CSMP Mathematics for the Upper Primary Grades, Part I

Blacklines

Note: This packet contains blackline masters for home activities, parent letters, and numerous activities that coordinate with *CSMP Mathematics for the Upper Primary Grades, Part I*. There are no limits to the number of times these blacklines may be reproduced.

The first blackline is a letter to introduce parents/guardians to *CSMP*. Next is the Home Activity section, which also begins with an introductory letter to parents/guardians. Subsequent home activities may be reproduced and cut off, one at a time, and sent home as appropriate. The remaining blacklines coordinate with lessons in the four strands, N, L, G, and W. They are organized in order, by strand.

McREL

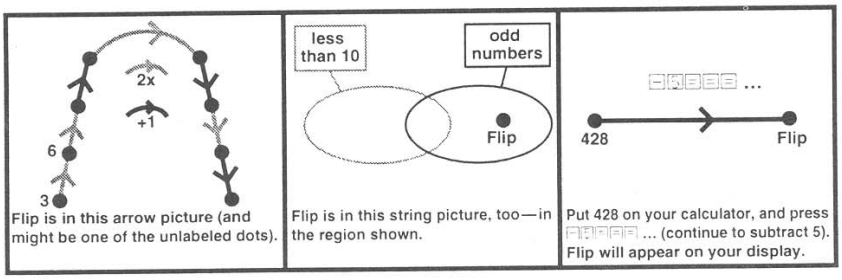
A LETTER TO PARENTS ABOUT *CSMP*

The Comprehensive School Mathematics Program (*CSMP*) is the mathematics program we use in your child's class. It is difficult to describe in a letter *CSMP*'s rich and exciting way of teaching mathematics. This, however, is a short introduction to *CSMP* and an invitation for you to visit your child's math class.

CSMP is different because it uses several "picture" languages. These languages make it easy for children to understand some very interesting but complex mathematical ideas. Students enjoy using these picture languages. At times during the year, we will send more information about these languages with examples from our *CSMP* lessons.

The developers of *CSMP* believe that mathematics is more than just arithmetic and that students learn best when they are solving interesting problems. They believe that students should understand, enjoy, and use their skills instead of just practicing them. With *CSMP*, students use their arithmetic skills while they play number games, solve detective stories, or build number "roads."

CSMP students use these clues to find Flip. Can you?



Children learn mathematical ideas and skills in different ways and at different times. For this reason *CSMP* teachers do not stick to one topic until everyone has learned it. Instead, the many concepts and skills are taught several times during the year. Students learn something during each lesson and master each skill when they are able.

In our math classes students participate in lessons with the whole class at times, with a smaller group at other times, and sometimes by themselves. Students are encouraged to talk about their ideas and to find different ways of solving a problem. The student workbooks and worksheets have easy, average, and hard pages so that all children can work on problems that are right for them.

Your child may be using a calculator for some math lessons. Calculators do not replace the need for arithmetic skills, but they do provide interesting mental arithmetic exercises. Students will use calculators to explore mathematical concepts and number patterns, or to practice math facts. They may also use calculators on problems involving difficult calculations or particularly large numbers.

We hope you will visit a *CSMP* math class soon. It can be an exciting experience.

Sincerely,

P.S. Flip, the secret number, is 13.

UPG-1 HOME ACTIVITIES

Dear Parent/Guardian:

Activities that accompany various lessons in our mathematics program (*CSMP Mathematics for the Upper Primary Grades)* will be sent home with your child periodically. They will be called "Home Activities" rather than "homework," because we hope you will use them as an opportunity to become involved with your child in learning more about the *CSMP* tools, methods, and skills.

Some home activities will be follow-up or practice for a class lesson; others will be for enrichment or extension. Please keep all the activities and materials in the envelope provided. Some materials may be used more than once, and you may want to refer back to previous activities.

Sincerely,

UPG-1 HOME ACTIVITIES

N4

Find opportunities to count by fives with your child. For example:

- Count by fives to calculate an amount of money (cents) in a collection of nickels.
- Count by fives the minutes in an hour. (Practice telling time in 5 minute intervals.)
- Use tally marks (𝍸) to record how many items in some collection of things, and count by fives to find how many.

N6

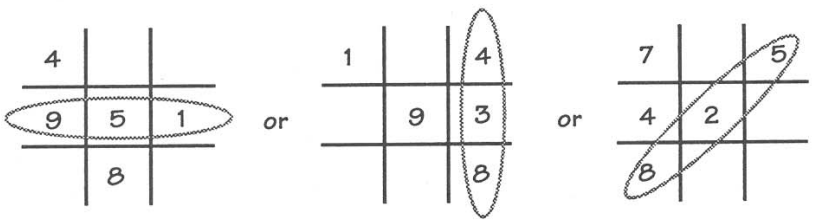
In class we have been finding *fact families*. A fact family is three different numbers with which you can write two addition and two subtraction facts. For example, with 8, 4, and 12 the following facts are possible:

$8 + 4 = 12$ $\quad$ $12 - 4 = 8$
$4 + 8 = 12$ $\quad$ $12 - 8 = 4$

Work with your child to select three numbers from 1 to 20 that will make a fact family. Check the numbers you choose by writing the addition and subtraction facts.

N8

Here is a game called Tic-Tac-Toe 15 that we learned today and that you might like to try playing with your child. One player uses the odd numbers 1, 3, 5, 7, and 9, and the other player uses the even numbers 2, 4, 6, 8, and 10. Instead of X's and O's, players place their numbers in a Tic-Tac-Toe grid; each number may only be used once. The first player to get a sum of 15 in a row wins. Remember, in Tic-Tac-Toe a row can be horizontal, vertical, or diagonal. For example:



UPG-1 HOME ACTIVITIES

N9

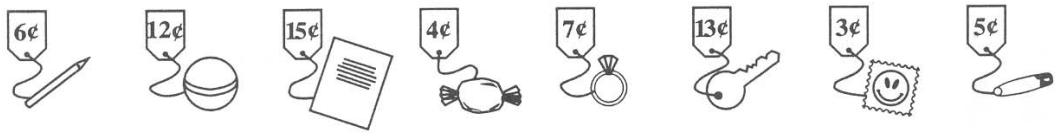
In a story context, we have investigated how numbers grow when doubled. You can do this with your child by considering this simple exercise program:

- Exercise every day for one week (seven days).
- Choose how long to exercise the first day.
- Each day after the first, exercise twice as long as the day before.

Discuss (or try) this program with your child. Decide how long you must exercise each day of the week if you start with 5 minutes on the first day; …with 1 minute. How many minutes of exercise would you do (total) in the week?

N11

Give prices to some small items around the house. For example:



Give your child some coins with which to "purchase" some of these items, and ask questions like the following:

- What coins would you use to buy the key?
- Choose two or three items. What would they cost? What coins would you use to buy them?
- What could you buy and spend exactly 20¢; …between 25¢ and 30¢?

N15

Ask your child to show you how to use the Minicomputer to solve subtraction problems. Try some of these problems.

63 – 22	75 – 41	66 – 21
59 – 48	34 – 12	45 – 40
94 – 14	22 – 10	5 – 5

N17

Ask your child to work with you to find several different ways to put various numbers (such as 40, 50, or 100) on the Minicomputer. For example, here are four ways to put on 40, but there are many others.

N20

We have been getting more familiar with numbers by looking at individual numbers in many ways. You and your child may like to choose a favorite number and investigate many things you know about this number. For example, find lots of facts for the number and put the number on the Minicomputer in different ways. When you start at 0 and count by twos (or threes, fours, fives, tens) do you say this number?

N24

Here is another arrow game to play with your child. The game is called "20" because the first person to go over 20 loses.

> Start the game at 0. Players take turns drawing either a +3 arrow or a +2 arrow. A new arrow always starts at the ending dot of the previous arrow. The player who first goes over 20 loses.

Variations can be made by changing 20 to a different number, by using different kinds of arrows, or by starting at a number other than 0.

N30

Try to find some opportunities to count by tens with your child. For example:

- Count by tens to calculate an amount of money (cents) in a collection of dimes.
- Organize a collection of items in piles of ten and count by tens to find how many.
- Teach a calculator to count by tens:
  1) Put on the starting number.
  2) Press [+] [1] [0]
  3) Then, press [=] [=] [=] and so on.

Sometimes start the counting at a number other than 0, such as any number from 1 to 9.

N34

Explore with your child the pattern of numbers you get when you count by fives starting at a number other than 0. You may make a list of the numbers or use a counting calculator. For example, teach the calculator to count by fives starting at 2:

1) Put on the starting number.
2) Press [+] [5].
3) Then, press [=] [=] [=] and so on.

What do you notice about the numbers you see (pattern)?
Can you predict whether or not you will see 120 or 157?
What is a number between 210 and 220 that you will see?

N35

Here are a couple Minicomputer problems you can work on with your child:

1) Find several different ways to put 50 on the Minicomputer using exactly 10 checkers.
2) Put the number 14 (or 24 or 44) on the Minicomputer with two checkers; ...then with three checkers; ...then with four checkers; ...then with five checkers; ...and so on.

L6

Try to find opportunities to count the amount of money (cents) in a small collection of coins (quarters, dimes, nickels, pennies) with your child. Also, let your child choose coins to make a given amount of money up to 99¢.

L10

Try to arrange for your child to count small handfuls of change. For example, you might let your child count the change in your pocket or purse each day for a week.

You may also ask your child to select coins to make a given amount of money up to 99¢. Sometimes ask for more than one way.

Still another money activity to do with your child is to match collections of coins with written amounts. The attached page contains a sample worksheet.

L14

Try to find some opportunities to read a thermometer (indoor and outdoor) with your child. If possible, read temperatures both in degrees Fahrenheit and in degrees Celsius. Occasionally try to predict what the temperature is before reading an outdoor thermometer.

Draw a line from the amount to the coins that make that amount.

46¢

23¢

79¢

32¢

84¢

G5

With your child, measure some things around the house (such as the kitchen floor or a table or a porch) using different objects as your unit of measurement (for example, shoes, pencils, paper clips, and so on). Compare the measurements obtained using the different units.

G6

In our math lesson, a baker has made cookies shaped like the 26 letters of the alphabet. We tried to cut the cookies in half (exactly) using just one cutting line. With your child, decide which letters can be divided into two equal parts with just one cutting line. Use a ruler to draw a cutting line, or cut out a letter and fold it in half to show a cutting line.

G8

Your child is bringing home a tape measure with which to measure some things at home. Please help him or her select items (such as the length and width of a bed, height of a lamp, peoples' shoes, and so on) to measure in centimeters and in decimeters (orange marks).

G9

Your child is bringing home a Tangram we made in class today. Work with your child to reassemble the seven pieces into a square.

UPG-1 HOME ACTIVITIES

G12

Your child is bringing home a Tangram and a design puzzle to do with a family member. The puzzle is to use the seven pieces of the Tangram to make the design.

G14

Try to find opportunities to divide shapes (circular pizza, rectangular cake, and so on) in halves, thirds, and fourths.

UPG-I HOME ACTIVITIES

W1

Try to find opportunities to practice counting (forward and backward) orally with your child. Sometimes start counting at numbers such as 18, 37, 82, or 179. You may also like to ask your child to write the number that follows or precedes a given number.

Ask your child to show you how to teach a calculator to count. For your information, you do this using the following steps:

1) Put on the starting number (usually 0 or 1).
2) Press [+] [1].
3) Then, press [=] [=] [=] and so on.

Note: If your calculator does not add 1 each time you press [=] (step 3), it may be a calculator without an automatic constant feature. Try another calculator or borrow one that does have this feature.

Use the counting calculator to count-on, starting at a number other than 0 or 1. Predict what number will come next when you are at, for example, 36. Predict what number you will see if you are at 51 and press [=] three more times.

W12

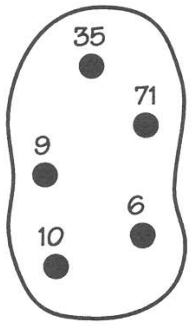
Your child is bringing home a 0–109 numeral chart. Use the chart to practice reading numbers and looking for patterns. For example:

- Read a row of numbers. What patterns do you notice?
- Read a column of numbers. What patterns do you notice?
- Read a diagonal of numbers. What patterns do you notice?
- Cover one or several numbers. Guess which number(s) is covered.

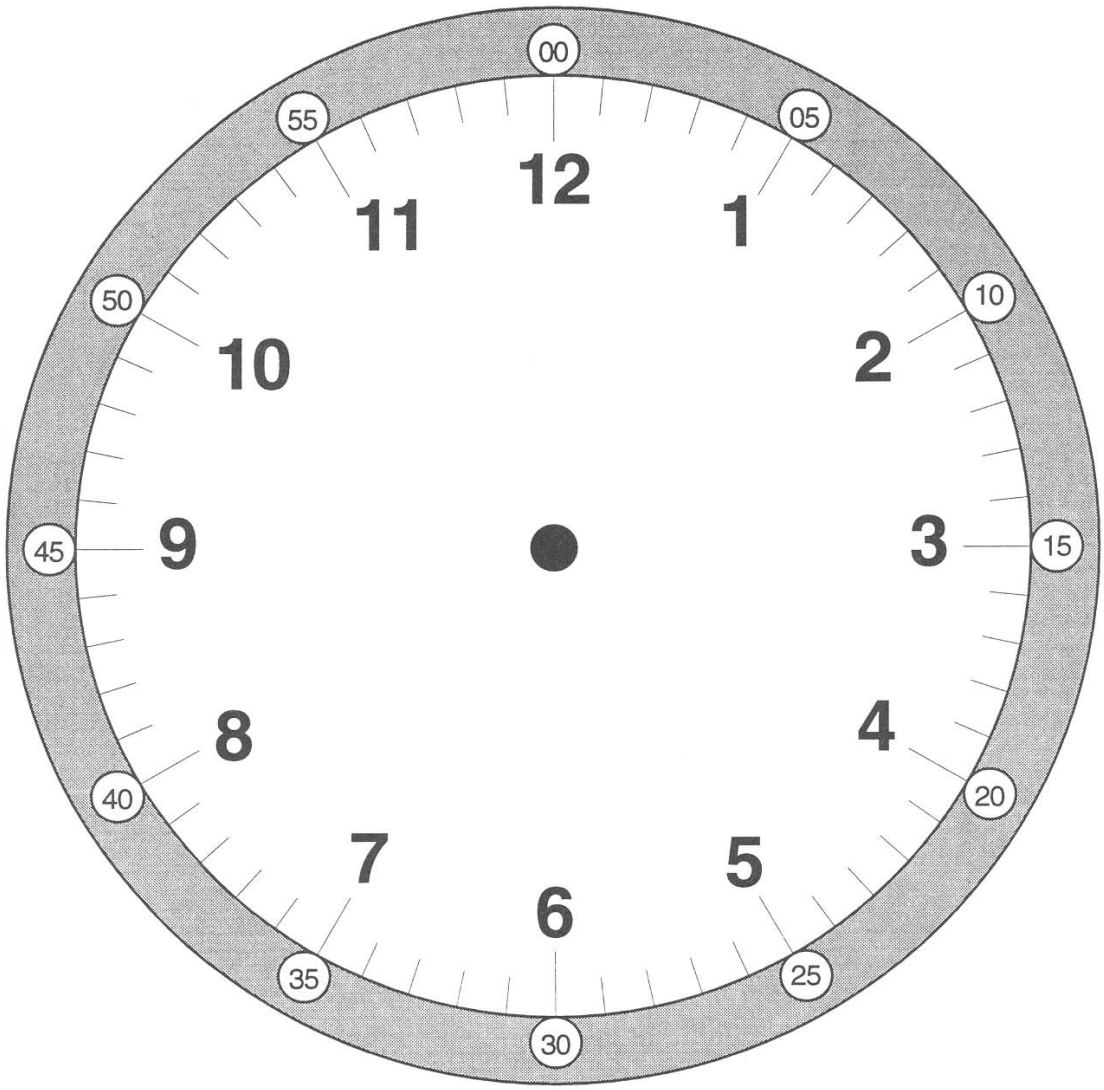
W16

This activity involves you and your child in using number sense. Using the numbers in the string, fill in the blanks so that the story makes sense—one number for each blank.

Tory lives with her mother, grandmother, and younger brother. Tory is _____ years old. Tory's mother is _____ years old. Tory's grandmother is _____ years old. And Tory's brother is _____ years old. Tory can't wait for her next birthday when she will be _____.



N4



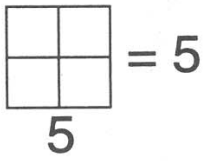
N5(a)

Dear Parent/Guardian:

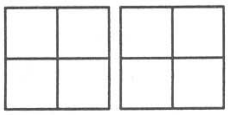
Your child has been learning to use the Papy Minicomputer in mathematics. This simple abacus allows children to become familiar with numbers. Using the Minicomputer, they work on the concepts of addition, subtraction, multiplication, and division before they are able to do the calculations routinely. Also, the Minicomputer is used to do mental arithmetic and to investigate how numbers work. The back of this page explains how the Minicomputer models our usual decimal system and works with place-value concepts.

