## Finding Combinations of Attributes

(1) This spinner is divided into 3 equal parts.


$$
\begin{aligned}
\mathrm{G} & =\text { green } \\
\mathrm{B} & =\text { blue } \\
\mathrm{P} & =\text { purple }
\end{aligned}
$$

Continue the list until you have listed all possibilities.

Not all of the blanks will be used.


If you spin the spinner twice, you could get:

| 1st Spin | 2nd Spin |
| :---: | :---: |
| G | B |
| G |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

## Test Prep

(2) What number must replace the square to make the number sentence true?

$$
(4 \times 5)+2=\square \times 2
$$

A. 20
B. 11
C. 14
D. 9
(3) What numbers must replace the and the $\square$ to make both number sentences true?
$\times \square=36$

- $-\square=5$
A. 6,6
B. 4,9
C. 9,4
D. 12,3
$\qquad$


## Describing the Likelihood of An Event

(1) Complete the table to show what the sum of the two spins could be.

Johnny spins the spinner twice.


|  |  | 1ST SPIN |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 | 2 | 3 | 4 |
| $\begin{aligned} & z \\ & \bar{n} \\ & \mathbf{n} \\ & \mathbf{2} \\ & \mathbf{N} \end{aligned}$ | 1 | 2 | 3 |  |  |
|  | 2 |  |  |  |  |
|  | 3 |  |  |  |  |
|  | 4 |  |  |  |  |

(2) Label the events certain, likely, unlikely, or impossible.

The sum is 10 .

The sum is 7 .

The sum is greater than 0 .

The sum is less than 7.
$\qquad$
The sum is 4,5 , or 6 .
$\qquad$
The sum is 2 .
$\qquad$

## Test Prep

(3) Sue needs only the red candies from bags of mixed colors. Each bag contains 28 candies, of which $\frac{1}{4}$ are red. How many bags should Sue buy if she needs 21 red candies? Explain.
$\qquad$
$\qquad$

## Introducing Probability

If Laura spins the spinner once, what is the probability that the spinner ...

| 27 | 30 |  |
| :---: | :---: | :---: |
| 49 |  | 6 |
| 55 |  | 14 |
| 18 | 35 |  |

(1) lands on a multiple of 3 ?
does not land on a multiple of 3 ?
(3) lands on a multiple of 5?
lands on a multiple of 10 ?
(5) lands on a three-digit number?
lands on a number with a 1 in the ones place?
2. lands on an even number?
lands on an odd number?
(4) lands on a one-digit number?
lands on a two-digit number?
(6) lands on a number less than 100?
lands on a number greater than 5 ?

## Test Prep

(7) How many pairs of parallel lines does this figure have?

A. 0
B. 1
C. 2
D. 3
(8) How many lines of symmetry can be drawn on this square?

A. 0
B. 1
C. 2
D. 4

## Drawing From a Deck of Attribute Cards

Complete the table to match the spinners.


Which spinners are more likely to land on gray than on white? $\qquad$
Which spinners are more likely
to land on white than on gray? $\qquad$
Which spinner is as likely to land on gray as it is to land on white? $\qquad$

| Probability <br> that the <br> spinner <br> will land <br> on gray | Probability <br> that the <br> spinner <br> will land <br> on white |
| :--- | :---: |
| (1) | $\frac{1}{4}$ |

## Test Prep

| $\square+\triangle$ | 8 |  | 5 | 15 |  |  | 27 | 13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5 | 9 |  | 8 |  | 7 |  |  |
| $\triangle$ | 3 | 4 | 2 |  | 9 |  |  |  |
| $\square \times \triangle$ | 15 |  | 6 |  | 45 | 49 | 50 | 40 |

## Drawing Blocks



Each student in Mrs. Ferrelli's class drew a block at random. This graph shows the class's results.

(1) Which block was picked most frequently?
(2) Which block was picked least frequently?
(3) How many times was block \#6 picked?
(4) Which 3 blocks were picked the same number of times?
(5) How often was each of the 3 blocks from question 4 picked?

## Test Prep

(6) Stephen arranged the numbers $1,3,7,5$, and 9 to make a 5 -digit number. He put the 3 in the hundreds place. What is the smallest number he could have written?
A. 13,579
B. 15,379
C. 31,759
D. 91,351
(7) What number would be eighth in this pattern?

$$
5,15,30,50,75, \ldots
$$

A. 180
B. 140
C. 90
D. 85

## Collecting and Analyzing Survey Data

Amal surveyed his class to find out how many brothers and sisters each student had. Here is his data.

| 0 | 3 | 2 | 2 | 1 | 1 | 3 | 0 | 2 | 0 | 1 | 2 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | 1 | 4 | 0 | 0 | 1 | 1 | 2 | 3 | 1 | 2 | 2 |

(1) Graph the data.

2. What is the greatest number of siblings any student has? $\qquad$
(3) How many more students have 2 siblings than have 4 siblings? $\qquad$

## Test Prep

(4) How could you create a 6 -color spinner with which you were equally likely to land on any color? Explain.

$\qquad$
$\qquad$

## Collecting Measurement Data

Here are the height measurements collected by a fourth-grade class.

| 52 inches | 57 inches | 54 inches | 56 inches |
| :---: | :---: | :---: | :---: |
| 54 inches | 60 inches | 57 inches | 59 inches |
| 56 inches | 56 inches | 57 inches | 54 inches |
| 60 inches | 57 inches | 50 inches | 52 inches |

(1) Graph the data that the fourth-grade class collected.


## Test Prep

(2) Tyler bought 3 cartons of juice to share with his friends.

Each juice carton costs $32 \phi$. Tyler had 3 quarters and 3 dimes in his pocket. Which coins should he use to buy the juice? How much change will he receive? Explain.
$\qquad$
$\qquad$
$\qquad$

## Analyzing Measurement Data

The graph describes the class sizes at Westlawn Elementary School.

(1) How many classrooms are in the school? $\qquad$ classrooms
(2) What is the greatest class size? $\qquad$ students
(3) What is the most common class size? $\qquad$ students

If you visit one classroom at random . . .
(4) What is the probability of visiting a class with 18 students? $\qquad$
(5) What is the probability of visiting a class with 22 students? $\qquad$

## Test Prep


(6) How many more hours of school work did Karen do in October than in September?
A. 0
B. 5
C. 10
D. 25
(7) In which month did Karen do more school work than chores?

