

Practice 11.2

Solve. Show your work.

- 1 A bag contains 2 blue balls and 1 red ball. Winnie randomly draws a ball from the bag and replaces it before she draws a second ball. Use a possibility diagram to find the probability that the balls drawn are different colors.
- 2 A letter is randomly chosen from the word FOOD, followed by randomly choosing a letter from the word DOG. Draw a tree diagram to find the probability that both letters chosen are the same.
- 3 Three pebbles are placed in a bag: 1 blue, 1 green, and 1 yellow. First a pebble is randomly drawn from the bag. Then a fair four-sided number die labeled 1 to 4 is rolled. The result recorded is the number facing down. Use a possibility diagram to find the probability of drawing a yellow pebble and getting a 4.
- 4 Thomas rolled two number dice: a fair six-sided one and a fair four-sided one labeled 1 to 4. Use a possibility diagram to find the probability of rolling the number 3 on both dice.



- 5 A bike shop has 3 bikes with 20-speed gears and 2 bikes with 18-speed gears. The bike shop also sells 1 blue helmet and 1 yellow helmet. Use a possibility diagram to find the probability of getting an 18-speed bicycle and a blue helmet if one bike and one helmet is randomly selected from the shop.



- 6 Susan randomly draws a card from three number cards: 1, 3, and 6. After replacing the card, Susan randomly draws another number card. The product of the two numbers drawn is recorded.



- a) Draw a possibility diagram to represent all possible outcomes.
- b) Using your answer in a), what is the probability of forming a number greater than 10 but less than 30?
- 7 Jane and Jill watch television together for 2 hours. Jane selects the channel for the first hour, and Jill selects the channel for the second hour. Jane's remote control randomly selects from Channels A, B, and C. Jill's remote control randomly selects from Channels C, D, and E.
- a) Draw a possibility diagram to represent all possible outcomes for the channels they watch on television for 2 hours.
- b) Using your answer in a), what is the probability of watching the same channel for both hours?

- 8 A color disc is randomly drawn from a bag that contains the following discs.



After a disc is drawn, a fair coin is tossed. Use a possibility diagram to find the probability of drawing a red disc and landing on heads.

- 9 Karen tosses a fair coin three times. Draw a tree diagram to find the probability of getting the same result in all three tosses.
- 10 Mrs. Bridget wants to make pancakes. She has 3 types of flour: cornmeal flour, whole wheat flour, and white flour. She also has 2 cartons of milk: whole milk and low fat milk. However, all the types of flour and milk are not labeled, so she randomly guesses which types of flour and milk to use for her pancakes.
- a) Draw a tree diagram to represent all possible outcomes.
- b) Using your answers in a), find the probability that she will use cornmeal flour and low fat milk for her pancakes.