Homework 7, Your Name.

Problem #1 (Make sure to use R when appropriate for carrying out the calculations, showing your work)

5.48

5.50

5.57 (No need to provide the tree diagram in (a), just calculate the probabilities of intersections)

5.62

6.5

6.12 (No need to sketch the tree)

Problem #2 (+ 2 bonus pts)

For an arbitrary **discrete** random variable:

1. Using formula from definition of $E[X]$ (slide #9), derive the form of $E[aX + b]$ as a function of a, b and $E[X]$.
2. Using formula from definition of $V[X]$ (slide #11) and result from part 1, derive the form of $V[aX + b]$ as a function of a, b and $V[X]$.