Unit Test
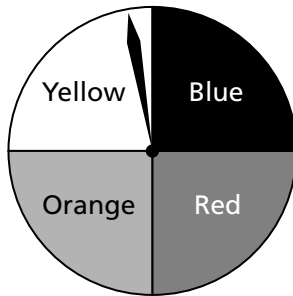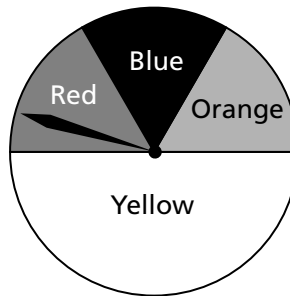
1. Three chips are tossed. The red chip has a side A and a side B. The yellow chip has a side B and a side C. The blue chip has both sides marked A.

    a. Which is greater: the probability of getting exactly 2 Bs or the probability of getting exactly 2 As? Explain your reasoning.

    b. What is the probability of not getting at least one B?

    c. What is the probability that none of the three sides match?

2. Two identical containers contain marbles. Container 1 has 2 white marbles and one red marble. Container 2 has one white marble and one red marble. Suppose you select a container at random and then draw out a marble. What is the probability of drawing a white marble?

3. Tua has created a new game called Making Green. To play the game, a player spins twice. If the player gets blue in one section and yellow in the other, the player wins, because blue and yellow together make green. The player can choose either spinner for either of their two spins.

Spinner A   **Spinner B**

    a. Tua spins Spinner A once and Spinner B once. What is the probability she will get green? Explain.

    b. Is there a different choice of selecting the spinners to make the probability of making green greater than that in part (a)? Explain your reasoning.

Unit Test (continued)

4. A family has exactly three children. What is the probability that they have

   a. a girl, a boy, and a girl in that order?

   b. exactly two boys?

   c. all girls?

5. You are offered the following choices for baby sitting:

   $6 per job or the amount of money you get by drawing two bills from a bag containing one $10 bill and four $1 bills. (You do not replace the first bill you draw.)

   a. How much money could you expect to average per hour over the long run if you select to draw out of the bag each time you baby sit?

   b. Which plan would you choose?