ALGEBRA II REVIEW PROBLEMS
(Chapter 12)

Answer the following:

1. Find the following probabilities of selecting a card from a standard deck of 52 cards:

a. P(black card) **b.** P(red jack)

2. You toss a coin and roll a die. Find the probability of getting a head and an even number.

3. A single die is rolled. Find the probability of getting:

a. A number greater than 3 or an odd number

b. A number greater than 3 and an odd number

4. If three dice are rolled, find the probability of getting triples (1-1-1, 2-2-2, 3-3-3 etc).

5. A die is loaded so that the number 6 comes up three times as often as any other number. What is the probability of rolling a 1 or 6?

6. An event A will occur with probability 0.5 and an event B will occur with probability of 0.6. The probability that both A and B will occur is 0.1. Find the conditional probability of A given B.

7. Below is a table of suicides committed in a recent year classified by gender and whether or not a firearm was used:

	Male	**Female**
Firearm	16,381	2,559
Other	9,034	3,536

a. P(a firearm was used)

b. P(firearm | female)

c. P(female and firearm)

d. P(firearm | male)

e. P(male | firearm)

8. Suppose that 8% of the patients in a small town are known to have heart disease. And suppose that a test is available that is positive in 96% of the patients with heart disease but is also positive in 7% of patients who do not have heart disease.

a. Draw a tree diagram with all probabilities marked

b. If a person from the town is selected at random and given the test and it comes out positive, what is the probability that the person actually has heart disease?

9. Mark has applied to both Harvard and the University of Florida. He thinks the probability that Harvard will admit him is 0.4, the probability that Florida will admit him is 0.5 and the probability that both will admit him is 0.2.

a. Make a Venn diagram with the probabilities marked

b. What is the probability that neither university admits Mark?

ANSWERS

1a. .5000

1b. .0385

2. .2500

3a. .8333

3b. .1667

4. .0278

5. .5000

6. .1667

7a. .6011

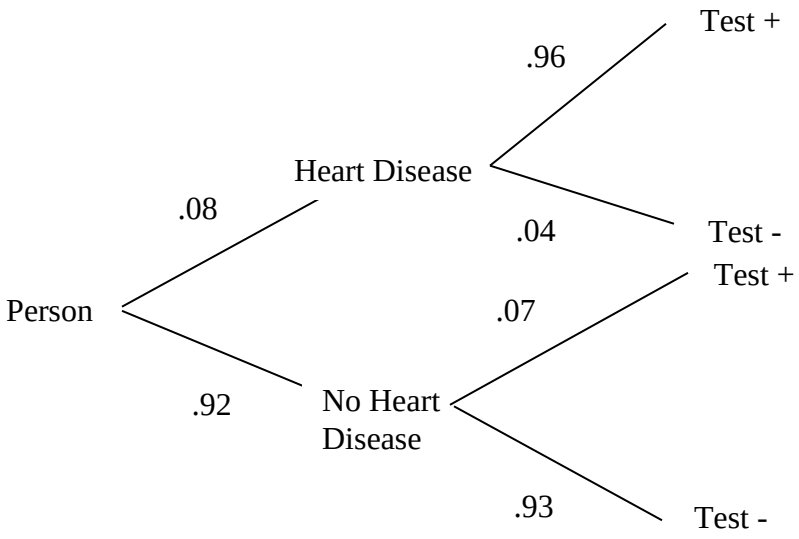
7b. .4199

7c. .0812

7d. .6445

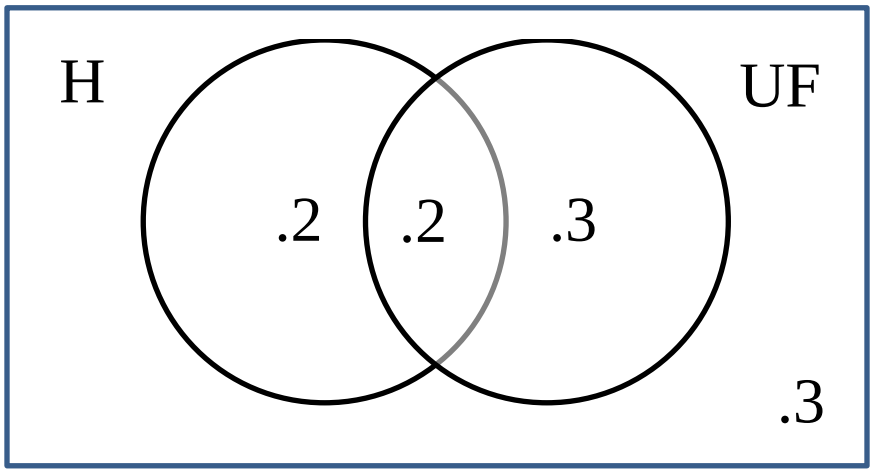
7e. .8649

8a.



8b. .5439

9a.



9b. .3000