Introducing Pictographs

There are 24 students in Mr. Falco's class.

They all cleaned out their desk and counted the number of pencils they found. No one found more than 6 pencils.

$\frac{1}{12}$ **of the class found 0 pencils.**
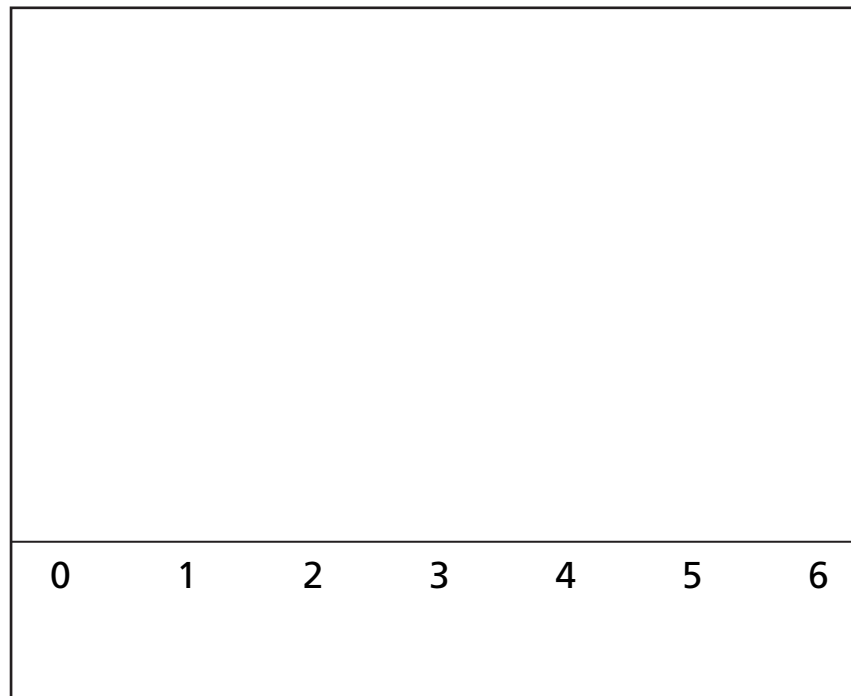
$\frac{1}{3}$ **of the class found 1 pencil or fewer.**

$\frac{1}{2}$ **of the class found 2 pencils or fewer.**

$\frac{1}{6}$ **of the class found exactly 5 pencils.**

$\frac{1}{8}$ **of the class found 6 pencils.**

$\frac{1}{3}$ **of the class found 4 or more pencils.**

1 Complete the pictograph to show the number of pencils students found in their desks.

0	1	2	3	4	5	6

Making Pictographs

There are 24 students in Mr. Reeve's class.

The students answered a survey about the number of hours they spent reading the day before. The pictograph shows the results of the survey.

HOURS SPENT READING

Number of Hours
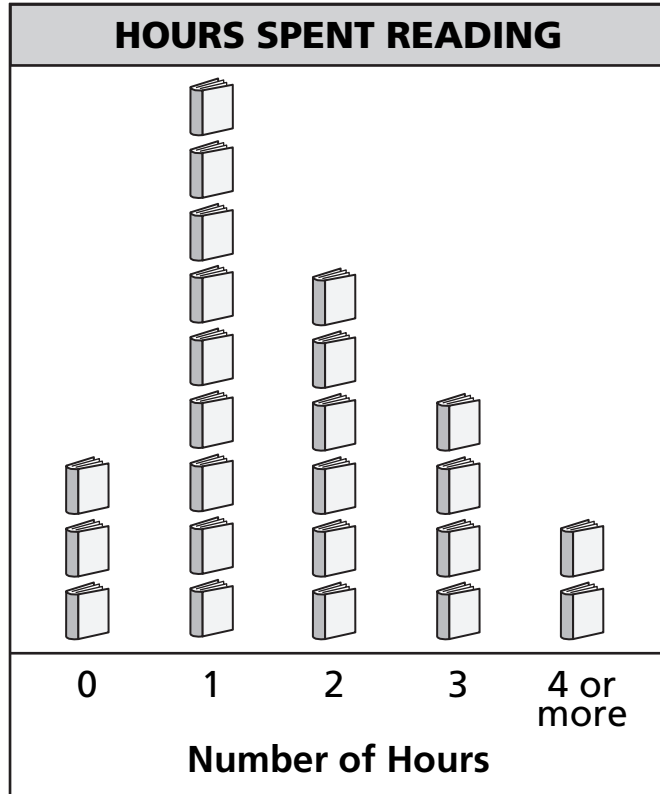
Key: Each ⬜ **stands for 1 student.**

