

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Chapter 2 Practice Test

**Is each statement in questions 1 to 4 true (T) or false (F)?**

- The expected probability of tossing two tails in two coin tosses is 25%.
- The sum of the successful and unsuccessful trials in a probability experiment is often 1.
- The probability of rolling a sum of 3 with two dice is  $\frac{1}{18}$ .
- The experimental probability should approach the theoretical probability with an increased number of trials.
- A sample of 400 penguins was tagged last year in Antarctica. This year, of the 100 penguins caught and then released, 8 had been tagged. Estimate the size of the penguin population.
- What is the sum of successful and unsuccessful trials in a probability experiment? Explain your answer.
- A bowl of candy contains 25 toffees, 35 mints, 40 jujubes, and 50 jellybeans. Richard picks a candy without looking. What is the probability that he chose
  - a mint?
  - a jujube?
  - a toffee, knowing by the shape that he did not choose a jelly bean?
- Explain theoretical probability in your own words.
- A Euchre deck is made of 5s, 9s, 10s, aces, and face cards. What is the probability that a card randomly selected from a Euchre deck will be
  - a face card?
  - a red ace?
  - a 5 or a 9?
  - a 7 or a 2?
- The results of rolling one die are recorded in the table.

Outcome	Frequency
1	11
2	23
3	5
4	20
5	34
6	27

- Find the experimental probability of each outcome.
- What is the theoretical probability of each outcome?
- Does any outcome in this experiment match the theoretical probability?
- As more trials are performed, what would you expect to see occurring with the experimental probabilities? Explain.

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**BLM 2-11**

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- 11.** An 8 question true or false quiz is given to a class.
- a)** If Lee guessed every question, how many would she expect to be correct?
  - b)** Simulate this situation using a graphing calculator. Compare your results to the theoretical outcome.
- 12.** In the NHL, a team is given 2 points for a win, 1 point for an overtime loss, and 0 points for a loss in regulation. Your favourite team has 8 overtime losses and 5 wins in their first 30 games.
- a)** How many points do the team have?
  - b)** How many points will the team have after 80 games?
  - c)** What assumptions must you make for your answer to part b) to be correct?
  - d)** What is the likelihood of your answer to part b) being correct?
- 13.** A study shows that 4 out of 5 dentists recommend using toothpaste with fluoride.
- a)** What percent of dentists recommend toothpaste with fluoride?
  - b)** What fraction of dentists do not recommend toothpaste with fluoride?
  - c)** If 4000 dentists were surveyed, how many recommended toothpaste with fluoride and how many did not?
  - d)** If there are 25 000 dentists in a country where the survey was conducted, how many recommended toothpaste with fluoride and how many did not?
  - e)** Is it fair to apply the survey results to the whole population of dentists? Explain.