Probability: Everyday Decisions Based on Probabilities (Group Project)
<u>Stocks and Risk</u>

Javier will be a senior in high school next year. To celebrate his graduation, his grandmother gave him a sizable amount of money. Since he has scholarship for college, Javier decided to investigate investing the money in stocks. He talked to a consultant, who explains some of her investment types and their returns as compared to the market average. Javier's choices were to invest in high- or low-capital stock and domestic or international. These stocks were either average or below average.

The following is a summary of the data for the last quarter:

- 58% of the stocks were high-capital.
- 86.2% of the high-capital stocks and 95% of the low-capital stocks were domestic.
- 84% of the high-capital, domestic stocks were below average.
- 85% of the high-capital, international stocks were average.
- 80% of the low-capital, domestic stocks were average.
- 40% of the low-capital, international stocks were below average.

1.) Draw a tree diagram of the data.

2.) If a stock is chosen at random, what is the probability that it is high-capital, domestic, and average?

3.) If a stock is chosen at random, what is the probability that it is low-capital, international, and average?

4.) What percent of high-capital and international stocks were below average?

5.) What percent of high-capital and international stocks were below average?

6.) What percent of international stocks was average?

7.) What percent of the domestic stocks was average?

8.)   Using the data, estimate the probability that a high-capital domestic stock preforms at average?

9.) Using the data, what type of stock would you suggest Javier invest in if he wants to limit his risk? Explain your choice.

10.) Use your tree diagram to write three facts that would help Javier decide in which types of stocks to invest.