① What fraction of the class read only 1 hour?

_____

② What fraction of the class read 2 hours or more?

_____

③ Jamal said, "$\frac{1}{4}$ of the class read more than I did." How many hours did Jamal read?

_____

Introducing Bar Graphs

A magazine published this bar graph about what third graders want to be when they grow up. They did not say how many students answered the survey or label the height of the bars.
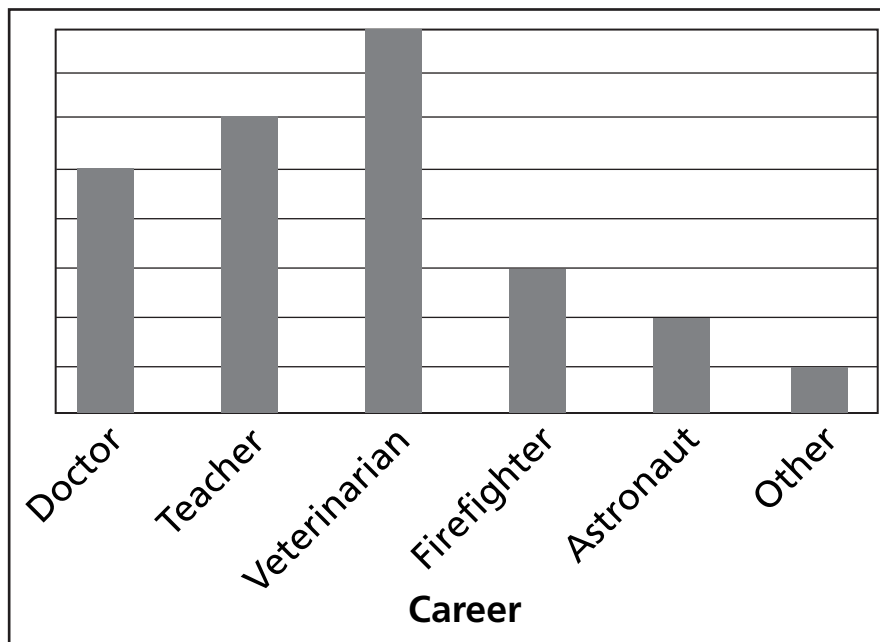

Career

1 Is it possible to determine which career was chosen most often? If so, what is it? _____

2 Is it possible to determine the number of 8-year-olds in the survey? If so, how many are there? _____

3 If 6 students chose Other, how many students chose Veterinarian? _____

4 If 12 more students chose Doctor than chose Firefighter, how many students chose Doctor? _____

5 What fraction of the students in the survey answered Other? _____

Could 90 people have answered the survey? Explain.

_____

Exploring Probability

Imagine that you toss two number cubes numbered 1 through 6. One cube is black, and one cube is white.
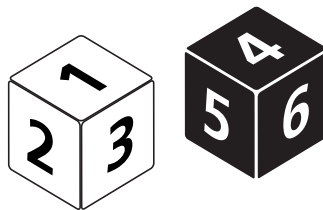
Classify the following events as _possible (P)_ or _impossible (I)._

❶ black + white = 8 _____

❷ black − white = 6 _____

❸ black × white = 5 _____

❹ black + white = 3 _____

❺ black − white = 4 _____

❻ black × white = 11 _____

Find the smallest possible value for each.

