Name: _____ Date: _____

BLM 2–3

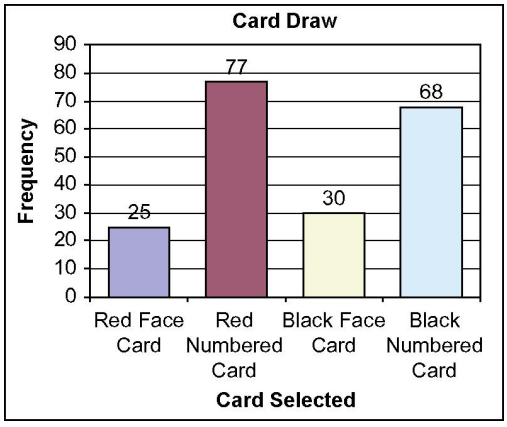
Section 2.1 Probability Experiments

1. In a probability experiment, 42 of the 70 trials were unsuccessful.
- **a)** Write the experimental probability of an unsuccessful event, as a fraction in lowest terms.
- **b)** What is the experimental probability of a successful trial, expressed as a fraction, a decimal, and a percent?

2. A card was selected from a deck of 52 cards, and then returned to the deck after each selection. After 50 trials, a total of 32 red cards were selected.
- **a)** Write the experimental probability of drawing a black card, expressed as a fraction in lowest terms.
- **b)** What is the experimental probability of drawing a red card? Show two different methods of finding the answer.

3. Explain what is meant by the term *successful outcome*.

4. The graph shows the results of repeatedly drawing one card from a deck of cards and replacing it after the outcome is recorded.



- **a)** How many times was a card selected from the deck?
- **b)** What is the experimental probability drawing of a black face card from the deck? Write your answer as a fraction, a decimal, and a percent.
- **c)** Determine the experimental probability of drawing a black numbered card from the deck. Write your answer as a fraction in lowest terms.
- **d)** Add your answers from parts b) and c) together. Express the sum as a fraction.
- **e)** Is this result what you expected? Explain.

5. Troy rolled a die 15 times. On 8 of those rolls, he got a 2.
- **a)** Express the experimental probability of rolling a 2 as a fraction, a decimal, and a percent.
- **b)** Is this outcome what you expected? Explain.

6. A manufacturing process rejects a batch of items if more than 1.5% of the items are defective.
- **a)** A batch of 400 items are tested. Will the batch be rejected if there are 5 defective items?
- **b)** If a batch of 2000 items were to be tested, how many could be defective before the batch would be rejected?

7. Scientists want to determine the number of deer living in an area of Northern Ontario. They catch and tag 300 deer, and release them. Over the next year, 125 deer are caught, and 15 of the deer have tags. Estimate the number of deer in the area.