Ask your child to color the squares on the Minicomputer to show you how the boards look. Then ask him or her to show you how to put numbers on the Minicomputer and read them. Objects such as pennies, dried beans, game chips, or paper clips may serve as checkers.

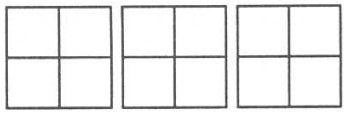
Put these numbers on the Minicomputer.


= 5

5

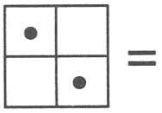

= 28

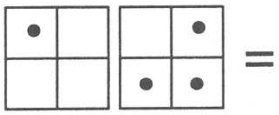
2 8

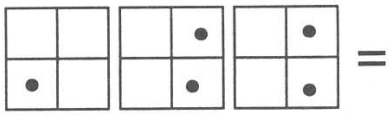

= 137

1 3 7

Read the number on the Minicomputer.


=


=


=

As the year progresses, you and your child can practice addition and subtraction problems using the Minicomputer. We hope you find this information helpful.

Sincerely,

N5(b)

THE PAPY MINICOMPUTER

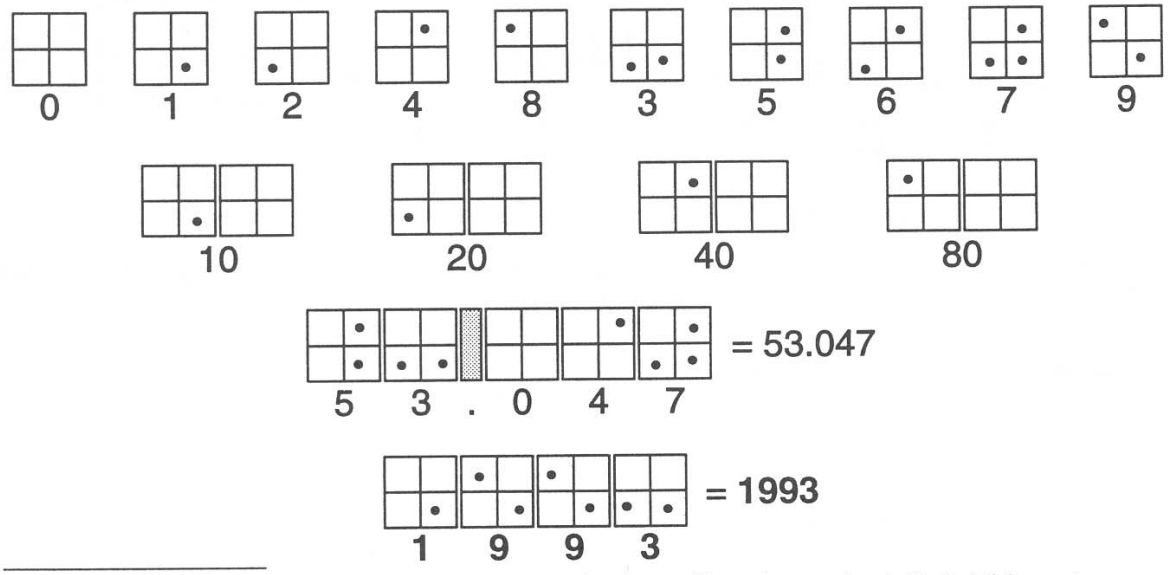
The Papy Minicomputer, a kind of abacus, models the positional structure of our system of numbers and hence lends itself as a powerful tool in arithmetic. The Minicomputer consists of brightly colored boards and a set of checkers. Each square has a numerical value.† These are the values on the ones board.

Brown	Purple
8	4
Red	White
2	1

As you move to the next board to the left, you have the tens board with corresponding values; the next board to the left is the hundreds board with corresponding values; and so on.

8,000	4,000	800	400	80	40	8	4
2,000	1,000	200	100	20	10	2	1

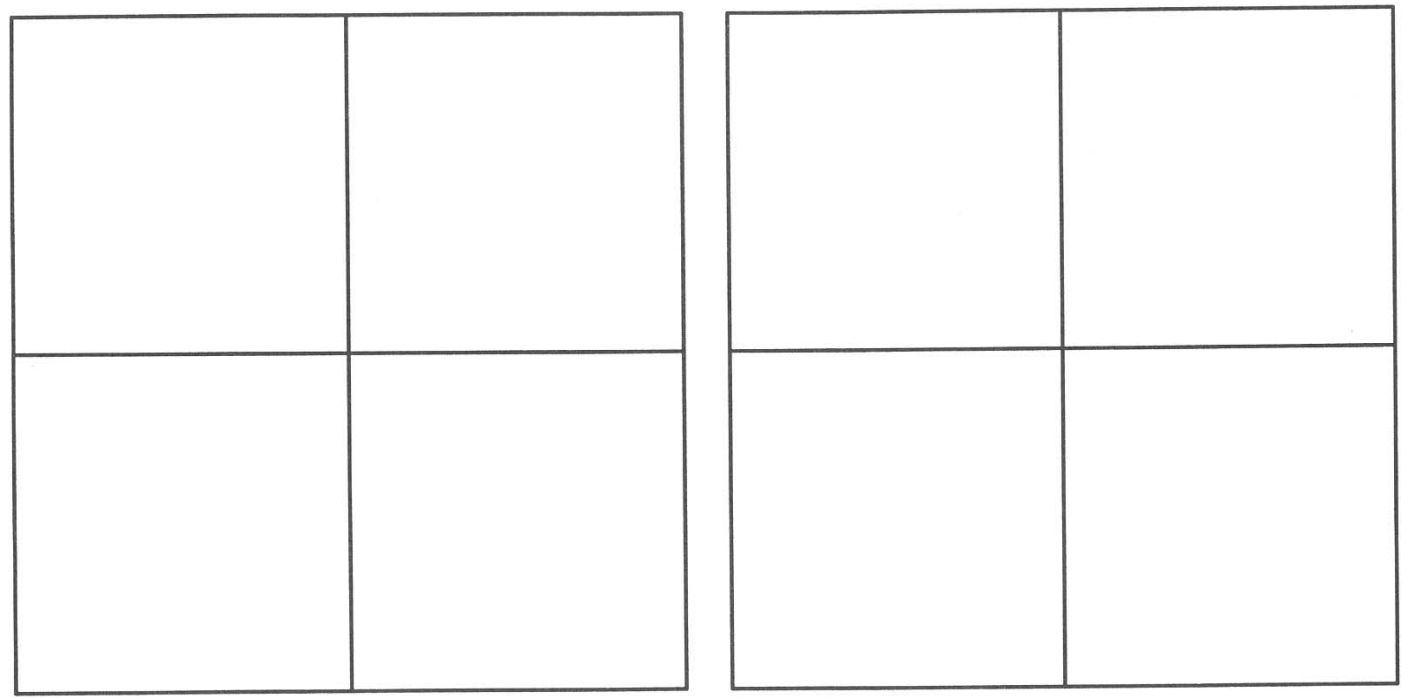
A number is put on the Minicomputer by placing checkers on its squares. A checker assumes the value of the square it is on. If several checkers are on the Minicomputer, the number is the sum of the values of the checkers. A number can be put on the Minicomputer in a variety of ways, but the representation that uses at most one checker on each square and uses checkers to represent a digit 9 or less is usually the easiest to read. In this case, we say that the number is in *standard configuration*. Standard configurations for the numbers 1–9 become as familiar to the students as the usual numerals so that they no longer need to do mental calculations for such configurations.

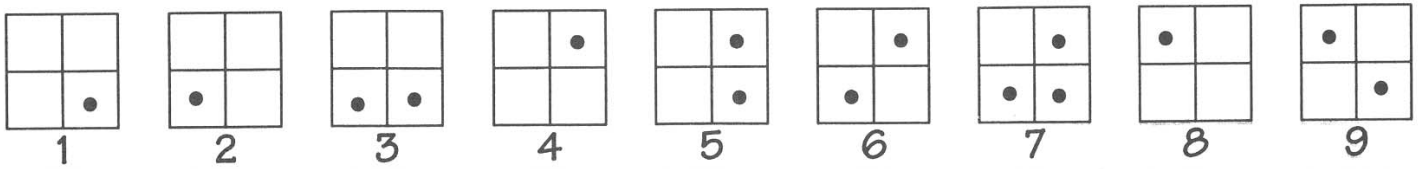


†The values of the squares are not written on the boards; learning them is part of becoming acquainted with the Minicomputer.

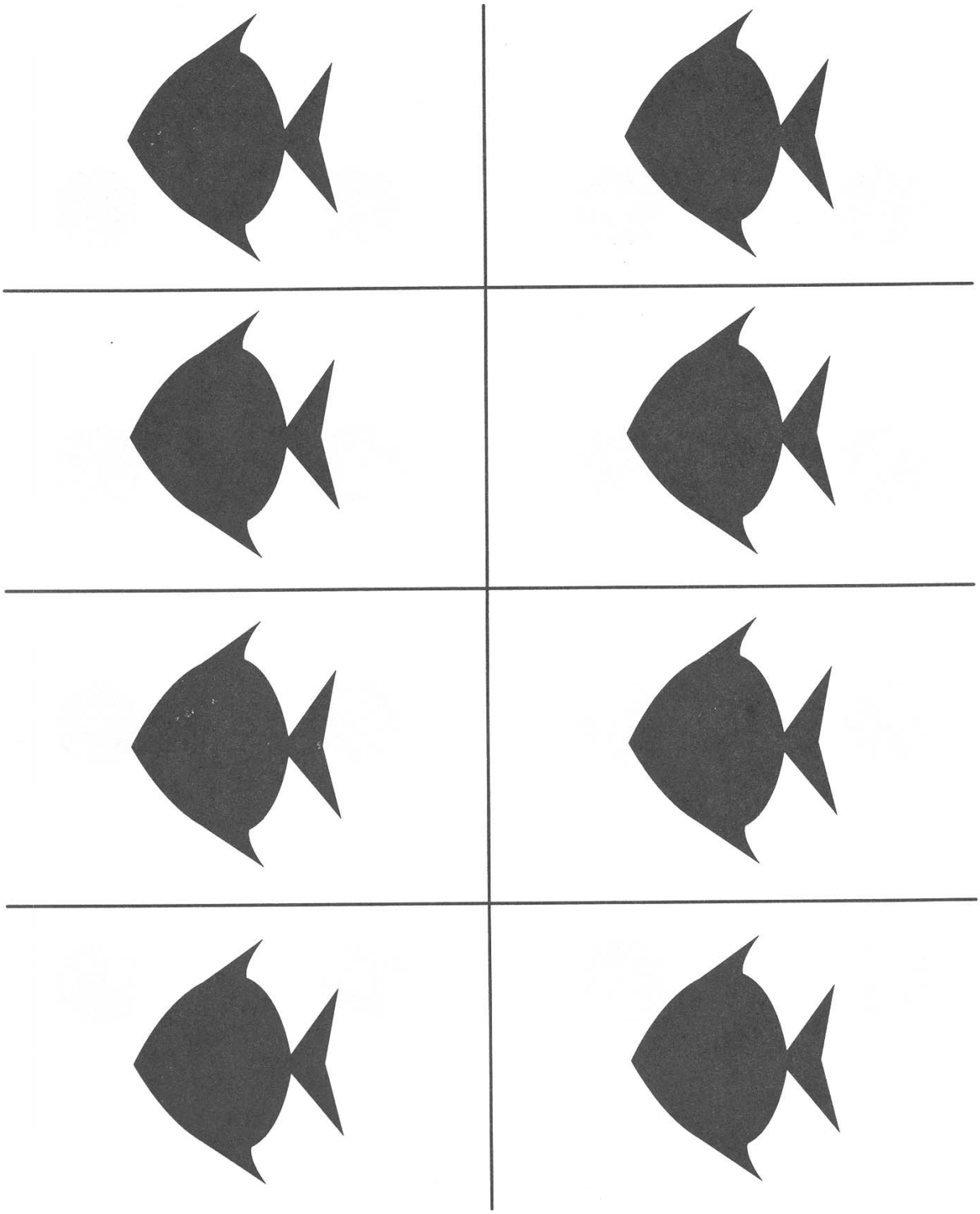
N5(c)

Papy Minicomputer

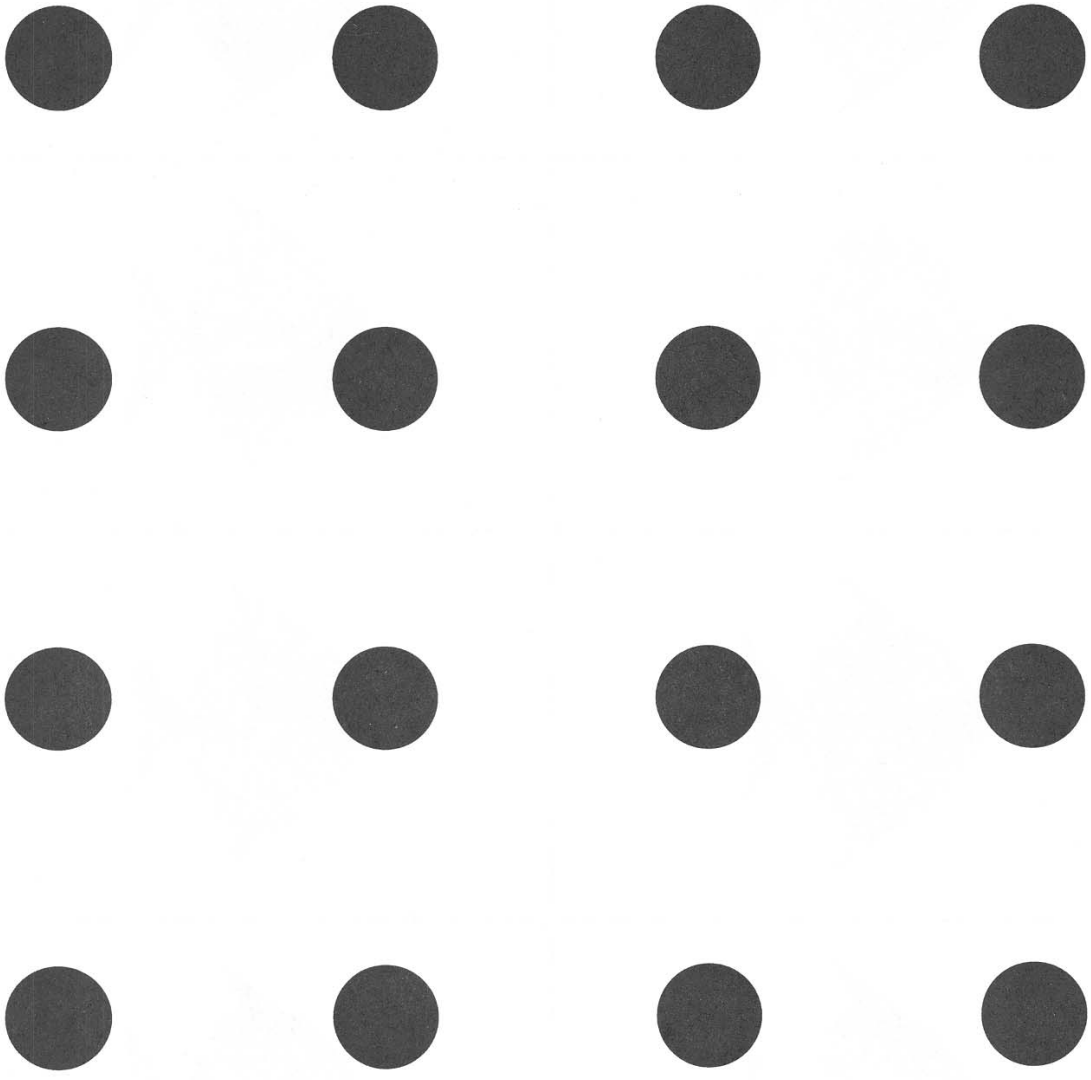




N9(a)



N9(b)



N10

Dear Parent/Guardian:

The learning of basic number facts is an important part of any mathematics program. We will be working on this in many ways:

- using concrete objects to model numbers and number combinations;
- counting by various numbers;
- labeling dots in arrow pictures;
- solving problems that need number facts;
- making connections (fact families) and observing patterns; and
- playing games with numbers.

You will find that your child is being encouraged to learn basic number facts in some of the home activities we suggest and in a variety of problems in workbooks.

As you work with your child, you can encourage the learning of basic facts. Look for interesting ways to do this. For example, calculators and computer programs are fun for some while others will like flashcards or mental games. Most children like to use numbers in real and meaningful family tasks. We will try to make suggestions regularly in our home activities. Home practice on basic number facts, like any skill, is important.