❼ black + white _____

❽ black − white _____

❾ black × white _____

Find the largest possible value for each.

❿ black + white _____

⓫ black − white _____

⓬ black × white _____

⓭ List all the possible values for the product black × white.

Experimenting with Probability

Imagine that you toss a coin five times and record whether each toss is heads or tails.

1 Is it possible to record all heads? _____

---

2 If you have just tossed 3 heads in a row, which is more likely:
the next toss lands heads or the next toss lands tails?

Explain.

_____

_____

_____

_____

---

3 Which is more likely:
1 head in five tosses or 3 heads in five tosses? Explain.

_____

_____

_____

_____

Making and Using a Price Chart

> ## Erasers cost 6¢. Pencils cost 9¢.
> ### No purchases over 25¢!

1 Complete the table to show all the possible purchases.

Erasers	Pencils	Price
0	1	9¢

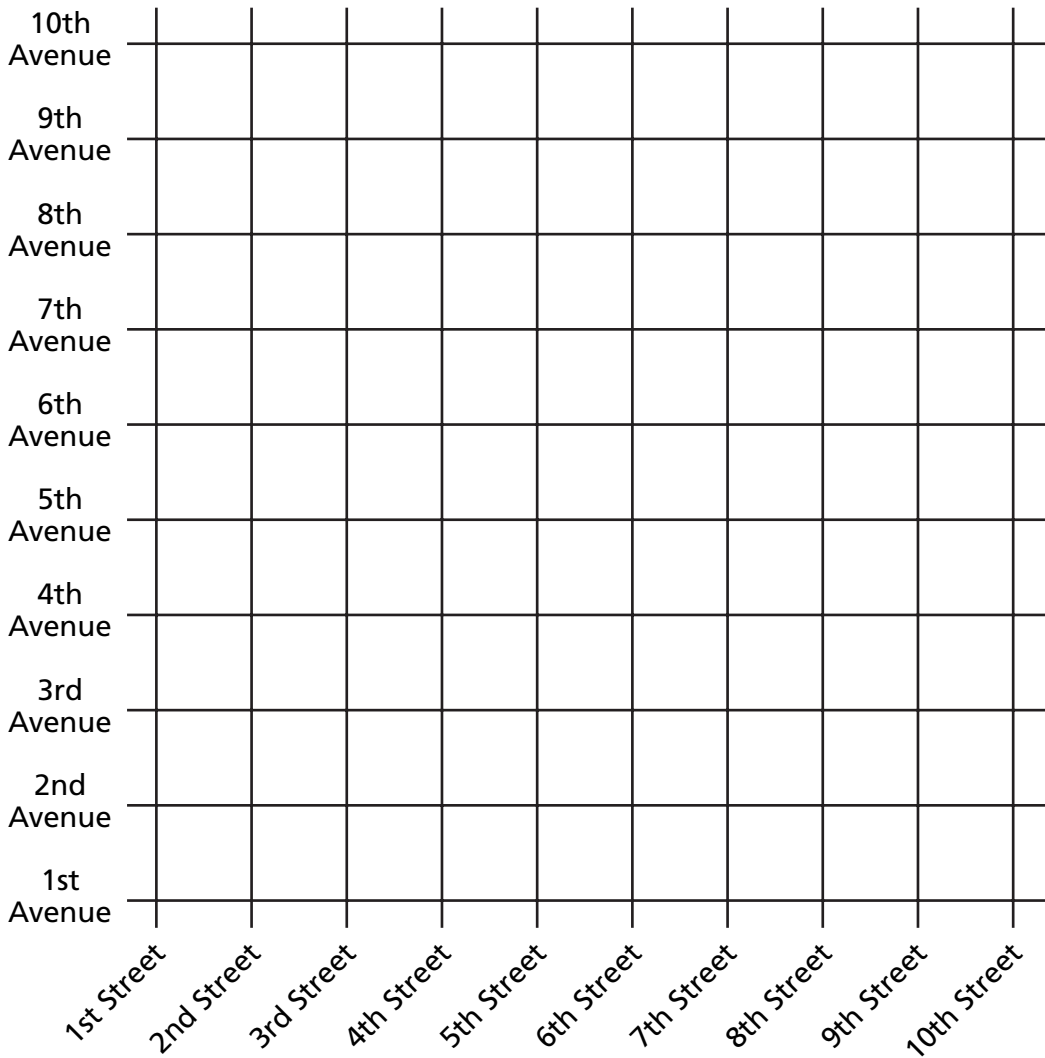**2** Devi and Ann both spent the same amount, but they bought different things. What might they have spent? What might they have bought?

