

Test, Form 3B

SCORE _____

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

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?

City
Beijing
Shanghai
Taipei
Tokyo

they can go 24 different orders

$$p(1,4) 4 \times 3 \times 2$$

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?

2. 60 codes are possible

$$p(5,5) 5 \times 4 \times 3$$

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?

they can be chosen 464 ways

$$p(23,2) 22 \times 21$$

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.

4. do that 105 times



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.

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

5. 300,000

$$20 \times 40 \times 25 \times 15 = 300,000$$

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

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

6. 672

$$8 \times 3 \times 7 \times 4$$

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

7. 48

$$2 \times 2 \times 2 \times 6$$

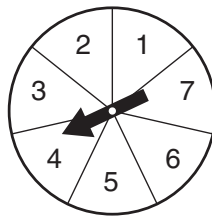
8. How many ways can 5 friends sit together at the movies in 5 seats?

8. 25 ways friends can sit together

$$5,5$$

Test, Form 3B (continued)

SCORE _____

Use the spinner to find each probability.9. $P(\text{odd number})$ 9. $\frac{4}{7}, 0.571, 57.14\%$ 10. $P(\text{not } 3)$ 10. $\frac{2}{7}, 3.5, 350\%$ 11. $P(4 \text{ or } 5)$ 11. $\frac{2}{7}, 3.5, 350$ 12. The spinner is spun twice. Find $P(1, \text{ then } 6)$. $6 \times 4 \times 5$ 12. $\frac{1}{20}$

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.

13. Find $P(\text{red, then red})$. $6 \times 5 \times 4 \times 3 \times 2$ 13. $\frac{7}{20}$ 14. Find $P(\text{blue, then yellow})$.

$$5 \times 4 \times 3 \times 2 =$$

14. $\frac{1}{20}$

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.

15. _____

Find each value.16. $P(4, 4)$ $4 \times 3 \times 2 \times 1$ 16. $\frac{2}{3}$ 17. $P(6, 3)$ $6 \times 5 \times 4$ 17. $\frac{1}{20}$ 18. $P(9, 5)$ $9 \times 8 \times 7 \times 6 \times 5$ 18. $\frac{1}{15,120}$

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?

19. $\frac{1}{5}$

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.

20. _____