Sincerely,

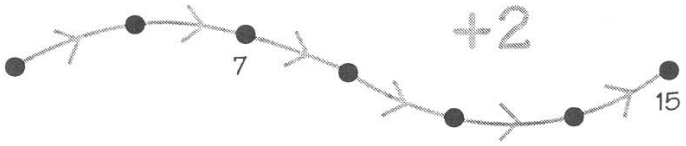
N16

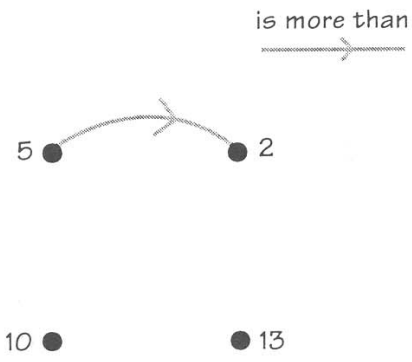
Dear Parent/Guardian:

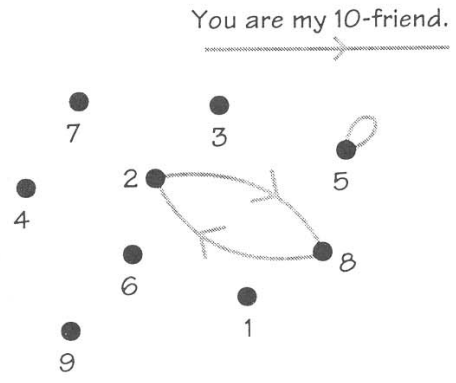
We have been using arrows and arrow pictures in some of our math lessons. You probably have seen papers coming home and wondered about the new art. Since arrows are used everywhere in our daily lives—signals, advertisements, directions, and so on—why not use them in mathematics?

Arrow diagrams are an important teaching aid in our mathematics program because they are a pictorial way of showing relationships. Relations play a central role in mathematics, and arrows provide a vivid and concrete way to understand them.

Here are a few examples of the way arrows picture relationships. Ask your child to help you label the dots or draw more arrows.







We hope you can see from these examples that arrow pictures are fun to use in mathematics.

Sincerely,

P.S. Your child may like to teach you an arrow road-building game. In the game two players are presented with a problem such as this:

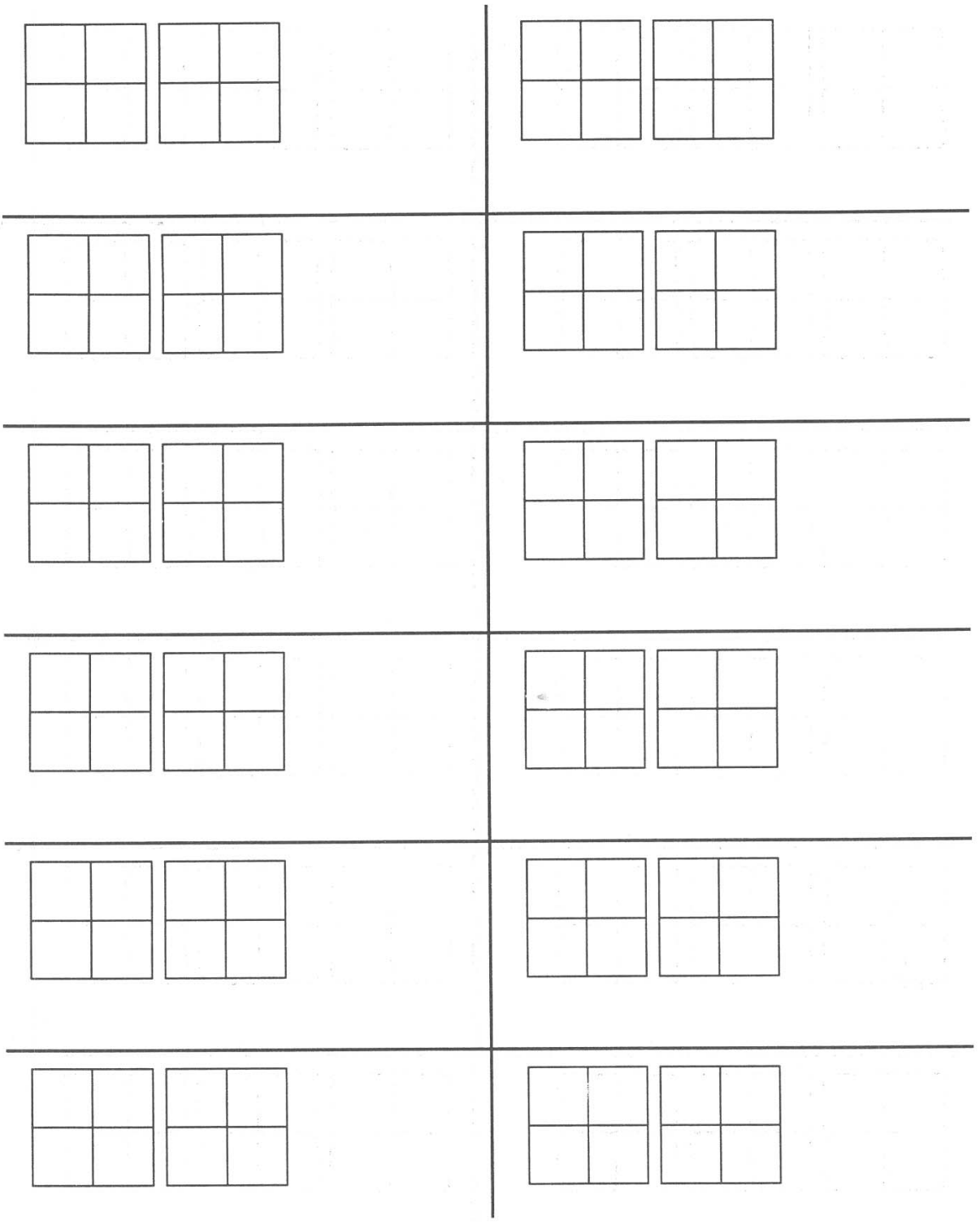
Build an arrow road from 7 to 26 using +2 and +3 arrows.

Start the game by drawing and labeling a dot for 7. The first arrow will start at 7. Players then take turns drawing either a +2 or a +3 arrow and labeling an ending dot. The next arrow must start at the previous ending dot. The player who puts in the arrow that ends at 26 wins.

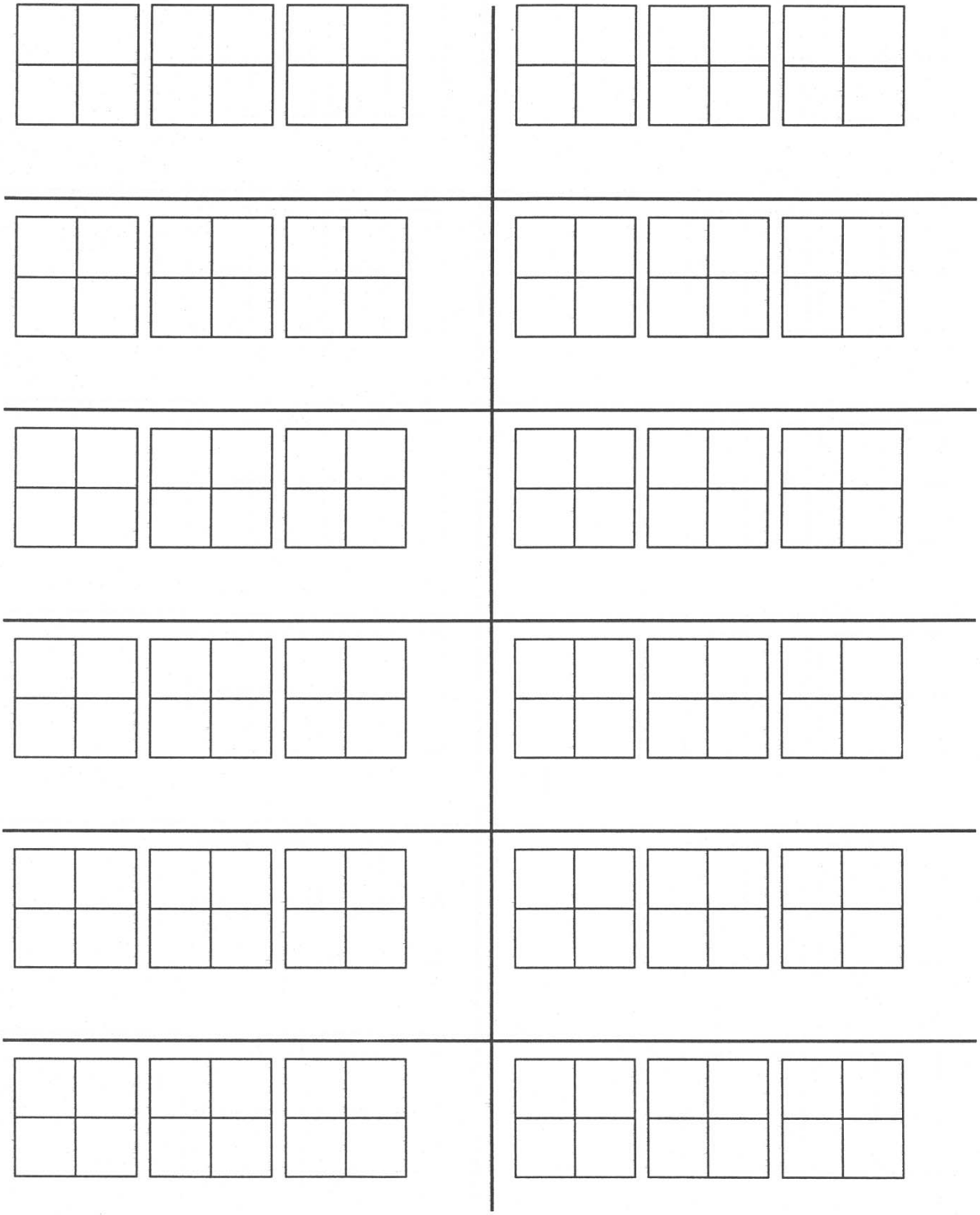
You can make up other problems for the game; for example:

- Build an arrow road from 13 to 30 using +3 and –1 arrows.
- Build an arrow road from 14 back to 14 using +3 and –4 arrows.

N17(a)



N17(b)



N19

Dear Parent/Guardian:

Developing mental arithmetic skills is just as important as paper and pencil arithmetic skills, so we incorporate mental arithmetic often in our math lessons. Mental arithmetic is important because it enables your child to recall math facts, to be aware of number patterns in arithmetic, and to review a variety of concepts.

You, too, can work on mental arithmetic with your child at home. It can be done whenever you have a free moment with your child—in the car, during a walk, at the dinner table, or before bedtime. Try to make your mental arithmetic activities short and fast-moving. Here are some sample sequences of math facts.

2 + 1 = ?	10 − 1 = ?	4 + 4 = ?	3 + 10 = ?
3 + 1 = ?	10 − 2 = ?	2 × 4 = ?	13 + 10 = ?
4 + 1 = ?	10 − 3 = ?	10 + 10 = ?	23 + 10 = ?
5 + 1 = ?	10 − 4 = ?	2 × 10 = ?	53 + 10 = ?

Another mental arithmetic game is the Number Line Game. To play, choose a secret number between 1 and 100. Let your child guess your number. After each guess, respond by saying, "My secret number is more (or less) than ____ (the guess)." Your child should use this information to make a next guess until the secret number is discovered. Occasionally, let your child choose the number while you guess.

To play another game, select a number and take turns making up facts for that number. For example, suppose you select the number 12. Some facts for 12 would be 10 + 2, 2 x 6, 15 – 3, ½ x 24, and so on.

Many counting activities are also good mental arithmetic. For example, practice counting by twos, fives, tens, and so on. Vary the counting by sometimes starting at a number other than 0 or by counting backward.

Have fun practicing mental arithmetic!

Sincerely,

N31

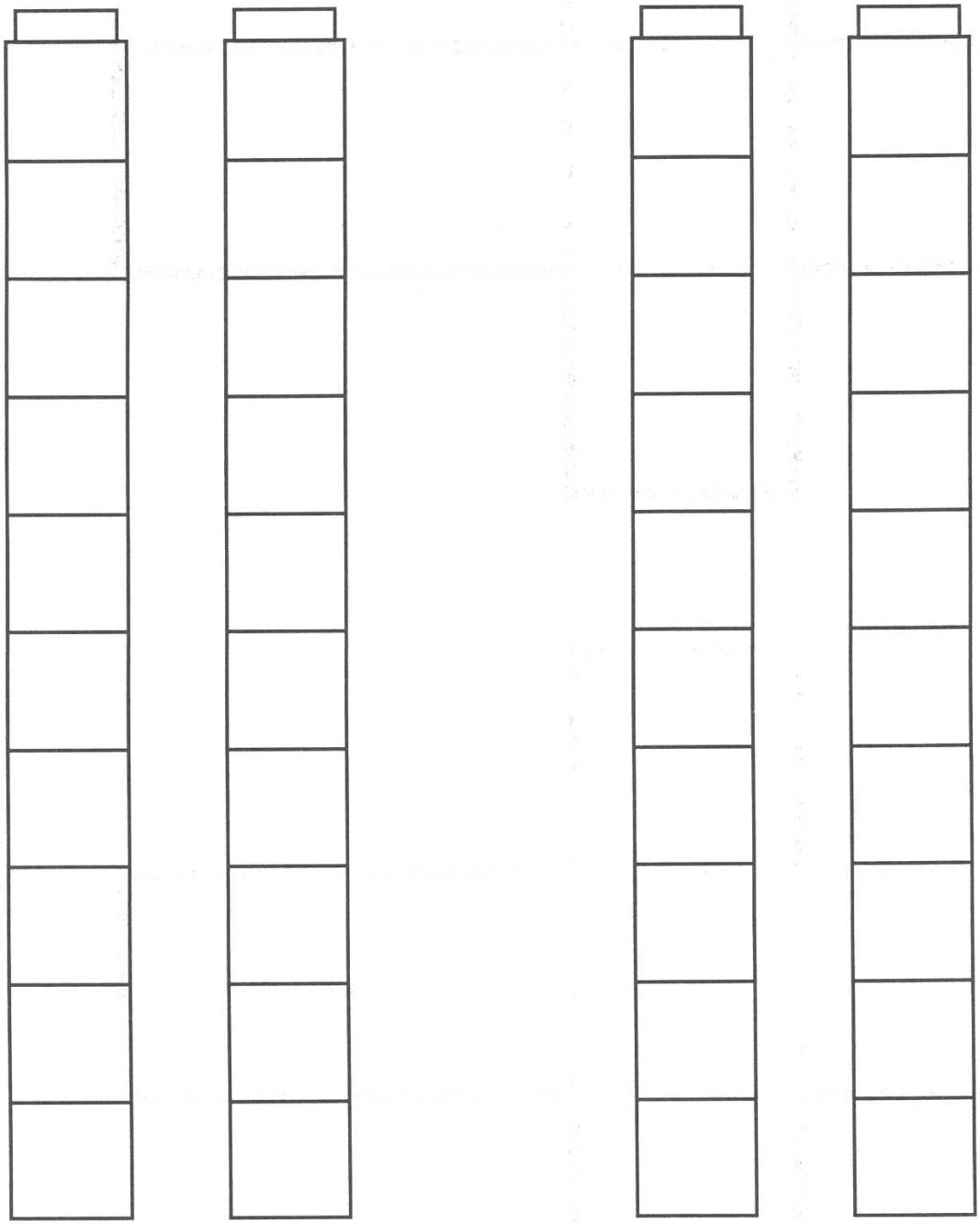
Dear Parent/Guardian:

We are working now on a paper/pencil method (algorithm) for addition in our math class. Of course, this is not the beginning of our work on the addition concept nor on addition problems. In fact we believe that earlier experiences with concrete objects, with the Minicomputer, with mental arithmetic, and so on have made the paper/pencil method mostly just another way of recording. The algorithm suggests we use a sequence of steps, and those earlier experiences help us understand reasons for the steps. At this time our instruction emphasizes the meaningful development of procedures, not speed. Home practice will further help your child.

