Name_____ Date _____ Class Period _____

# 11.2 Worksheet - Theoretical Probability

1. A bag contains 15 red marbles, 15 blue marbles, 15 green marbles, 15 yellow marbles, 15 black marbles.
   a) How many total marbles are in the bag? _____
   b) Find the probability of randomly picking a red marble as a fraction, decimal, and percent.

P(red) = _____

2. A set of cards includes 15 yellow cards, 20 green cards, and 15 blue cards.

   a) How many total cards are in the deck? _____
   b) Find the probability of choosing a yellow card when a card is chosen at random. Write your answer as a fraction, decimal, percent.

P(yellow) = _____

   c) Find the probability of randomly choosing a card that is **not** yellow. Write your answer as a fraction, decimal, and percent

P(not yellow) = _____

3. Find the probability of randomly drawing a purple disk from a game with 13 red, 26 purple, 5 orange, and 6 white disks of the same size and shape. Write your answer as a fraction, decimal, percent.

P(purple) = _____

4. Sifu has 9 girls and 11 boys in his karate class. He randomly selects one student to demonstrate a self-defense technique.
   a) Find the probability of choosing a **girl**. Write your answer as a fraction, decimal, percent.

P(girl) = _____

   b) Find the probability of choosing a **boy**. Write your answer as a fraction, decimal, percent.

P(boy) = _____

5. A spinner is divided equally into 10 sections (shown at right). Find the probability of each event. Express each answer as a **simplified fraction**


P(odd number) = _____ P(greater than 3)= _____

P (less than 4) = _____ P(5) = _____

6. Use the sample space of rolling two number cubes to find the probability of each event when **two fair number cubes** are rolled. Express each answer as a **simplified fraction.**

P(total of 3) = _____ P (total of 4) = _____ P(total of 13) = _____

P (total less than 5) = _____ P (total more than 8) = _____

7. Use the sample space of a standard deck of cards to find the probability of each event when a random card is drawn from the deck. Express each answer as a **simplified fraction.**

P(jack) = _____ P(8) = _____ P(club) = _____

P(black ace) = _____ P(red card) = _____