Name_____   Date_____   Period _____

Weighted Probability Trees

1. A basketball player shoots two free throws. The player has a 60% shooting record.
    a. Make a weighted probability tree to show all possible outcomes and their probabilities.

    b. What is the probability that the player will make both free throws?

    c. What is the probability that the player will miss both free throws?

    d. What is the probability that the player will only make one of the free throws?

2. Two teams A and B meet in two games. Either A or B must win any game. The probability of A winning any game is $\frac{3}{10}$.
    a. Make a weighted probability tree to show all possible outcomes and their probabilities.

    b. What is the probability of B winning any game?

    c. What is the probability that A wins the first game and B wins the second game?

    d. What is the probability that A wins **both** games?

    e. What is the probability that A wins **at least** one game?

3. The letters in the word MATH are written on separate slips of paper and placed in hat 1. The letters in the word FRACTION are each written on separate slips of paper and placed in hat 2. One slip of paper is drawn from each hat. We are looking for <u>vowels</u>.
   a. Make a weighted probability tree to show all possible outcomes and their probabilities.
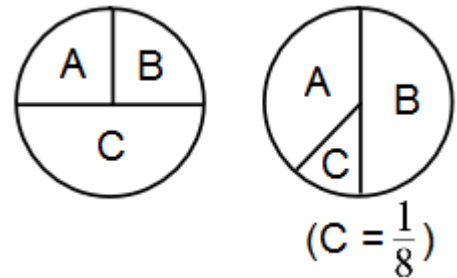
   b. What is the probability that two vowels will be drawn?

   c. What is the probability that only consonants will be drawn?

   d. What is the probability that one vowel and one consonant will be drawn?

4. At right are two spinners which are spun in succession.
   a. Make a weighted probability tree to show all possible outcomes and their probabilities.

$$(C = \frac{1}{8})$$

   b. What is the probability of spinning **at least** one C?

   c. What is the probability of spinning a match (AA, BB, CC)?

   d. Which match is more likely? Explain.