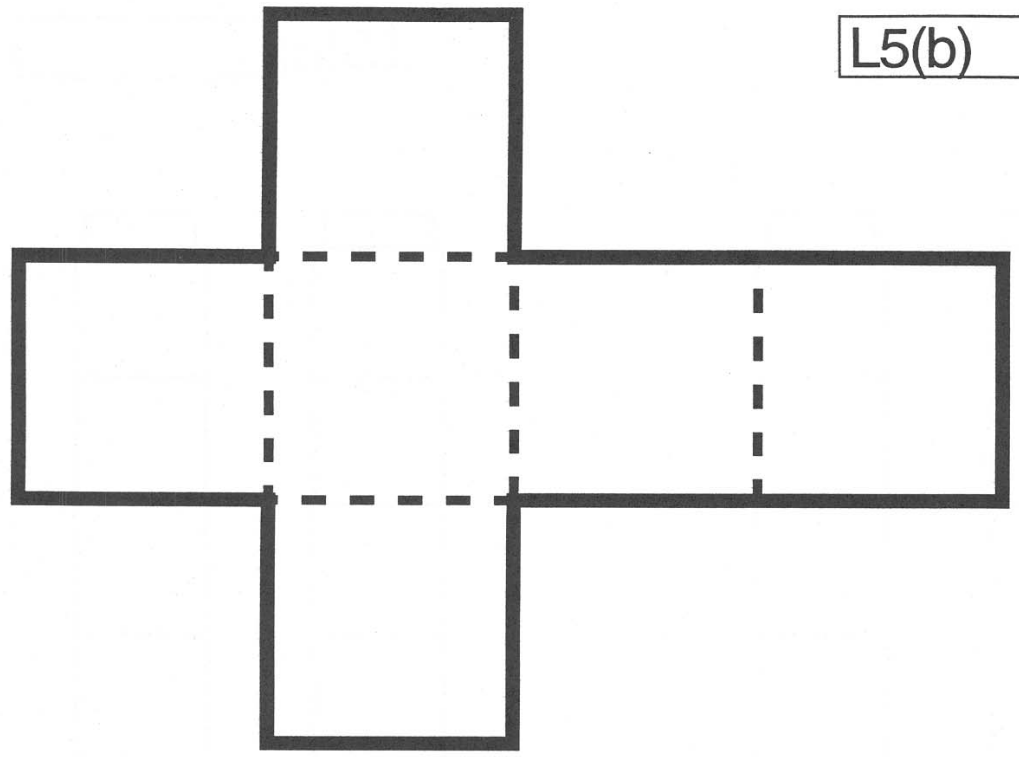
In doing addition calculations at home, remember that the paper/pencil method is only one. Sometimes we might better use mental methods or a calculator or a number pattern. We hope that a variety of methods will help children develop the ability to check their work and recognize reasonable answers. We hope also that paper/pencil will not inhibit a child's desire and/or ability to estimate, do mental arithmetic, use patterns, and so on. Calculation should be a tool for solving interesting problems rather than simply a chore done for its own sake.

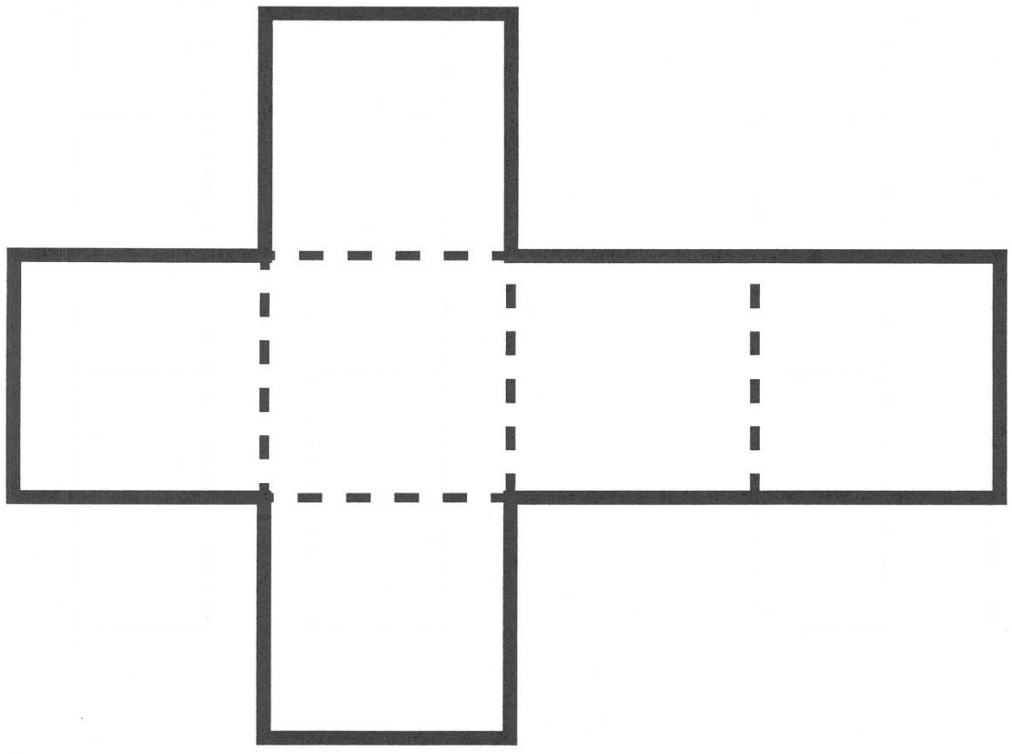
Sincerely,

L5(a)



L5(b)





L7

Dear Parent/Guardian:

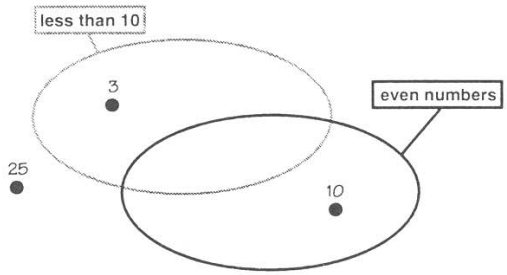
We have been using what *CSMP* calls the "language of strings" (or Venn diagrams) in classification activities. The students have learned to recognize this language by using actual loops of colored string or yarn. Now it has become mostly a picture language.

Using strings to classify helps students organize ideas while developing an understanding of concepts. Basically, the strings sort objects according to various attributes. An object is either in or out of a string. See the examples below.

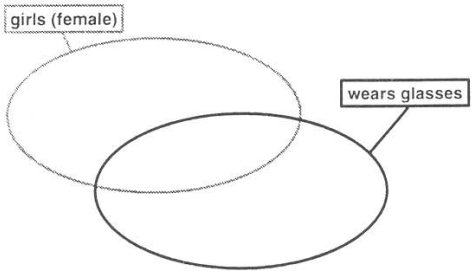
String pictures give us a way of recording and communicating about classifications. The ability to classify, reason, and extract information from classifications is an important skill for everyday life and particularly in understanding mathematics. The picture language of strings can help young minds to think logically and creatively, as well as to report their thinking, long before they have advanced verbal skills.

Here are a couple of examples of the use of strings in *CSMP*. Ask your child to help you do the following:

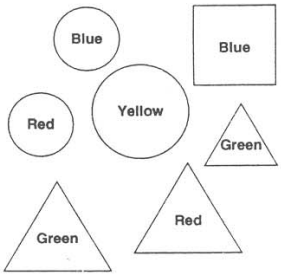
Place these numbers in the picture: 5 17 20 8 0 1

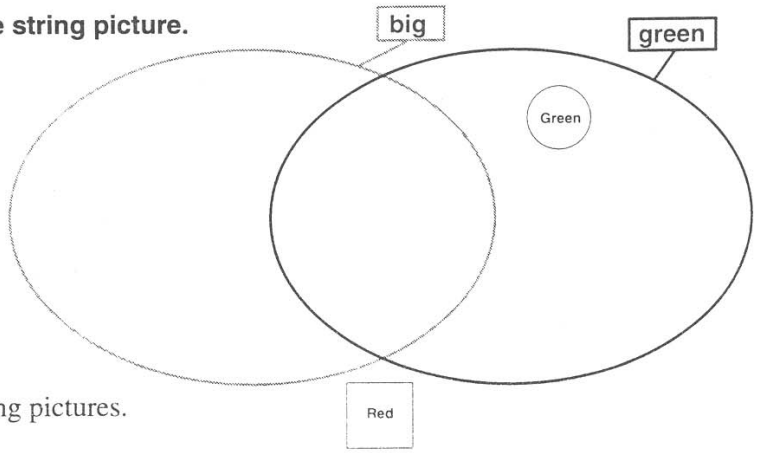


Place a dot for each member of your family.



Place these attribute blocks in the string picture.





We hope you enjoy working with string pictures.

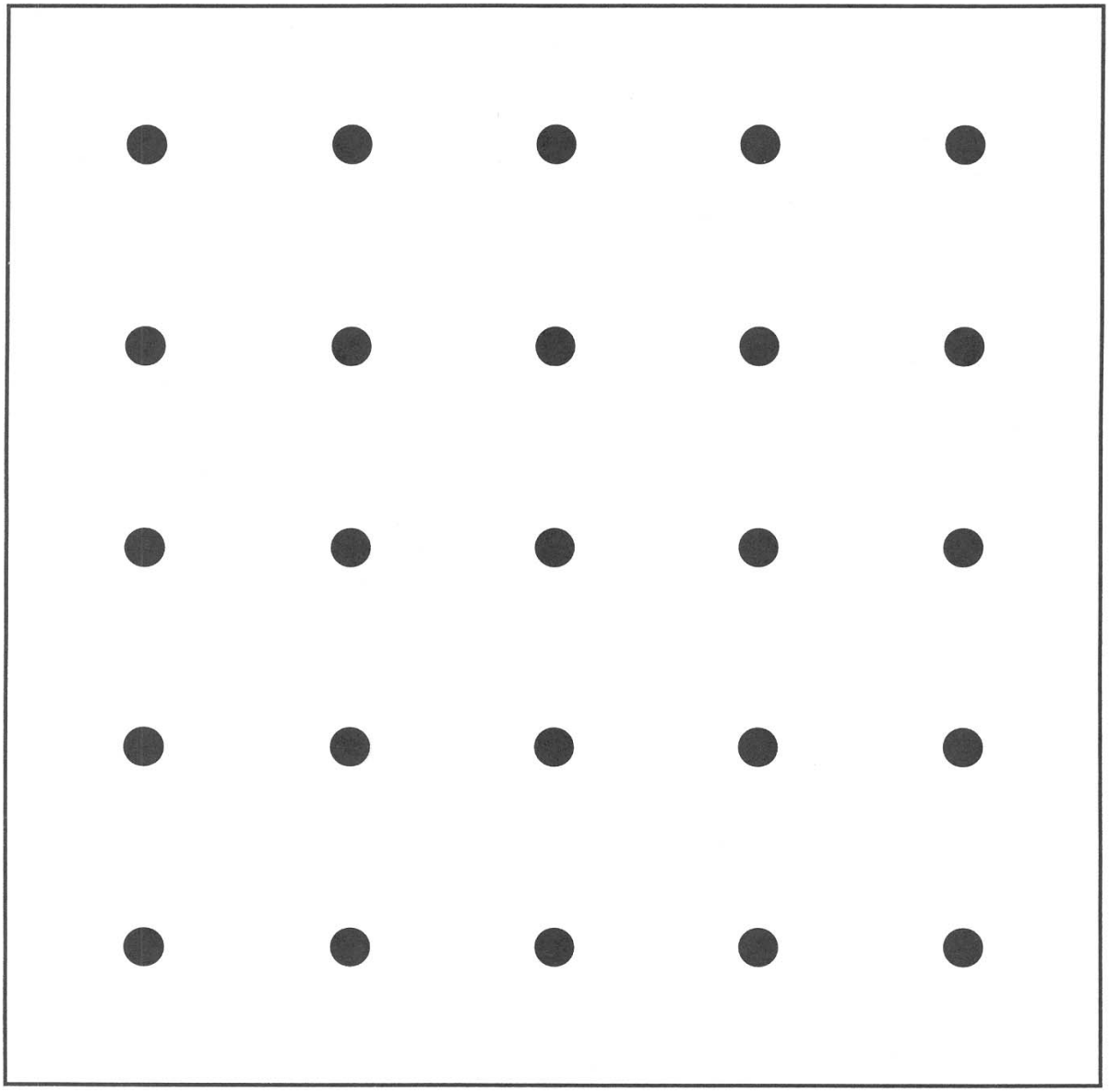
Sincerely,

L12

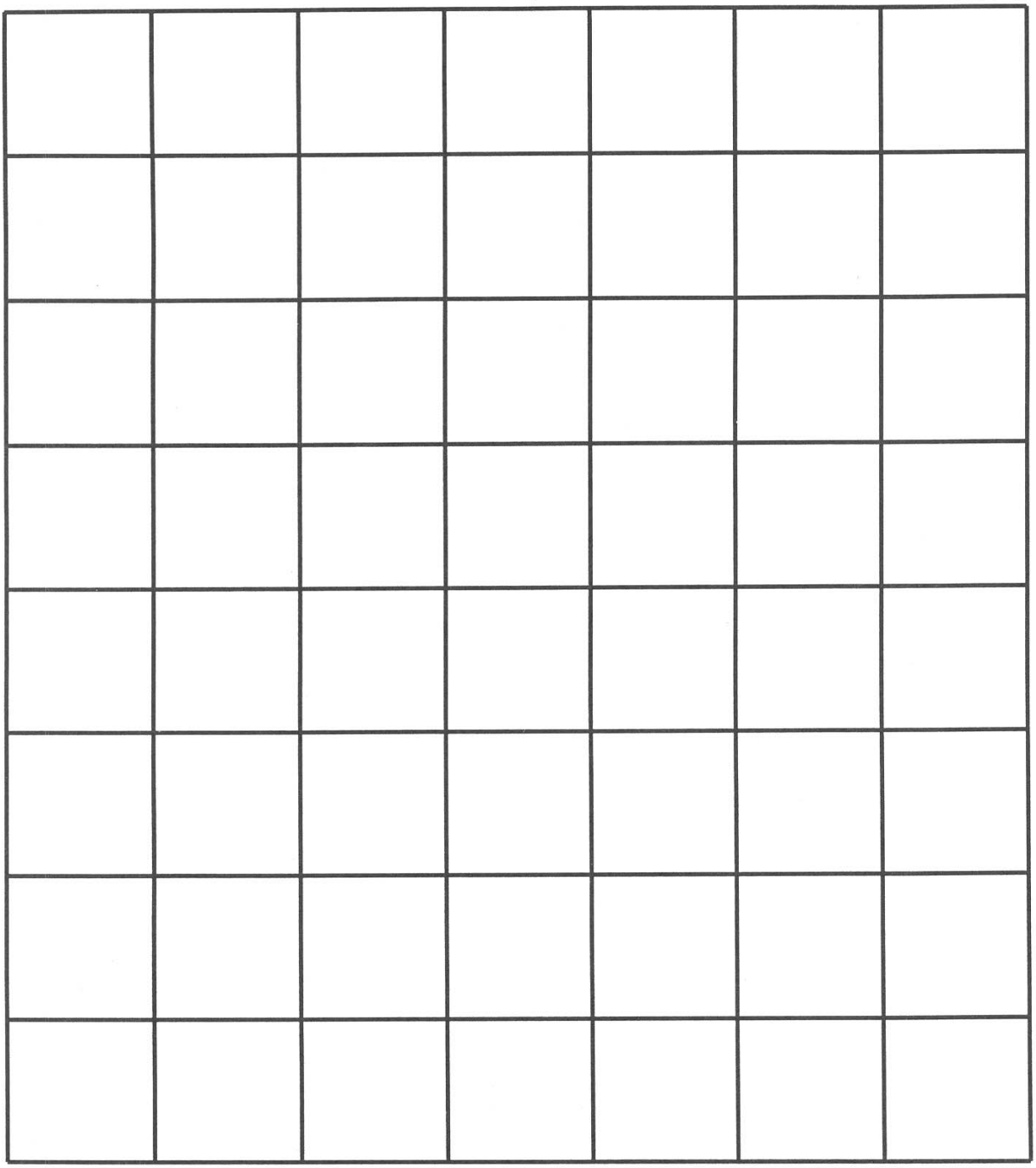
G1

What I Used (unit)	**Guess**	**Check** How many units to cover?

