

Test, Form 3B

SCORE _____

Write the correct answer in the blank at the right of each question.

- 6 1. Derek's family is planning a trip to Asia. If they want to visit each of the cities listed in the table at the right, in how many different orders can they do so?

$$4 \times 4 = 16$$

City
Beijing
Shanghai
Taipei
Tokyo

1. 16

- 6 2. Employees at a company are given a five-digit employee identification code. If each digit cannot be repeated, how many different codes are possible?

$$5 \times 5 = 25$$

2. 25

- 6 3. There are 23 students in Mrs. Sinclair's Spanish class. Mrs. Sinclair will randomly select one student as president and a second student as vice-president. In how many different ways can they be chosen?

$$23 \times 1 = 23$$

3. 23

- 2 4. Adrian spun a spinner with 5 equal sections 85 times. Each section of the spinner was a different color. One of the colors was blue. The outcome of "blue" occurred 20 times. Compare the theoretical to the experimental probability of spinning blue.

$$\frac{1}{5} \times \frac{20}{85} =$$

4. $\frac{4}{85}$

- 4 5. The table at the right shows the voting preferences for registered voters. Describe a model that you could use to simulate the selection of a candidate.

Simulations

Candidate	Percent of Voters
Alvarez	20
Jones	40
Mulroney	25
Undecided	15

5. Simulations**Exercises 6 and 7, find the total number of outcomes that will be in each sample space.**

- 5 6. buying bedroom furniture if you can select one each from 8 dressers, 3 beds, 7 lamps, and 4 night tables

$$8 \times 3 \times 7 \times 4 = 672$$

6. 672

- 5 7. tossing a dime, a quarter, a penny, and rolling a number cube

$$2 \times 2 \times 2 \times 6 = 48$$

7. 48

- 6 8. How many ways can 5 friends sit together at the movies in 5 seats?

$$5 \times 5 = 25$$

8. 25

Test, Form 3B (continued)

SCORE _____

Use the spinner to find each probability.

1 9. $P(\text{odd number})$ $\frac{4}{7}$

1 10. $P(\text{not } 3)$ $\frac{6}{7}$

1 11. $P(4 \text{ or } 5)$ $\frac{2}{7}$

7 12. The spinner is spun twice. Find $P(1, \text{ then } 6)$.

$\frac{2}{49}$

A bag contains 4 white beads, 6 red beads, 5 yellow beads, and 5 blue beads. One bead is selected, kept, and another bead is selected.

7 13. Find $P(\text{red, then red})$.

$\frac{6}{20} \frac{5}{19}$

$\frac{3}{10} \frac{5}{19}$

$\frac{3}{38}$

13. $\frac{3}{38}$

7 14. Find $P(\text{blue, then yellow})$.

$\frac{5}{20}$

$\frac{5}{19}$

$\frac{25}{380}$

14. $\frac{15.2}{38}$

2 15. Farah rolled a number cube 84 times. The outcome of "2" occurred 12 times. Compare the theoretical to the experimental probability of rolling 2.

$\frac{1}{6} \times \frac{12}{84}$

15. $\frac{2}{84}$

Find each value.

6 16. $P(4, 4)$

16. $\frac{4, 3, 2, 1}{38}$

6 17. $P(6, 3)$

17. $\frac{6, 5, 4}{38}$

6 18. $P(9, 5)$

18. $\frac{9, 8, 7, 6, 5}{38}$

7 19. A bowl contains 8 pennies, 7 nickels, and 10 dimes. Elyse removes one coin at random from the bowl and does not replace it. She then removes a second coin at random. What is the probability that both will be nickels?

$8 + 7 + 10 = 25$ $\frac{6}{24}$

19. $\frac{42}{600}$

4 20. There are 26 prize tickets in a bowl, labeled A to Z. What is the probability that a prize ticket with a vowel will be chosen, not replaced, and then another prize ticket with a vowel will be chosen? Does this represent an independent or dependent event? Explain.

$\frac{5}{26} \frac{4}{25} \frac{20}{650}$

dependent because your not replacing it