Is It Fair?
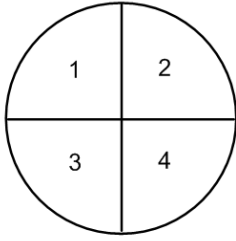
Name _____ Date _____ Period _____

Directions: Determine if each situation is fair or unfair. Justify your answer.

1. Jordan flips a coin to see who will wash the dishes. If the coin lands heads up, he will wash the dishes. If the coin lands tails up, his sister will wash the dishes.

2. A bag of marbles contains 7 blue marbles, 4 red marbles, and 3 white marbles. If a player pulls a blue marble, player 1 gets a point. If a red or white marble is pulled, player 2 gets a point.

3. The letters from the word "mathematics" are written on separate cards and placed in a box. Katie chooses a card without looking. She scores 1 point for a vowel. Kayla scores a point if it is a consonant.

4. A spinner has 7 equal sections numbered 1 through 7. Player 1 receives a point if the arrow lands on an even number. Player 2 receives a point if the arrow lands on an odd number.

5. You are playing a game with a 6 sided number cube. If you roll a 4 or greater, you get a point. If your friend rolls a 3 or less, he/she gets a point.

6. Riley, Jaylan, and Madison are tossing two pennies. After each player tosses the two coins, one player receives a point based on the outcome:
    - 2 heads: Riley gets a point
    - 2 tails: Jaylan gets a point
    - 1 head, 1 tail: Madison gets a point
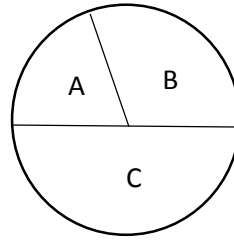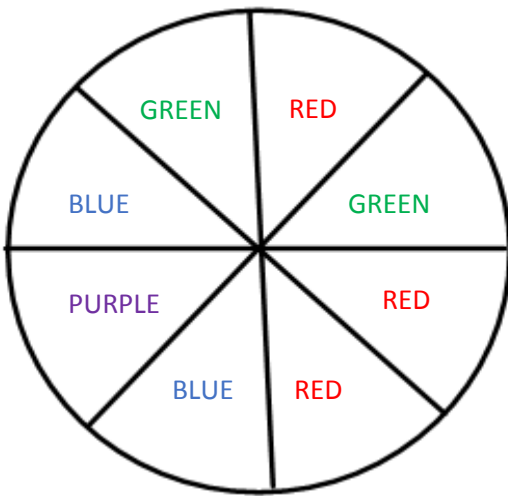
7.

1	2
3	4

8.

A | B

C

9.

GREEN RED

BLUE GREEN

PURPLE RED

BLUE RED

Is It Fair?
ANSWER KEY

1. Jordan flips a coin to see who will wash the dishes. If the coin lands heads up, he will wash the dishes. If the coin lands tails up, his sister will wash the dishes.
   Yes, this is fair. There is an equal chance of heads and tails, ½.

2. A bag of marbles contains 7 blue marbles, 4 red marbles, and 3 white marbles. If a player pulls a blue marble, player 1 gets a point. If a red or white marble is pulled, player 2 gets a point.
   Yes, this is fair. Both player one and player 2 have an equal chance of getting a point, ½.

3. The letters from the word "mathematics" are written on separate cards and placed in a box. Katie chooses a card without looking. She scores 1 point for a vowel. Kayla scores a point if it is a consonant.
   No, this is not fair. Katie has 3/11 chance of getting a point, while Kayla has 8/11 chance.

4. A spinner has 7 equal sections numbered 1 through 7. Player 1 receives a point if the arrow lands on an even number. Player 2 receives a point if the arrow lands on an odd number.
   No, this is not fair. Player 1 has a 3/7 chance of getting a point, while player 2 has 4/7 chance.

5. You are playing a game with a 6 sided number cube. If you roll a 4 or greater, you get a point. If your friend rolls a 3 or less, he/she gets a point.
   Yes, this is fair. Each person has an equal chance of getting a point, ½.

6. Riley, Jaylan, and Madison are tossing two pennies. After each player tosses the two coins, one player receives a point based on the outcome:
   - 2 heads: Riley gets a point
   - 2 tails: Jaylan gets a point
   - 1 head, 1 tail: Madison gets a point

   No, this is not fair. Riley has a ¼ chance of getting a point, Jaylan has a ¼ chance, and Madison has a ½ chance.

7. Yes, this is fair. Each number has an equal portion on the spinner.

8. No, this is not fair. A, B, and C do not have equal portions on the spinner.

9. No, this is not fair. Each color does not have the same portion on the spinner.