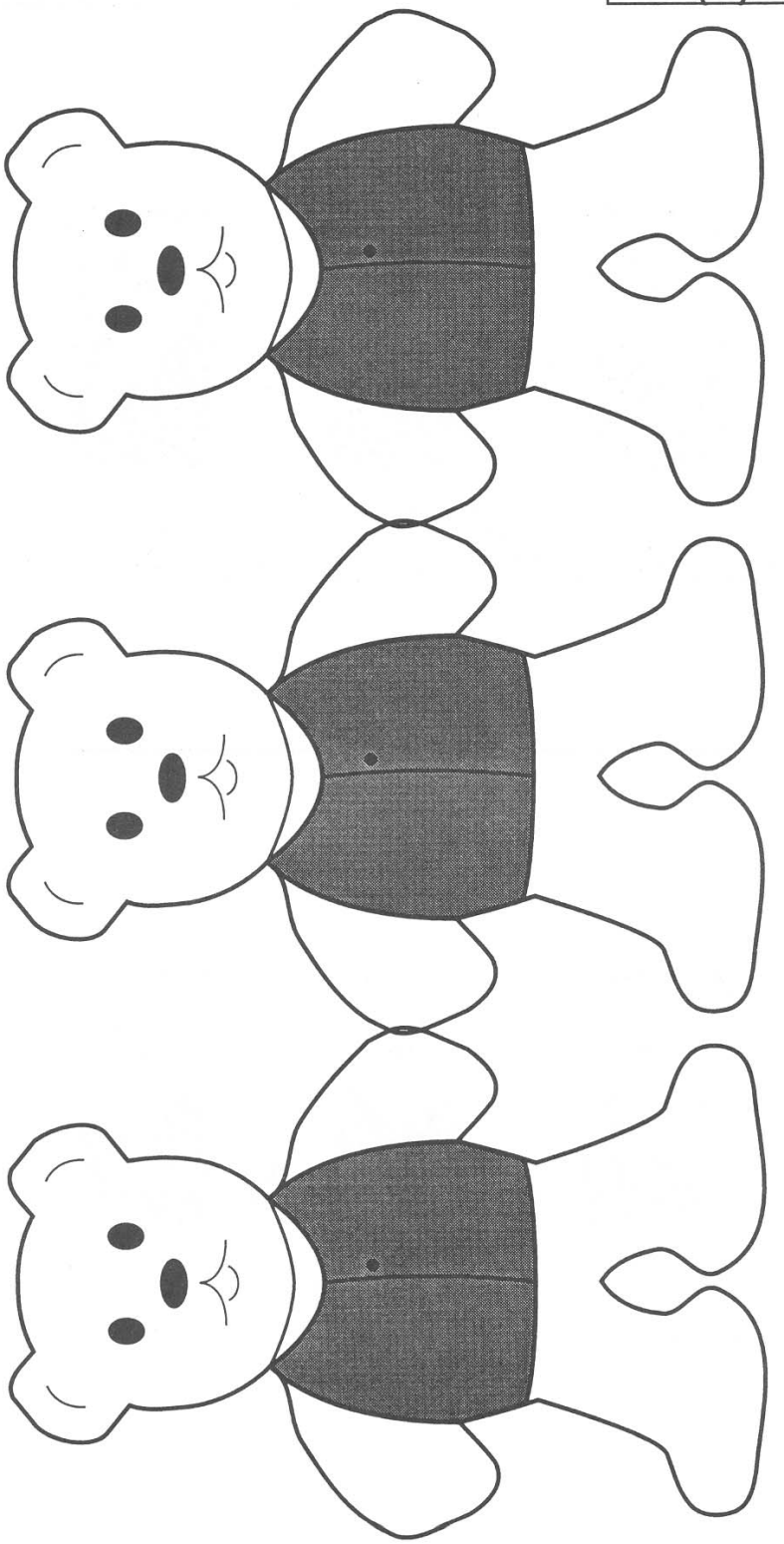
G2



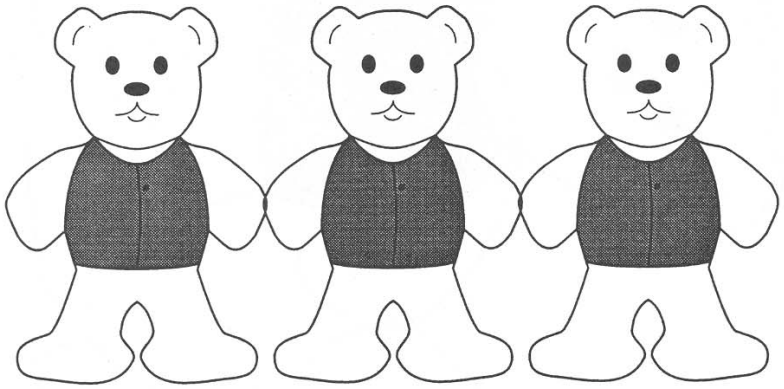
G3

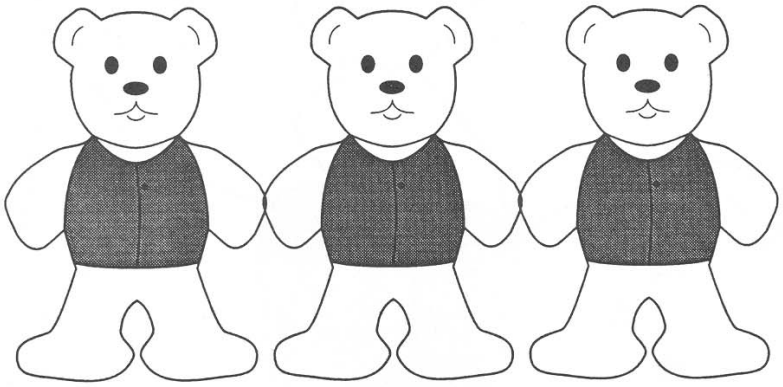


G4(a)

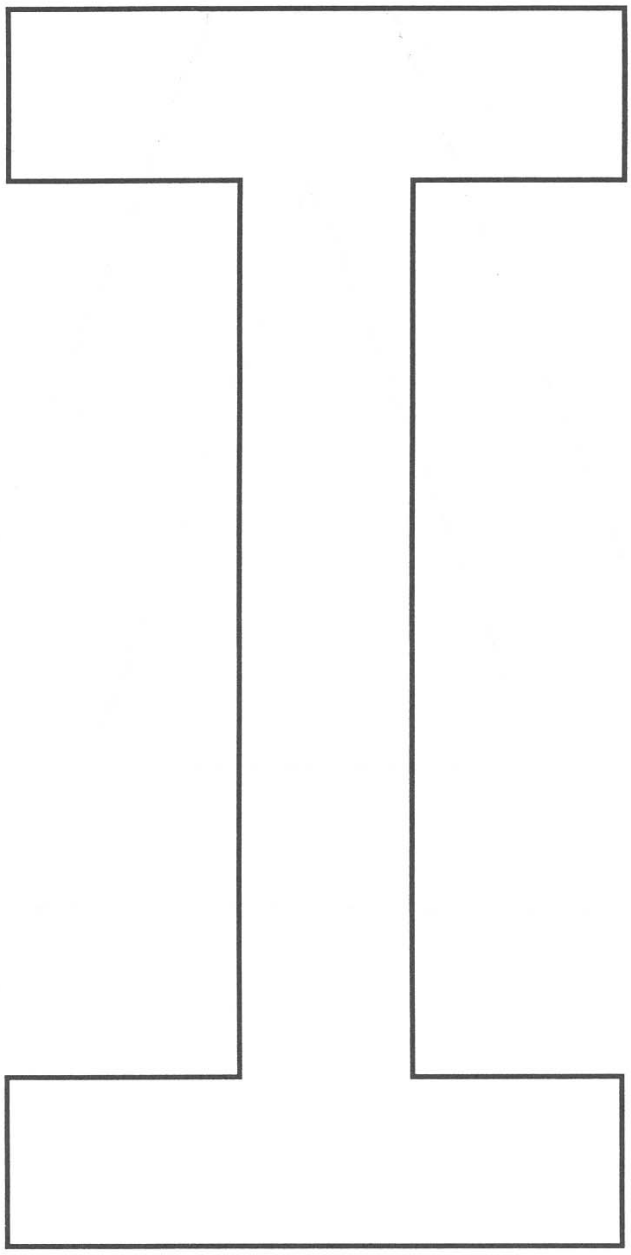


G4(b)

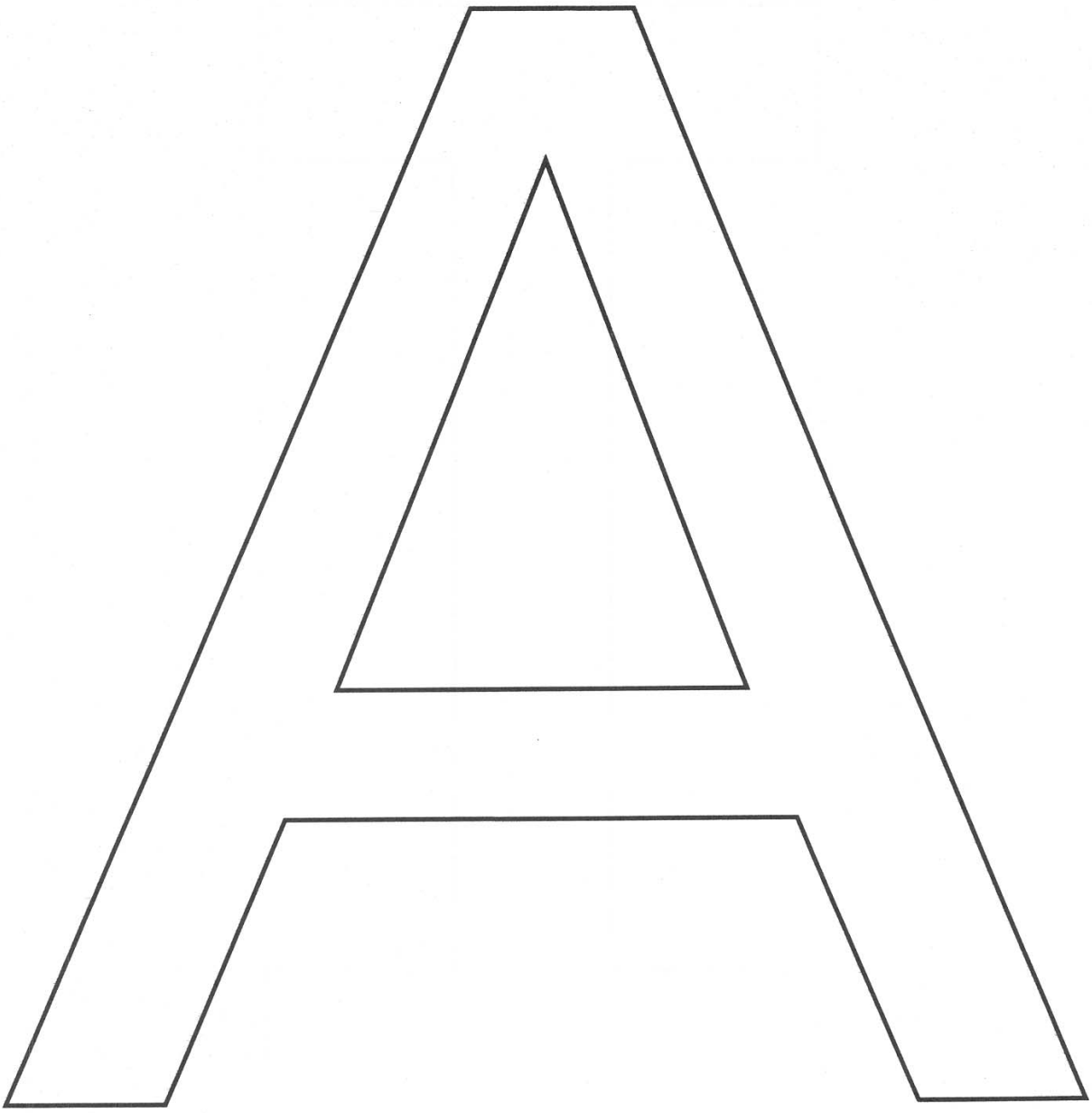




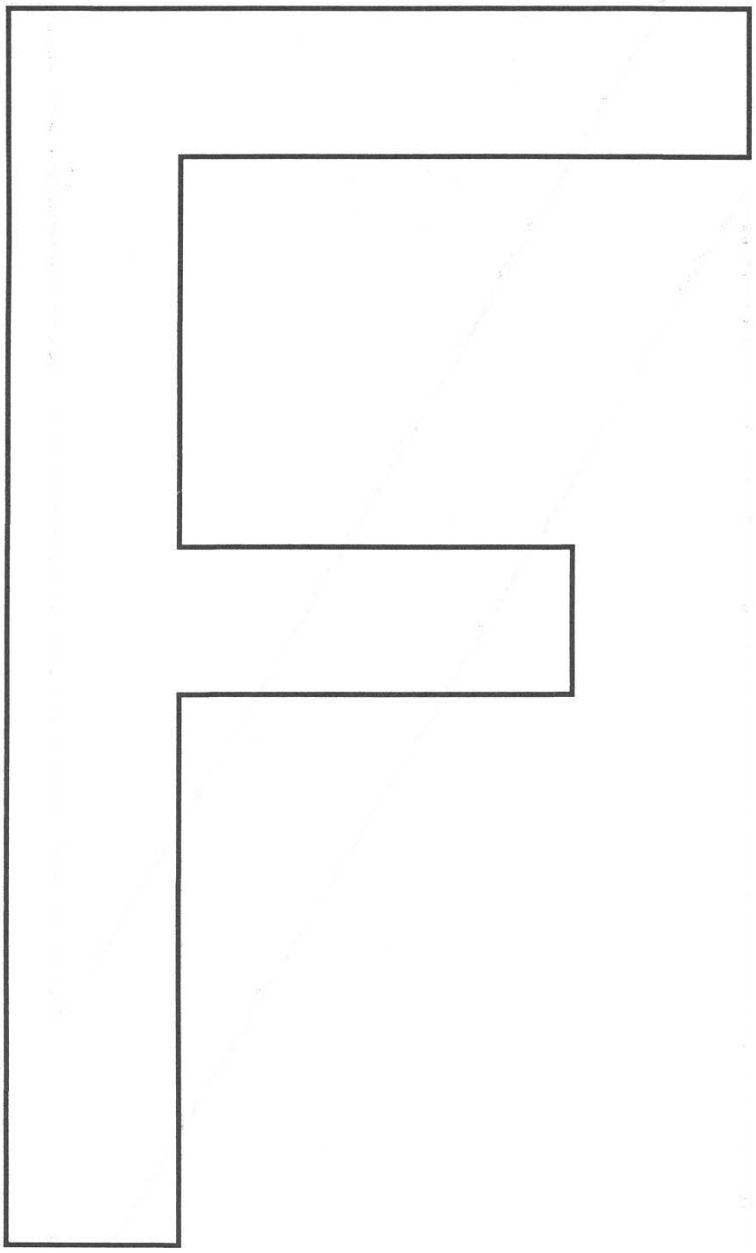
G6(a)



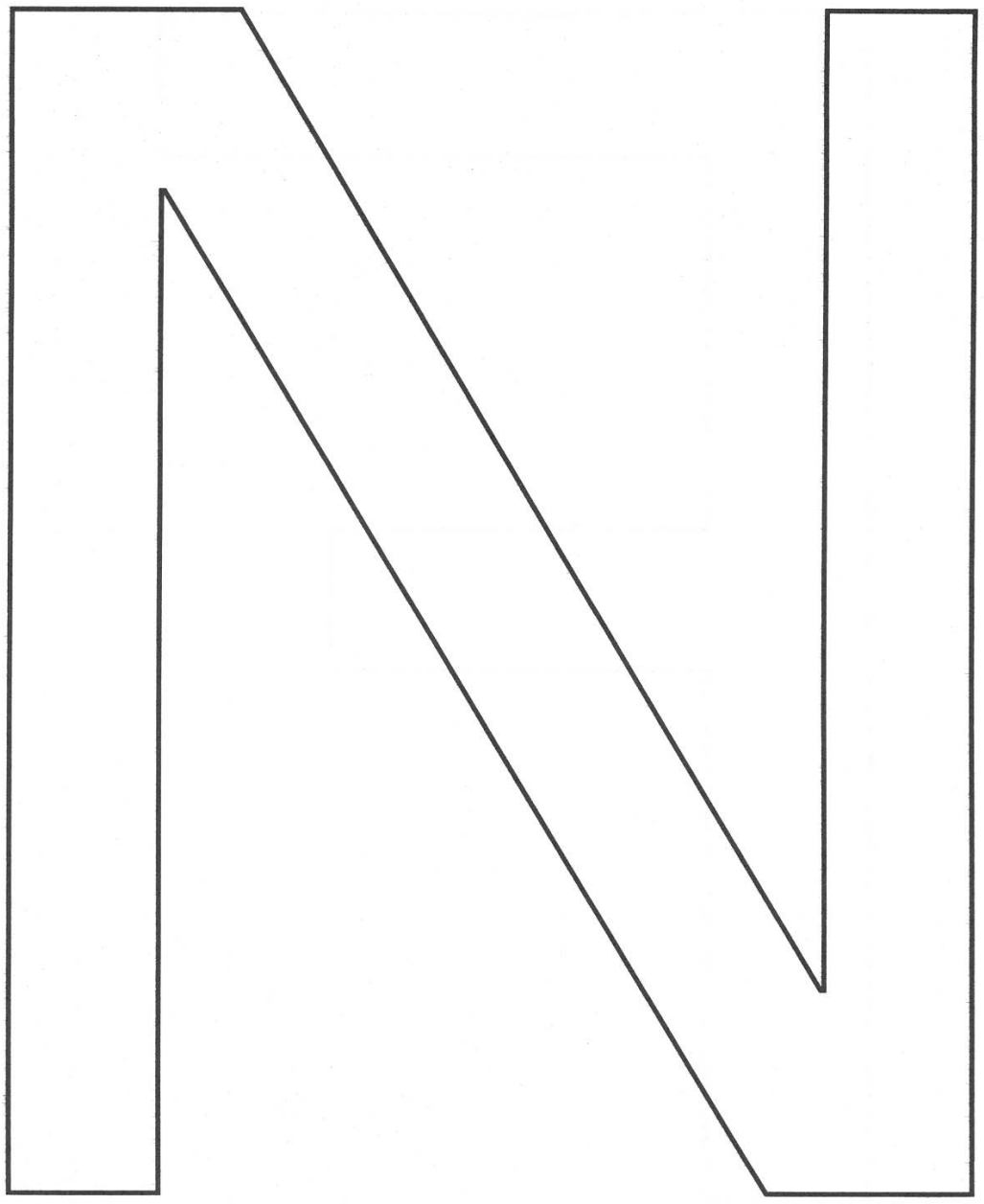
G6(b)



