Unit 9 Lesson 5 Homework Set

1. For an outdoor concert at the Hollywood Bowl, concert organizers estimate that 14,000 people will attend if it is not raining. If it is raining, concert organizers estimate that 8400 people will attend. On the day of the concert, meteorologists predict a 70% chance of rain. What is the expected number of people who will attend this concert?

2. Candace Parker is a star player for the University of Tennessee Volunteers women's basketball team. She has injured her ankle, and it is doubtful that she will be able to play in an upcoming game. If Candace can play, the coach estimates that the Volunteers will score 78 points. If Candace is not able to play, the coach estimates that they will score 62 points. The team doctor estimates that there is a 50% chance Candace will play. How many points should the team can expect to score?

3. The NBC television network is scheduling its fall lineup of shows. For the Thursday night 8 PM slot, NBC has selected the show *Heroes*. If its rival network CBS schedules the show *CSI: Crime Scene Investigation* during the same time slot, NBC estimates that *Heroes* will get 1.2 million viewers. However, if CBS schedules the show *The Unit* during that time slot, NBC estimates that *Heroes* will get 1.6 million viewers. NBC believes that the probability that CBS will show *CSI* is 0.4 and the probability that CBS will show *The Unit* is 0.6. What is the expected number of viewers for the show *Heroes*?

4. Based on his past baseball history, Jim Devias has a 17% chance of reaching first base safely, a 10% chance of hitting a double, a 2% chance of hitting a triple, an 8% chance of hitting a home run, and a 63% chance of making an out at his next at bat. What is Jim's expected number of bases for his next at bat?

5. The academic vice president at a College has requested that new academic programs be added to the college curriculum. If the college's Board of Trustees approves the new programs, the college will hire 75 new employees. If the new programs are not approved, the college will hire only 20 new employees. If the probability that the new programs will e approved is 0.65, what is the expected number of new employees to be hired by the college?

6. Dunkin' Donuts is opening a new store. The company estimates that there is a 75% chance the store will have a profit of $10,000, a 10% chance the store will break even, and a 15% chance the store will lose $2000. What is the expected gain or loss for this store?

7. On a clear day in Boston, the Automobile Association of America (AAA) makes an average of 110 service calls for motorist assistance, on a rainy day it makes an average of 160 service calls, and on a snowy day it makes an average of 210 service calls. If the weather in Boston is clear 200 days of the year, rainy 100 days of the year, and snowy 65 days of the year, what is the expected number of service calls made by the AAA in a given day?