6.65, 6.68, 6.70, 6.71, 6.72, 6.73, 6.74, 6.76 (you can ignore the letters and just find P(spade flush) and P(any flush), 6.78

1. A survey of NPHS students found that 36% said that they would be interested in going to Jupiter. Of those who wanted to go to Jupiter, 60% were not seniors. Of those who did not want to go to Jupiter, 30% were seniors.
   a) Create a tree diagram for this situation.

What is the probability that a randomly selected
   b) Student wanted to go to Jupiter?
   c) Student was a senior and wanted to go to Jupiter?
   d) Student was a senior?
   e) Senior wanted to go to Jupiter?
   f) Given that a student wants to go to Jupiter, what the probability that they were a junior??
   g) Create a Venn Diagram for this situation.
   h) Fill in the two-way (contingency) *percent* table with the information.

	Jupiter	Not Jupiter	Totals
Senior			
Not senior			
Totals			1

Relative Frequency Table (based on 100%)

   i) If 500 students were surveyed, fill in the two-way (contingency) counts table with the information.

	Jupiter	Not Jupiter	Totals
Senior			
Not senior			
Totals			500

Frequency Table

2. When the male students at NPHS were asked, 50% said that their prom date was not someone from NPHS. When the female students were asked, 40% said their prom date was not someone from NPHS. The male students make up 52% of the student population.
What is the probability that a randomly selected
   a. Student does not take someone from NPHS to prom?
   b. Student is female?
   c. Student is female and does bring a date from NPHS?
   d. Student is male, given that they are bringing a date from NPHS?

3. Marlin is searching for his son, Nemo. He runs into Dorey during his search and she offers to help him. The probability of Marlin accepting Dorey's help is 85%. The probability of Marlin using Dorey's help and finding Nemo is 70%. Find the following probabilities.

	Dorey	No Dorey	Totals
Finds Nemo	.7	.1	.8
Doesn't find Nemo	.15	.05	.2
Totals	.85	.15	1

If a student is chosen at random from the Statistics classes, what is the probability that…
   a. Marlin finds Nemo.
   b. Marlin uses Dorey's help and does not find Nemo.
   c. Marlin does not find Nemo, given that he used Dorey's help.
   d. Marlin used Dorey's help, given that the found Nemo.

5. We wish to look at probabilities concerning whether students own a dog or have a cell phone. We poll 400 students at NPHS. Of the 400 students, 132 own a dog. Eighty-four (84) students owning a dog have a cell phone.
One hundred forty (140) students without a dog have a cell phone
   a. What is the probability that a student has a dog and a cell phone?
   b. What is the probability that a student is without both a dog and a cell phone?
   c. What is the probability that a student does not have a dog, if he/she does not have a cell phone?
   d. What is the probability that a student with a cell phone has a dog?
   e. What is the probability that a dog-owning student has a cell phone?