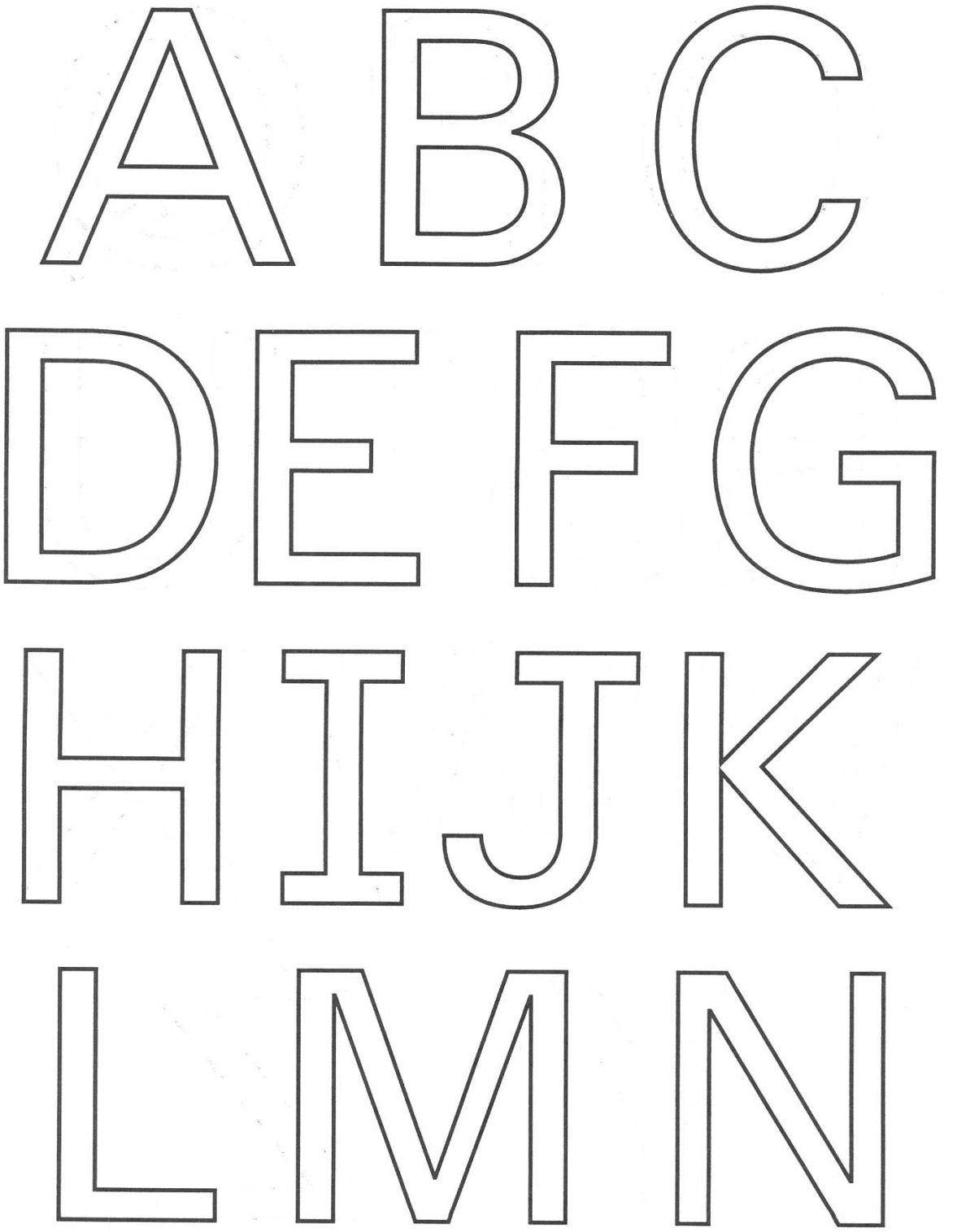
G6(c)



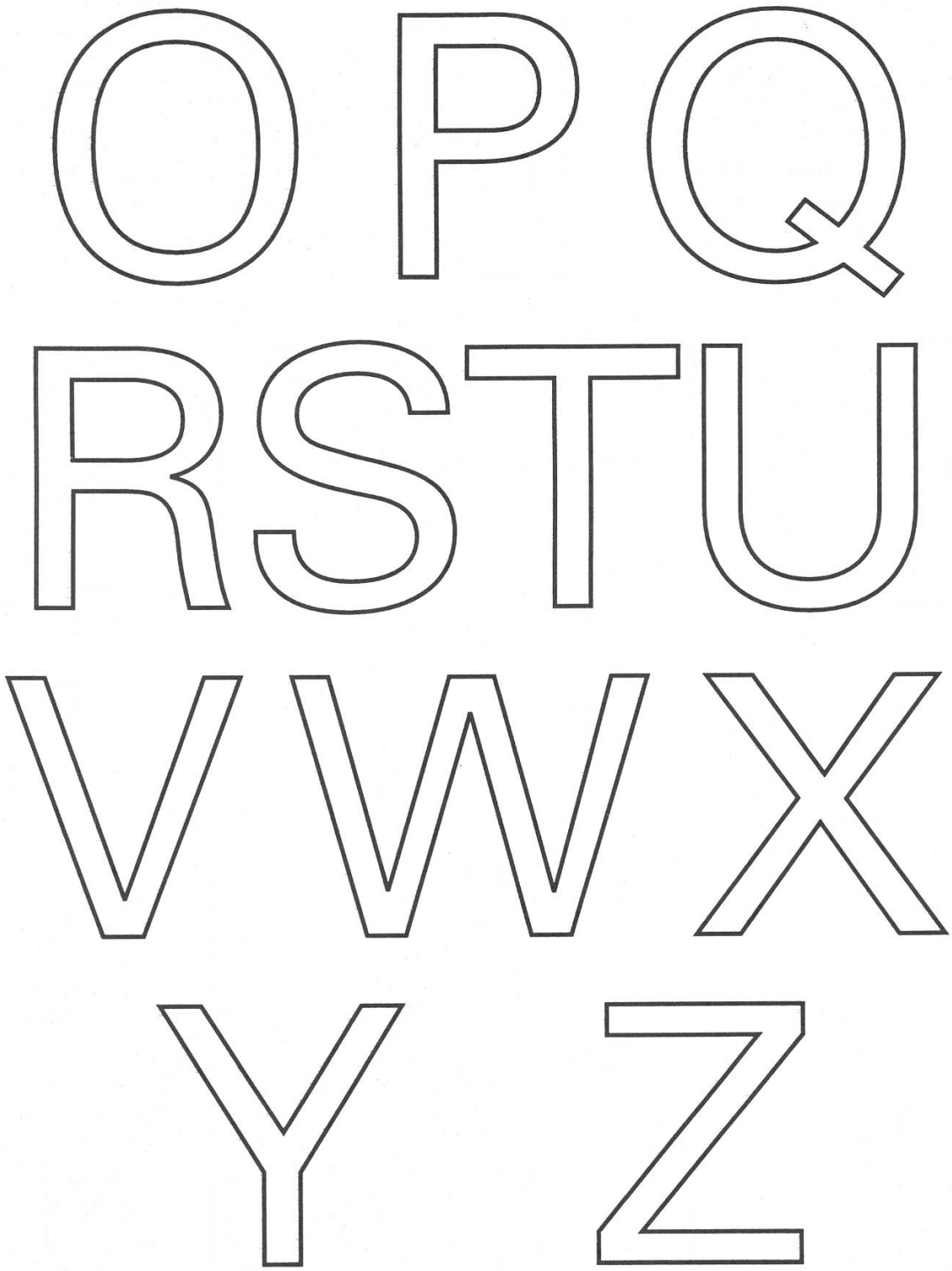
G6(d)



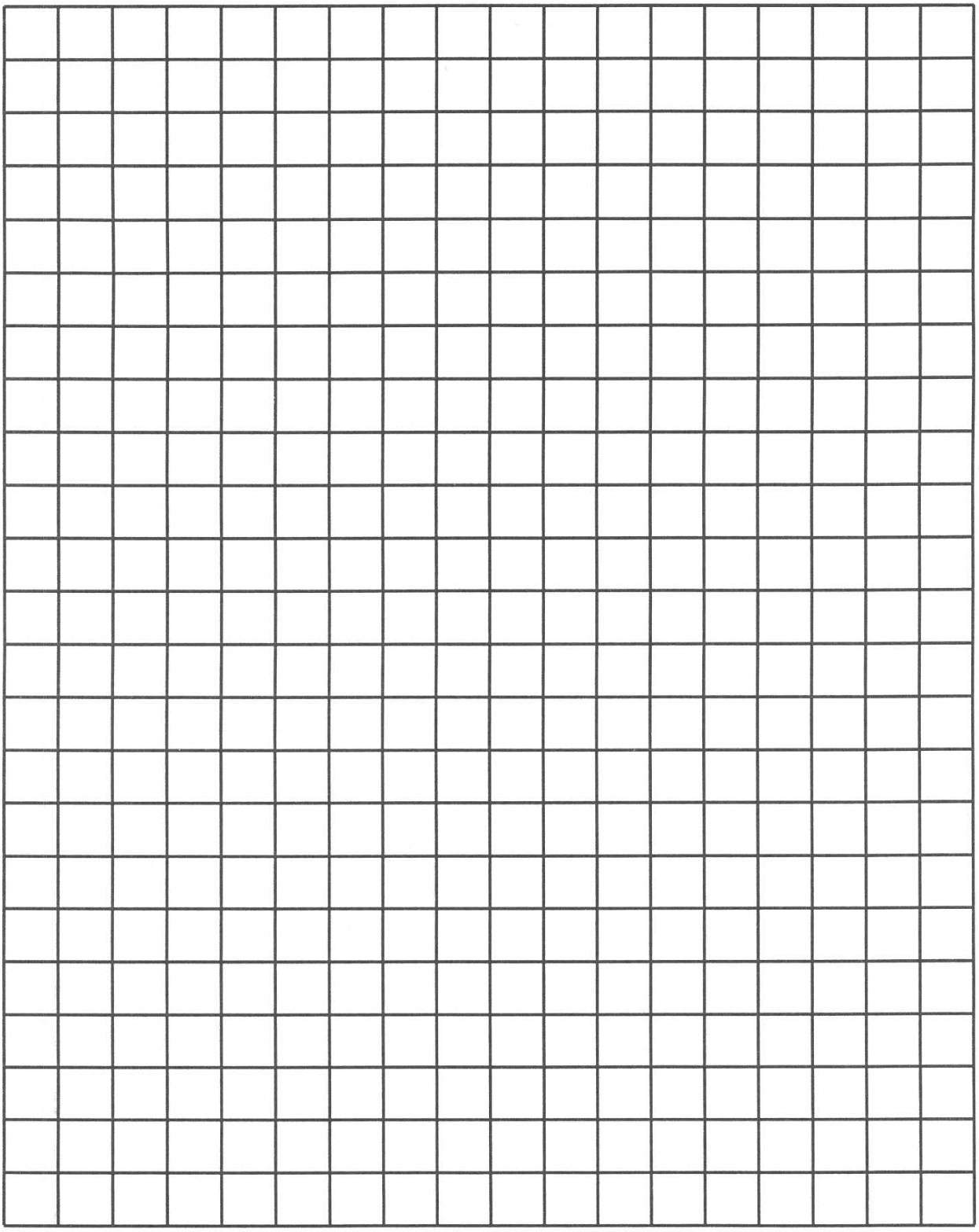
G6(e)



G6(f)



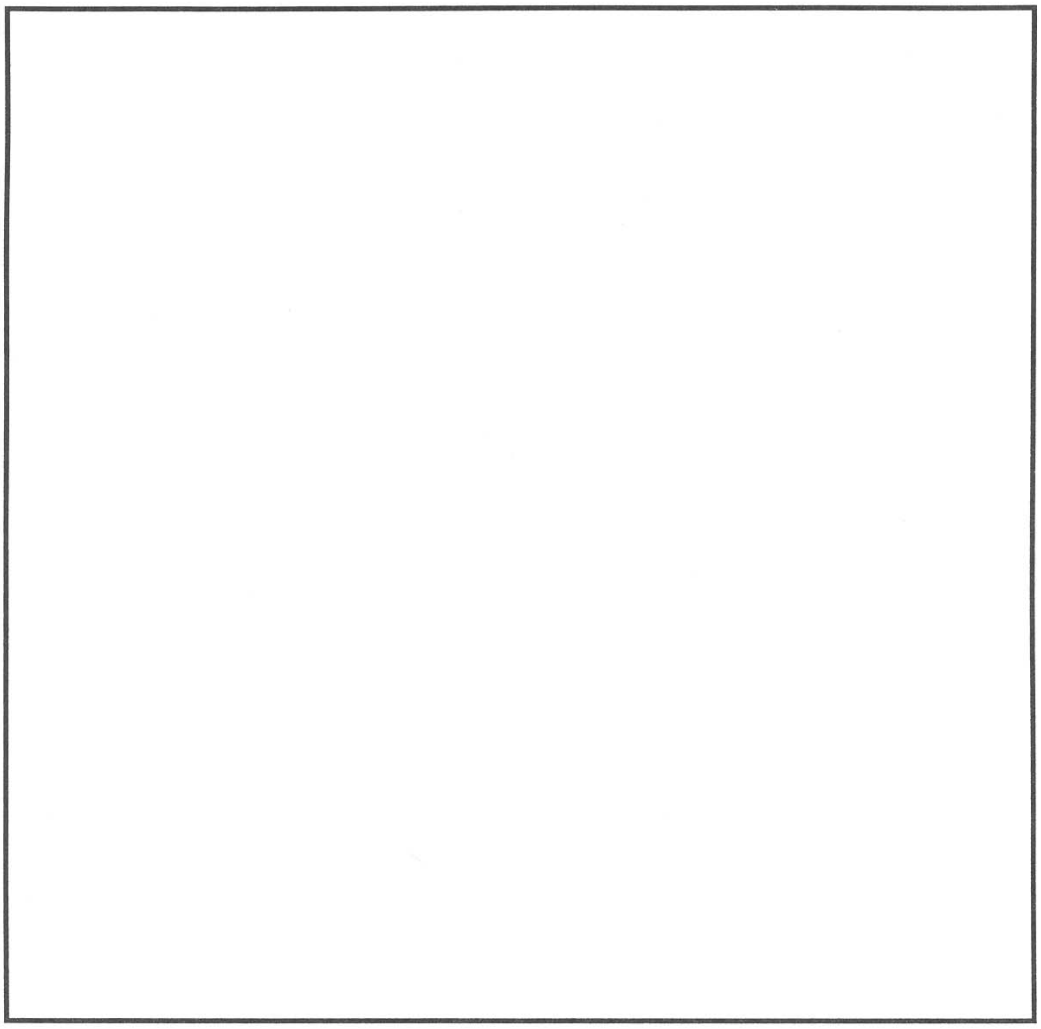
G7



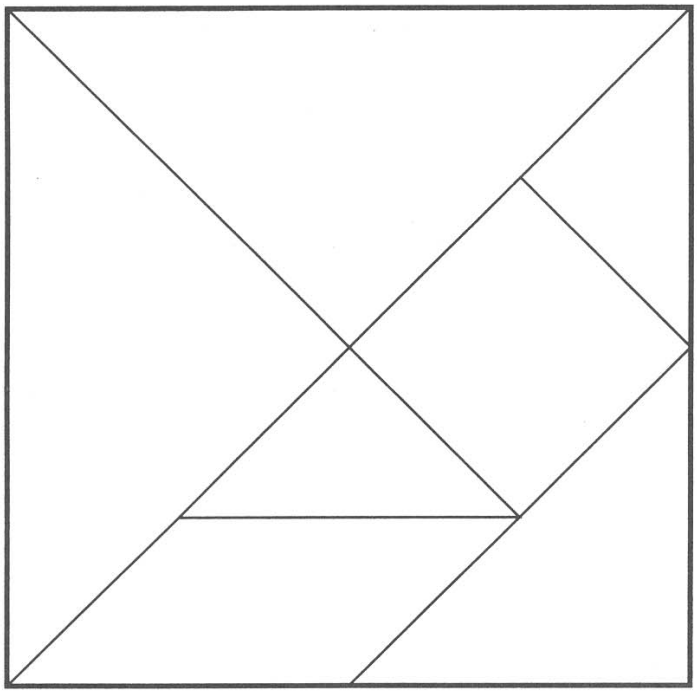
G8

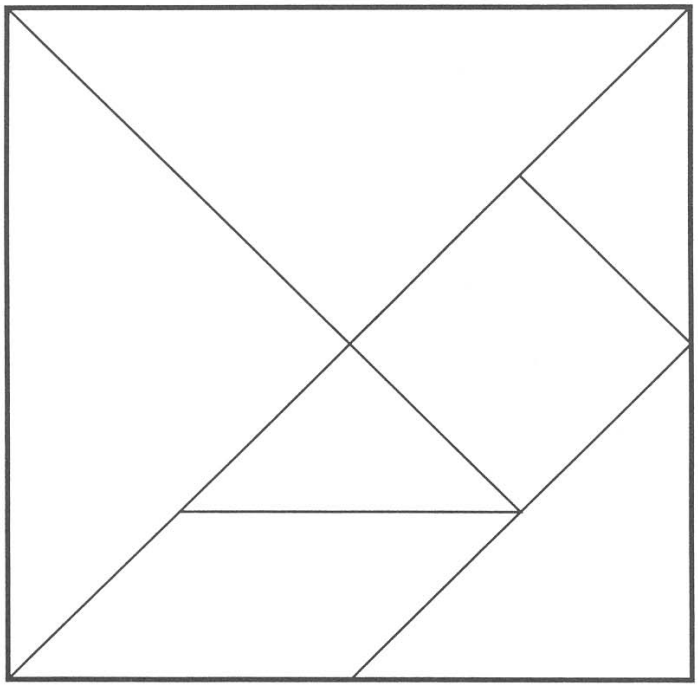
What We Measured	Orange Rods	White Rods (centimeters)

