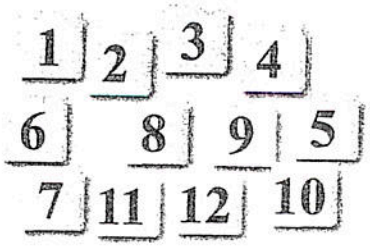
Probability and Statistics Practice

Date _____

You randomly choose one of the tiles shown. Find the number of ways the event can occur.

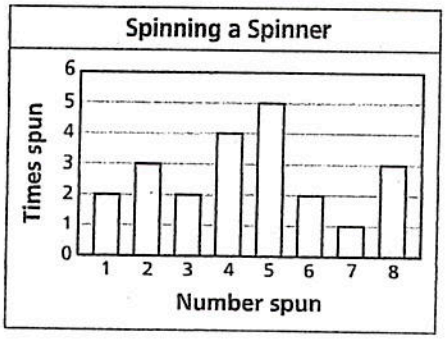


1. Choosing an even number
2. Choosing a number divisible by 6
3. Choosing a number greater than 7

You randomly choose a marble from a jar. The jar contains 4 red marbles, 10 blue marbles, 7 green marbles, and 6 yellow marbles. Find the probability of the event.

4. Choosing a green marble
5. *Not* choosing a blue marble
6. Choosing a yellow marble

Use the bar graph to find the experimental probability of the event.



7. Spinning a 3
8. Spinning a multiple of 4
9. Spinning a 5 or 7
10. Spinning a number greater than 3

Use the Fundamental Counting Principle to find the total number of possible outcomes. Then draw a tree diagram for each.

11.

Milkshake	
Size	Small, Medium, Large
Flavor	Vanilla, Chocolate, Strawberry, Mocha, Caramel

12.

Movies	
Genre	Comedy, Drama, Action, Thriller, Adventure, Science Fiction
Place	Theater, Home

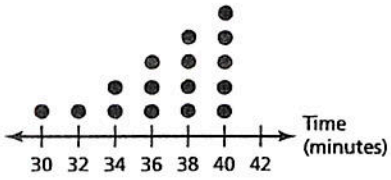
13. There are 64 cookies in a jar. The probability of randomly choosing an oatmeal cookie from the jar is 37.5%. How many of the cookies are *not* oatmeal cookies?

14. You roll a number cube and flip a coin. Find the probability of rolling a 3 and flipping tails.

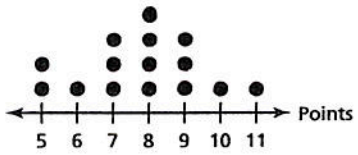
15. A bag contains 26 tiles with letters A through Z. Find the probability of drawing two vowels with replacement. Find the probability of drawing two vowels without replacement. Round your answers to the nearest thousandth. Which event is independent? Which event is dependent?

In Exercises 1 and 2, (a) describe the shape of each distribution, (b) choose the most appropriate measures to describe the center and variation, and (c) find the measures you chose.

1. **Time Spent Taking an Exam**



2. **Numbers of Antler Points**



3. The numbers of points scored in each basketball game are 49, 36, 61, 64, 39, 41, 43, and 39.

   a. Make a box-and-whisker plot for the data.

   b. In what percent of the games were at least 55 points scored?

   c. Are the data more spread out below the first quartile or above the third quartile? Explain

   d. Find and interpret the interquartile range of the data.

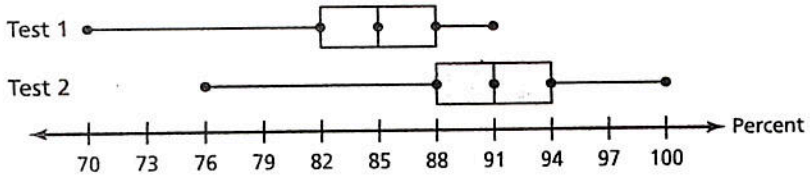
4. A factory produces 90 pairs of designer jeans. An inspector randomly chooses 6 pairs of jeans and discovers that 1 of the pairs of jeans is defective.

   a. What is the experimental probability that a pair of jeans inspected will be defective?

   b. How many of the 90 pairs of jeans would you expect to be defective?

5. Of the 40 randomly chosen students surveyed, 27 are involved in extracurricular activities at school. There are 680 students in the school. Predict the number of students in the school who are involved in extracurricular activities.

6. The double box-and-whisker plot shows the scores of two tests.



   a. Compare the median, range, and interquartile range for each test.

   b. What conclusion can be made about the scores for the two tests?