

**Extra Practice 1****Lesson 1: Describing Probabilities**

1. Nadine is making bead necklaces. She puts 10 blue, 5 green, 5 yellow, 12 red, and 18 black beads in a bag. She reaches into the bag without looking and pulls out a bead. For each colour of bead, use words and a fraction to describe the probability that it will be picked from the bag.
2. Roos surveyed her classmates to find their favourite flavour of cookie. Fourteen students chose chocolate chip, 9 chose peanut butter, 2 chose oatmeal, and 1 student does not like any type of cookie. Roos puts each student's name in a hat. She pulls out a name without looking. What is the probability that she draws the name of someone whose favourite cookie flavour is:
  - a) oatmeal?
  - b) chocolate chip?
  - c) coconut?
  - d) no favourite flavour?

**Lesson 2: Probability and Percent**

1. Yannick is playing a game at the fun fair. Twenty-five small metal boats are floating in a large tub. Twenty boats are marked "Too bad!" on the bottom. Four boats are marked "Take another turn." One boat is marked "You win!" Yannick uses a magnet on a stick to pull a boat from the water. Use words, fractions, decimals, and percents to describe each probability.
  - a) Yannick loses on his first turn.
  - b) Yannick gets a second turn.
  - c) Yannick wins on his first turn.
2. A spinner is divided into 10 equal sectors:  
4 red, 3 yellow, 2 green, and 1 blue  
Use a fraction and a percent to describe the probability of each event.
  - a) The pointer lands on red.
  - b) The pointer lands on green.
  - c) The pointer lands on blue.
  - d) The pointer lands on brown.

**Extra Practice 2****Lesson 3: Tree Diagrams**

1. Ramon is building birdhouses. He can use cedar, pine, or spruce wood. Each house has a round opening that measures 4 cm, 5 cm, or 6 cm across. Ramon paints each house blue or green. Draw a tree diagram to show all the possible bird houses Ramon can make.
2. A game consists of drawing a card from a set labelled A, B, C, D, E and rolling a cube numbered 1 to 6. To win, you must draw A and roll 1 on the same turn. Draw a tree diagram to show all the possible outcomes of the game. What is the probability that you will win on your first turn?

**Lesson 5: Conducting Experiments**

1. Work with a partner.  
Remove the face cards from a standard deck of cards. Shuffle the face cards and place them in a pile on the desk, face down.
  - a) What is the theoretical probability that the top card is:
    - a red queen?
    - a black king?
    - the jack of diamonds?Explain how you found each probability.
  - b) Turn over the top card and record the result. Return it to the pile and reshuffle the cards. Repeat for a total of 12 trials. What is the experimental probability of turning over:
    - a red queen?
    - a black king?
    - the jack of diamonds?
  - c) Were the experimental probabilities the same as the theoretical probabilities? Explain why or why not.