G9

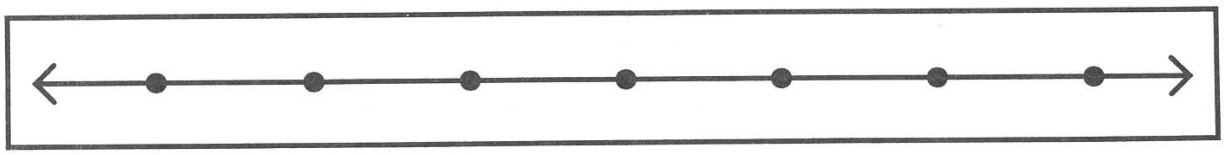


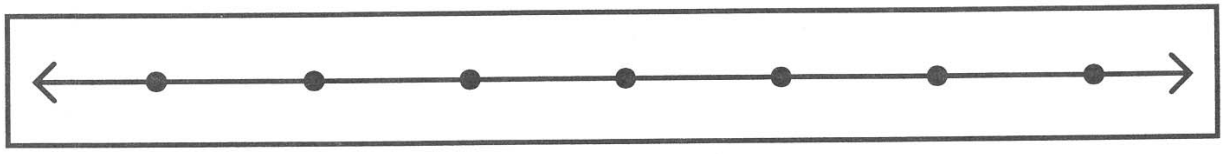
G12

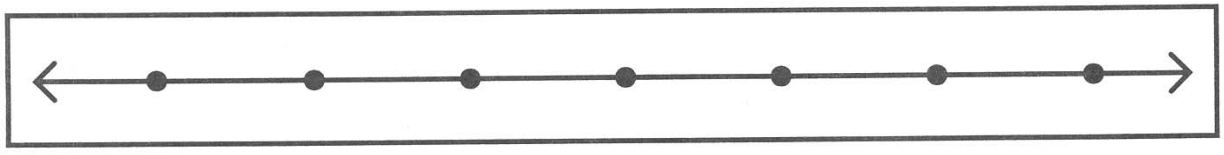


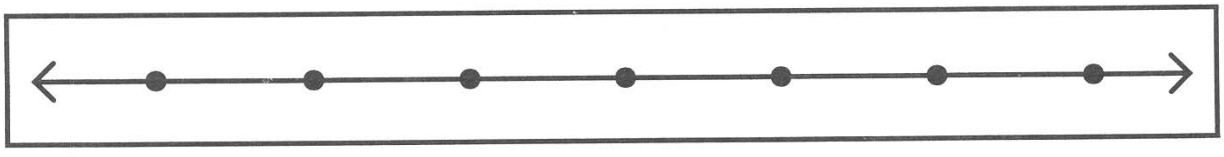


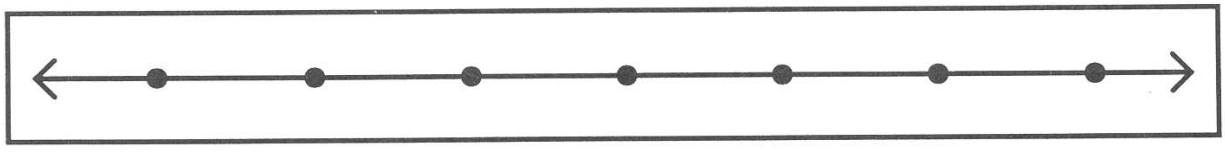
W1











W2

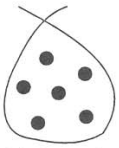
Dear Parent/Guardian:

Your child has heard a story called "Eli's Magic Peanuts." Magic peanuts give us a model for introducing the concept of negative numbers. The story in brief is the following:

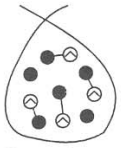
There is an elephant named Eli who is always hungry. Eli's favorite food is peanuts. He likes peanuts so much that he always carries a little bag in which to collect peanuts wherever he goes. One day, while out walking, Eli spots a strange peanut bush he has never seen before. Eli does not know it, but the peanuts from this bush are magic!

Eli gathers some of the magic peanuts and puts them in his bag with some regular peanuts.

Whenever a magic peanut comes in contact with a regular peanut, both peanuts suddenly disappear.

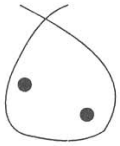


Eli's bag with 6 regular peanuts



...with 6 regular peanuts and 4 magic peanuts

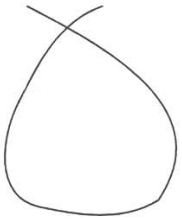
When Eli returns home he is hungry from walking all day. He decides to eat the peanuts. When he opens his bag, he is surprised because there are just two regular peanuts. The rest have disappeared.



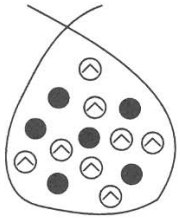
$6 + \hat{4} = 2$

The story continues using other combinations of numbers and with episodes that bring out properties of negative numbers.

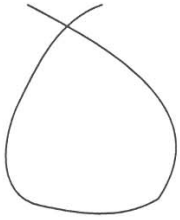
Ask your child to help you complete these number sentences.



$5 + \hat{2} =$



$6 + \hat{8} =$



$4 + \hat{4} =$

In the coming weeks, you may like to ask your child to tell you about other adventures Eli has.

Sincerely,

W4(a)

7-12
(12-5577R)

Student Name _____
Date _____

			Responses[†]
Arrows	p.2	(+1)	10 _____
	p.4	(–1)	6 _____
	p.6	(+2)	5 _____
	p.10	(+2)	12 _____
	p.12	(+3)	9 _____
	p.14	(–2)	8 _____
	p.16	(+5)	15 _____
	p.18	(+2)	12 _____
	p.21	(2x)	12 _____
	p.24	(+3)	9 _____
	p.27	(+5)	20 _____
	p.29	(2x)	10 _____
	p.30	(–10)	8 _____
	p.32	(+3, –1)	8 _____
Minicomputers	p.3	(1–15)	8 _____
	p.9	(1–15)	8 _____
	p.11	(1–120)	5 _____
	p.20	(1–25)	4 _____
Money	p.7	(1¢, 5¢, 10¢)	6 _____
	p.19	(1¢, 5¢, 10¢)	4 _____
Strings	p.31	(less than 10, even numbers)	1 _____
Addition/Subtraction	p.13	(+ with negatives)	6 _____
	p.23	(+ with three numbers)	8 _____
Geometry & Measurement	p.15	(area)	5 _____
	p.22	(area)	4 _____
	p.26	(length)	5 _____
	p.28	(area)	6 _____
Number Facts	p.5	(+)	8 _____
	p.8	(–)	9 _____
	p.25	(+, –)	7 _____

[†]You can use this workbook one of two ways: Either require students to solve every problem on the page as the way of identifying the 7 or 12, or let students simply identify the 7 or 12, but not necessarily solve every problem. Here, the number in the response column indicates the total number of problems on the page.

W4(b)

Dear Parent/Guardian:

With this letter, we are sending home your child's *7-12* Workbook. It contains pages with problems from various areas of our mathematics curriculum. During the past couple weeks, the students have been working independently in this booklet.

Please be aware that the workbook pages become progressively more difficult. Time constraints and individual understanding, skills, and experiences will influence how much of the booklet a student completes. We do not expect every student to complete every page, especially since the last one-third of the booklet is designed for extra challenge. You may wish to discuss pages that were difficult for your child or practice some of these concepts at home.

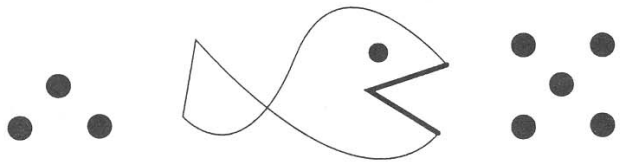
Other workbooks will be sent home later in the year. These should give you an idea of some of the topics and concepts being introduced in our mathematics curriculum as well as help you monitor your child's progress.

Sincerely,

W6

Dear Parent/Guardian:

We have been using the less than (<), more than (>), and equal (=) symbols to compare numbers and write number sentences. Your child may remember the meaning of these symbols from a story about a big fish named Goldy. When Goldy sees two schools of little fish, she always goes after the one with a greater number. We picture this situation like this:



The dots here represent little fish and soon are replaced with numbers. Goldy's picture quickly becomes just the mouth, and students learn to read the resulting number sentences. For example:

3 < 5	Three is less than five.
11 > 6	Eleven is more than six.
6 + 7 < 6 + 9	Six plus seven is less than six plus nine.

You may like to practice addition facts and use the comparison symbols with your child. Here is a simple two person game.

Materials: Paper, pencil, die (or number cube 1-6).
Play: Each player rolls the die for a starting number.
Each player rolls the die for a second number which they add to their starting number.
Players record the results in a number sentence.
Continue until each player has rolled the die five times.
With each roll record, check number sentence, and rewrite.

Example:

Player A		Player B	
4		6	1st Roll
4 + 2	<	6 + 1	2nd Roll
6	<	7	Rewrite
6 + 6	>	7 + 3	3rd Roll
12	>	10	Rewrite
12 + 3	=	10 + 5	4th Roll
15	=	15	Rewrite
15 + 1	<	15 + 3	5th Roll
16	<	18	B Wins

W7(a)

Catalog of Problems #1
(12-5510R)

Student Name _____
Date _____

			Responses
Counting/Sequence	p.3	(number lines 0–103)	24 _____
	p.7	(by fives and tens)	4 _____
	p.19	(by twos, fives, and tens)	22 _____
	p.27	(by fives with tally marks)	6 _____
Arrows	p.2	(+1)	17 _____
	p.4	(+2 with number facts)	18 _____
	p.8	(–1 with number facts)	14 _____
	p.10	(+5 with number facts)	15 _____
	p.12	(+3)	12 _____
	p.14	(–2 with number facts)	16 _____
	p.18	(+3, –1 with number facts)	17 _____
	p.20	(2x with number facts)	13 _____
	p.25	(–2 with number facts)	17 _____
	p.26	(+4, –1)	18 _____
	p.28	(+10 with one- and two-digit addition problems)	15 _____
Minicomputers	p.5	(2–9)	12 _____
	p.11	(10–90)	8 _____
	p.24	(30–650)	6 _____
Money	p.6	(1¢, 5¢, 10¢)	3 _____
	p.23	(1¢, 5¢, 10¢, 25¢)	4 _____
	p.30	(1¢, 5¢, 10¢)	5 _____
Strings	p.17	(girls, has a sister)	5 _____
	p.31	(has a collar, dogs)	4 _____
Addition/Subtraction	p.15	(+ with negative numbers)	6 _____
	p.21	(+, –, x story problems)	3 _____
	p.22	(+)	14 _____
	p.32	(+ story problems)	6 _____
Geometry & Measurement	p.13	(area)	4 _____
<, >, = Relationships	p.9	(number facts)	8 _____
Code	p.16	(decode with +, –)	13 _____
	p.29	(decode with +, –, x)	14 _____

W7(b)

Dear Parent/Guardian:

We have been using calculators at school to enhance many of our math lessons. Calculators are useful tools that can help us work on mental arithmetic skills (especially memorization of facts), pattern recognition, and problem-solving strategies.

You may want to use a calculator with your child at home. The following are examples of the kinds of calculator activities we have done in math lessons and are ones you may like to try with your child. In each case, we describe the activity or give just one sample problem.

- Turn on the calculator and check that 0 is on the display. Cover the display. Press [5] [+] [3] [=]. Ask what will be on the display, and then check.

- Teach the calculator to count by twos using the following steps:
  1) Put on the starting number.
  2) Press [+] [2].
  3) Then press [=] [=] [=] and so on.

  Describe the sequence of numbers you see on the display. Occasionally, predict the next number or the number you will see if you press [=] three more times.

  Note: You will need a calculator with an automatic constant feature for this example.

- Teach the calculator to count backward by fives from 100 to 0 using these steps:
  1) Put 100 on the display.
  2) Press [−] [5].
  3) Then press [=] [=] [=] and so on.

- Use the calculator to solve addition or subtraction problems. In this case, you may first estimate a solution and then use the calculator to check how close your estimate was.

- Teach the calculator a secret rule and let your child try to guess the rule. For example:

Rule	**To Prepare the Calculator**
Subtract 5	Press [5] [−] [5] [=]
Double	Press [2] [×] [0] [=]
Add 4	Press [−] [4] [+] [4] [=]

  Each time you put a number on the display of the calculator and press [=], the calculator will show a new number—the result of using the rule on your number.

  Note: You will need a calculator with an automatic constant feature for this example.

We hope you and your child enjoy using a calculator for these or other activities.

Sincerely,

W10

8?-15?
(12-5585R)

Student Name _____
Date _____

			Responses[†]
Arrows	p.2	(+2)	8 _____
	p.5	(–1)	10 _____
	p.8	(–2)	6 _____
	p.12	(+3)	4 _____
	p.14	(2x)	5 _____
	p.18	(+2)	12 _____
	p.21	(–2)	10 _____
	p.23	(+3)	6 _____
	p.26	(+2, +3)	9 _____
	p.28	(2x)	5 _____
	p.31	(+5, –3)	7 _____
Minicomputers	p.4	(1–10)	8 _____
	p.7	(1–99)	6 _____
	p.11	(1–99)	6 _____
	p.20	(1–99)	6 _____
Money	p.9	(1¢, 5¢, 10¢)	6 _____
Strings	p.16	(even, more than 10)	1 _____
	p.25	(more than 15, odd)	1 _____
	p.32	(even, more than 100, less than 0)	1 _____
Addition/Subtraction	p.24	(one and two digits)	9 _____
	p.27	(two digits with Minicomputer)	6 _____
	p.29	(with negatives)	8 _____
Geometry & Measurement	p.6	(length)	5 _____
	p.13	(area)	6 _____
	p.22	(length)	5 _____
	p.30	(area)	4 _____
Number Facts	p.3	(+, –, x)	6 _____
	p.7	(+, x)	10 _____
	p.10	(+, –)	9 _____
	p.15	(+, positive & negative)	6 _____
	p.19	(+, x)	7 _____

[†]You can use this workbook one of two ways: Either require students to solve every problem on the page as the way of identifying the 8 or 15, or let students simply identify the 8 or 15, but not necessarily solve each problem. Here, the number in the response column indicates the total number of problems on the page.