_____

_____

Finding Locations on a Map

	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

1 Use ✕ to mark every square in the grid where the product of the row and column number is even.

2 Use ✚ to mark every square in the grid where the sum of the row and column number is even.

3 What can you say about the row and column numbers if their intersection is marked ✳ (both ✕ and ✚)?

_____

_____

Naming Intersections on a Map

10th Avenue
9th Avenue
8th Avenue
7th Avenue
6th Avenue
5th Avenue
4th Avenue
3rd Avenue
2nd Avenue
1st Avenue

1st Street   2nd Street   3rd Street   4th Street   5th Street   6th Street   7th Street   8th Street   9th Street   10th Street

1 Ms. Tery hid a locked suitcase at an intersection where the sum of the street number and the avenue number is 8. Mark any intersections where the suitcase could be with a ⬜.

2 Ms. Tery hid the key to the suitcase at an intersection where the street number is 2 more than the avenue number. Mark any intersections where the key could be with a ⚷.

3 When you found the suitcase, the key was in the lock. Where was the suitcase?

Graphing Solutions to Open Number Sentences
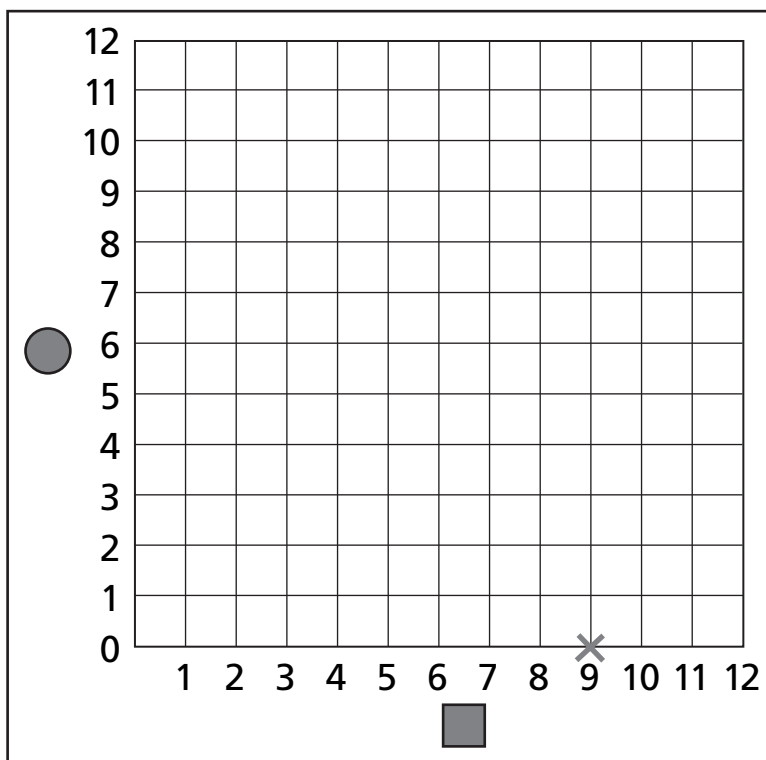
Complete the table for each open sentence and graph the points. Use an ✕ for Problem 1 and a ● for Problem 2.

1 ■ + ● + ● = 9

■	9	7	5	3	1
●					

2 ■ + ■ + ● = 12

■	0	1	2	3	4	5	6
●							

3 Is there a pair of numbers that works for both sentences? How do you know?

_____