Name Date

Unit Assessment

Probability

DIRECTIONS: Write the correct answer in the space provided.

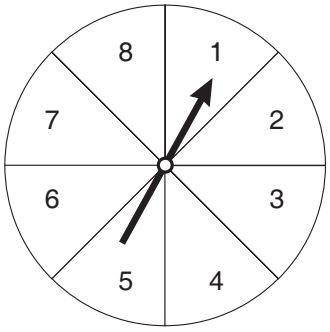
1. In how many different ways can 5 students be arranged for a group picture if all students must face forward and be in a straight line?

2. How many different 3-digit whole numbers can you make with the digits 1, 3, 5, 7, and 9 if no digit appears more than once in each number?

3. How many groups of 3 CDs can be selected from 10 CDs?

4. In how many ways can Lauren choose 4 science experiments to perform out of 7 possible experiments?

Directions for Exercises 5–9: Use the spinner for these 5 exercises.



Directions for Exercises 5–7: Find the probability that the pointer will stop on a wedge of the type described.

5. Even-numbered

6. 10

7. Numbered with a multiple of 3

Directions for Exercises 8–9: Find the odds that the pointer will stop on a wedge of the type described.

8. What are the odds in favor of the pointer stopping on a wedge with a number less than 7?

9. What are the odds against the pointer stopping on a wedge with a number less than 6?

Answers

1. 120

2. 60

3. 120

4. 35

5. 1/2

6. 0

7. 1/4

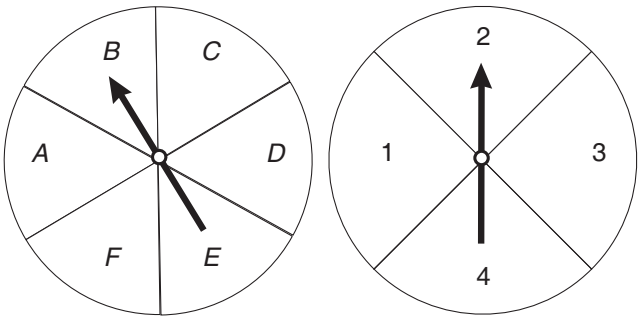
8. 3 to 1

9. 3 to 5

Unit Assessment

10. Events F and G are mutually exclusive. $P(F) = 0.43$, $P(G) = 0.38$. Find $P(F \text{ or } G)$.

Directions for Exercises 11–12: Both dials are spun. Find each probability.



11. F and 4 come up.

12. F or 4 comes up.

Answers

10. 0.81

11. 1/24

12. 3/8

Unit Assessment

Directions for Exercises 13–18: Use the space provided to explain your process.

13. A box contains 4 black checkers and 8 red checkers. A checker is drawn and replaced. Then a second checker is drawn. Find the probability that both checkers are red.

Answer: 2/3 X 2/3 = 4/9

14. A bag contains 5 purple discs and 10 green discs. A disc is drawn and replaced. Then a second disc is drawn. Find the probability that both discs are the same color.

Answer: 1/3 X 1/3 + 2/3 X 2/3 = 5/9

Directions for Exercises 15–16: A bag contains 3 green marbles and 7 white marbles. A marble is drawn and is not replaced. Then a second marble is drawn. Find the probability of each event.

15. The first marble is white and the second is green.

Answer: 7/10 X 3/9 = 21/90 = 7/30

16. Both marbles are green.

Answer: 3/10 X 2/9 = 1/15

17. Joshua has scored 9 of the last 12 soccer goals he has attempted. Estimate the probability that he will score on his next goal attempt.

Answer: 9/12 X 3/4 = 9/16 = 3/4 = 0.75

18. Mr. Taitt received a shipment of 1500 lightbulbs. He picked 20 bulbs at random and discovered that 1 was defective. Of the 1500 lightbulbs, how many would you predict are defective?

Answer: 75