W11

Dear Parent/Guardian:

One context we use in math class for logical thinking and problem solving is a detective story. In the story there is a mystery number and students act as detectives using several clues to discover the secret number. The first clue usually gives many possibilities, and then other clues eliminate possibilities until there is just one. Students put several pieces of information together to find a solution. The clues may use a variety of ideas: coins, strings, arrows, the Minicomputer, a calculator, and so on. In this way we also have an opportunity to review and connect different concepts. There was an example of a detective story in the letter to parents about *CSMP* sent home near the beginning of this school year.

You may like to try making up detective stories to do with your child. You can use numbers or other things familiar to your child. Two examples are given here, but you may like your own better or your child may have some suggestions.

Secret Animal

Clue 1. It is a kind of bird.

Clue 2. Its name rhymes with *me*.

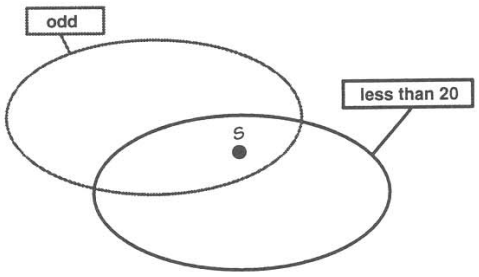
Clue 3. Tom is one.

Clue 4. There are many in the stores before Thanksgiving.

Answer: Turkey

Secret Number - S

Clue 1.



Clue 2. You say this number when you count by fives starting at 0.

Clue 3. You cannot put this number on the Minicomputer with two checkers.

Answer: 15

We hope both you and your child enjoy detective stories.

Sincerely,

W12

0	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49
50	51	52	53	54	55	56	57	58	59
60	61	62	63	64	65	66	67	68	69
70	71	72	73	74	75	76	77	78	79
80	81	82	83	84	85	86	87	88	89
90	91	92	93	94	95	96	97	98	99
100	101	102	103	104	105	106	107	108	109

W13

Catalog of Problems #2
(12-5528R)

Student Name _____
Date _____

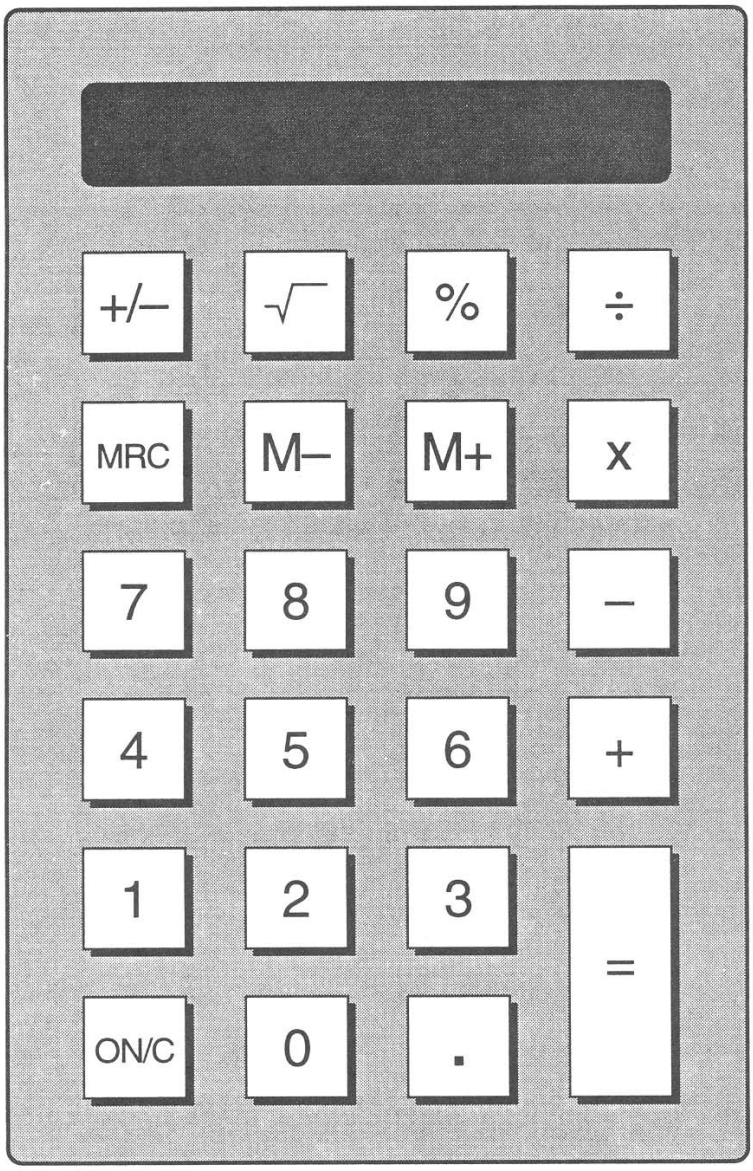
			Responses
Counting/Sequence	p.2	(number lines 18–112)	20
	p.21	(0–109 numeral chart)	44
Arrows	p.3	(+2 with number facts)	18
	p.5	(–1 with number facts)	19
	p.7	(–2 with number facts)	19
	p.9	(+5 with number facts)	23
	p.11	(+3 with number facts)	13
	p.13	(+10 with number facts)	17
	p.16	(+1, +2 arrow road)	various
	p.18	(2x with number facts)	13
	p.22	(+5 dot-to-dot)	12
	p.23	(+2, +3)	9
	p.25	(–2, +5)	13
	p.29	(2x with number facts)	11
Minicomputers	p.4	(12–100)	12
	p.19	(140–810)	8
	p.28	(with pos. and neg. numbers)	10
	p.30	(20 and 100)	8
Money	p.8	(1¢, 5¢, 10¢)	3
	p.27	(story problems)	5
	p.31	(1¢, 5¢, 10¢)	5 or more
Strings	p.10	(second graders, boys)	5
	p.26	(blue, circles)	4
Addition/Subtraction	p.32	(+ story problems)	4
Geometry & Measurement	p.15	(area)	5
	p.24	(symmetry)	8
Number Facts	p.6	(with pos. & neg. numbers)	5
	p.12	(+)	6
Code	p.14	(decode with +, –, x)	12
Data Analysis	p.17		8
	p.20		5

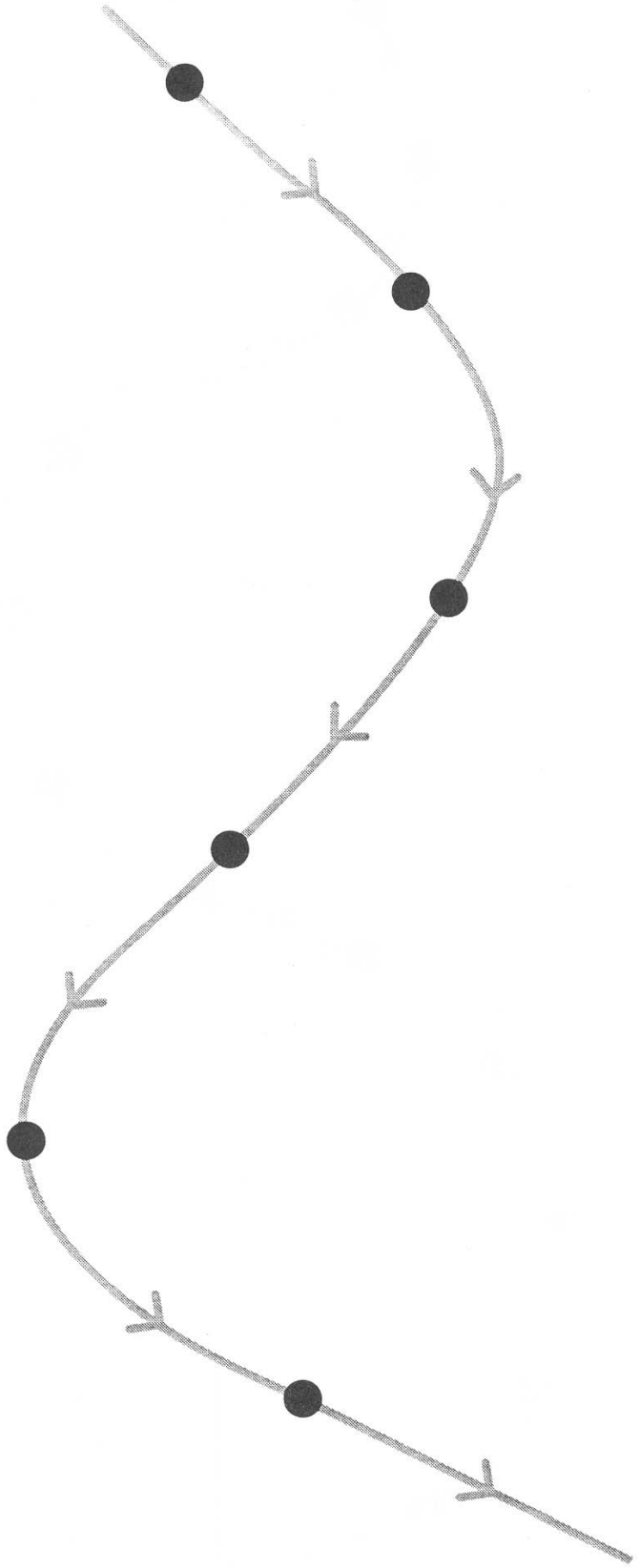
W16

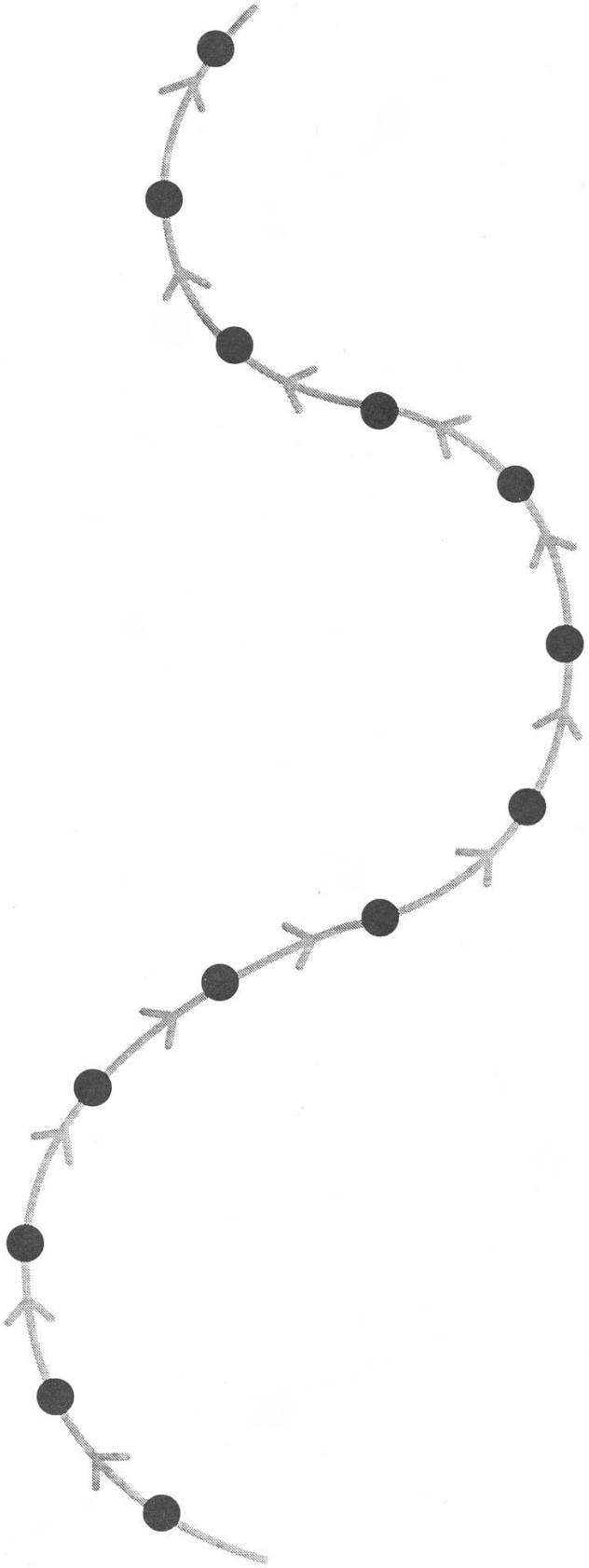
Fishing for Numbers, Part I
(12-5551R)

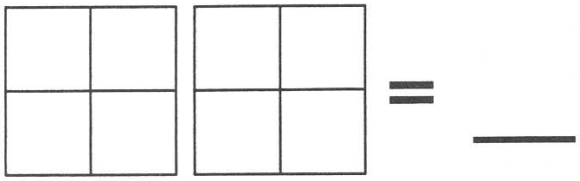
Student Name _____
Date _____

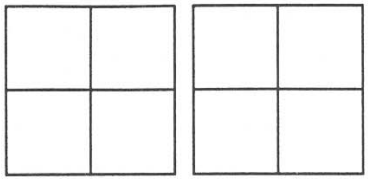
			Responses
Arrows	p.2/3	(+2)	5 _____
	p.6/7	(–1)	9 _____
	p.8	(less than)	3 _____
	p.11	(+10)	6 _____
	p.14	(2x)	6 _____
	p.17	(+2, +1)	8 _____
	p.20	(+2)	9 _____
	p.22	(–1)	11 _____
	p.24	(+3, +2)	8 _____
	p.25	(2x)	9 _____
	p.26	(more than)	4 _____
	p.28	(–5, +3)	9 _____
	p.31	(2x, –4)	8 _____
Minicomputers	p.4/5	(0–70)	6 _____
	p.23	(0–110)	6 _____
	p.30	($\widehat{10}$–10)	6 _____
Strings	p.12	(odd numbers)	4 _____
	p.18	(even numbers, less than 10)	4 _____
	p.27	(more than 50, less than 100)	4 _____
	p.32	(more than 25, odd numbers, less than 20)	6 _____
Addition/Subtraction	p.10	(+ of two and three numbers)	5 _____
	p.13	(two-digit numbers)	8 _____
	p.29	(+, –, x including ½)	8 _____
Geometry & Measurement	p.16	(length)	5 _____
	p.21	(area)	5 _____
Number Facts	p.9	(+, –)	8 _____
Number Sense	p.15		5 _____
	p.19		5 _____

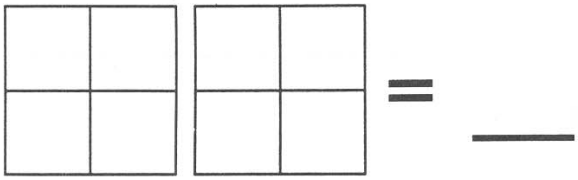

+/–
√
%
÷
MRC
M–
M+
x
7
8
9
–
4
5
6
+
1
2
3
=
ON/C
0
.

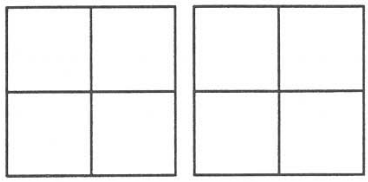


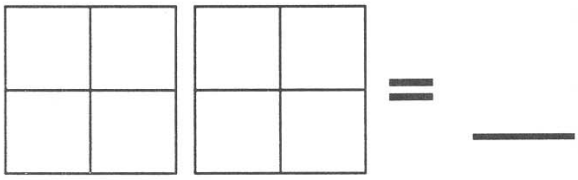


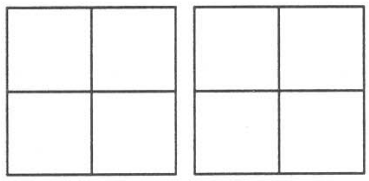
 = ____

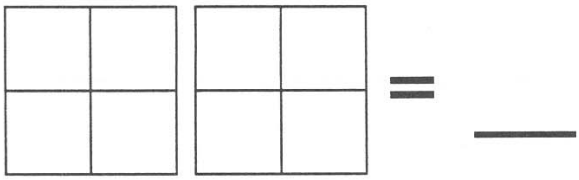
 = ____

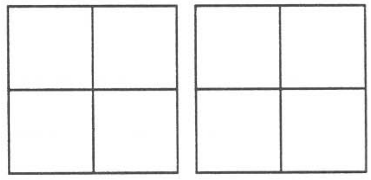
 = ____

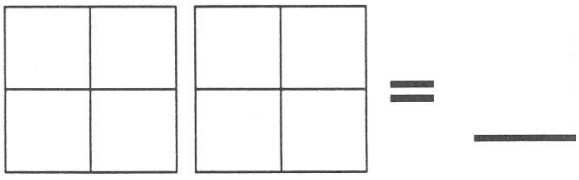
 = ____

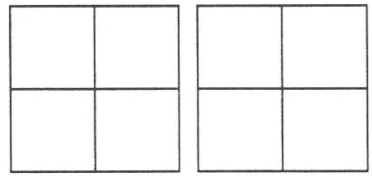
 = ____

 = ____

 = ____

 = ____

 = ____

 = ____