What is P(x>1)? ANSWR: 0.20

6. Consider the following contingency table in which a sample of companies is summarized in terms of the company's industry type (manufacturing and retail) and country (US, Canada, Mexico).

	Manufacturing	Retail	TOTAL
US	10	15	25
Canada	7	4	11
Mexico	6	3	9
TOTAL	23	22	45