Problem 1

The grade distribution for Professor Jones' Math 113 courses is as follows:

        14% A,   39% B,   24% C,   5% D,   16% W.

1.   Write a probability distribution for the grades in Math 113.

A	B	C	D	F	W

2.   A student is randomly selected from the course. Find the probability that he or she receives ...

        a.   an F

        b.   an A or B

        c.   anything but a W

3.   Three randomly selected students are chosen. Find the probability that ...

        a.   All three receive a B

        b.   All of them pass with a C or better

        c.   No one receives a C

        d.   At least one of them withdraws (W)

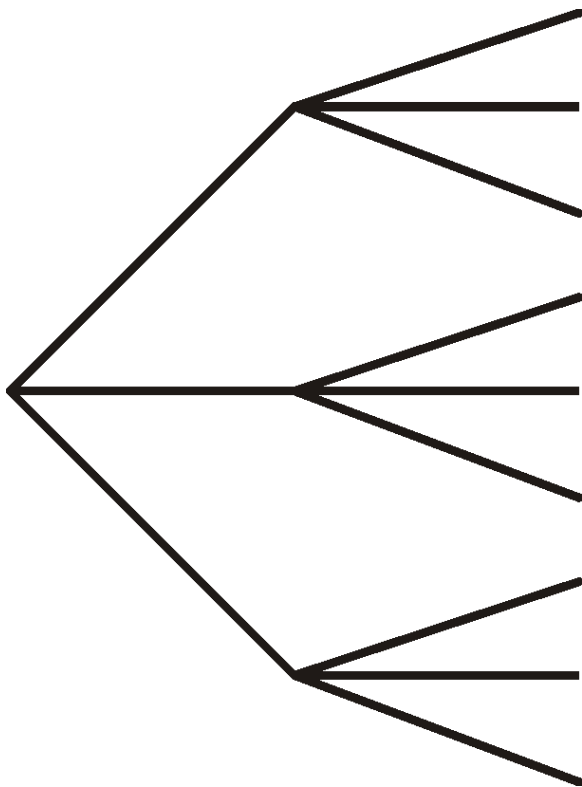   e.   The third student is the only one to get an A

Problem 2

Three professors have taught Math 113 at Richland since 1997.

- Professor Alpha teaches 75% of the students and 77% of his students pass with a C or better, 7% get a D or F, and the rest withdraw.
- Professor Bravo teaches 21% of the students and 67% of his students pass with a C or better, 30% withdraw, and the rest get a D or F.
- Professor Charlie teaches the rest of the students and 3% of his students get a D or F, 29% withdraw, and the rest pass with a C or better.

Abbreviate the professor's names with A, B, or C. Let event P be passing with a C or better, event F be getting a D or F, and event W be withdrawing from the course.

1.   Create a tree diagram depicting this situation. Completely and correctly label the tree diagram.

2. Use the tree diagram to complete the joint probability table. Write all probabilities as decimals with four decimal places.

	A, B, or C	D or F	Withdraw	Total
Alpha				
Bravo				
Charlie				
Total				

3. Use the joint probability table to find the probabilities of the following.

   a. That a student had Professor Alpha and passed with a C or better.

   b. That a student had Professor Bravo and withdrew.

   c. That a student received a D or F in the class.

   d. That a student passed with a C or better.

   e. That a student had Professor Alpha or passed with a C or better.

   f. That a student had Professor Alpha or Professor Bravo.

   g. That a student who passed with a C or better took Professor Bravo.

   h. That a student who withdrew took Professor Alpha.

   i. That a student who withdrew passed with a C or better.