

# CSMP Mathematics for the First Grade Blacklines

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

Home Activity Blackline F0 contains a letter to parents explaining how home activities work. Please note that subsequent home activities may be reproduced and cut off, one at a time, to be sent home as appropriate.

**MCREL**



# FIRST GRADE HOME ACTIVITIES

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**FO**

**Dear Parent/Guardian:**

Activities which accompany various lessons in our mathematics program (*CSMP Mathematics for First Grade*) 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,

## **FIRST GRADE HOME ACTIVITIES**

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### **F4**

Provide opportunities for your child to use matching (one-to-one correspondence) in answering more/less questions. For example,

- Put some spoons and forks on the table. Are there more spoons or forks?
- Put some pennies and nickels in a pile. Are there more pennies or nickels?
- Examine a game with two colors of checkers or markers. Are there more of one color or the other?

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### **F5.2**

Provide opportunities for your child to practice writing numerals. For example, ask your child to write your phone number or address on a paper.

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### **F6.2**

If you have a connect the dots (dot-to-dot) activity book, work with your child on recognizing numerals and counting by ones. Try to do one or two pages by counting backward; that is, start at the greatest number and work to the least.

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### **F9**

With your child discuss things that come in pairs. Then count something that comes in pairs. For example, how many pairs of shoes do you own? How many fit your left foot? How many fit your right foot? How many individual shoes do you own?

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### **F12**

Work with your child to list things you can find at home that are circle-shaped;...square-shaped; ...triangle-shaped.

## FIRST GRADE HOME ACTIVITIES

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### F13

With your child, use tally marks (||||) to record how many items are in a collection of things such as rubber bands or buttons. Your child might like to use this recording method to count how many things are in a favorite collection.

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### F16.2

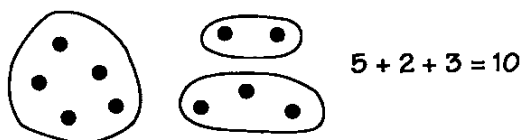
With your child, practice counting by ones but start at a number other than 0 or 1. For example, count by ones starting at 12. Find opportunities to ask, for example,

- What number is 1 more than 21?
- What number is 1 less than 15?
- What number is  $19 + 1$ ?

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### F19.2

Put ten pennies (or counters) on a paper. Ask your child to give the pennies to two or three or four imaginary people. Tell your child it's okay to give a different number to different people. Observe that when you add the numbers of pennies given to each person, the total is 10. For example,



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### F22

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. Start at a number other than 0 or 1 and use the counting calculator and predict what number will come next when you are at, for example, 36. Predict which number you will see if you are at 42 and press  $=$  three more times.

## FIRST GRADE HOME ACTIVITIES

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### F23

Try to find some opportunities to estimate with your child. For example, estimate how many candies there are in a package (such as a small package of M&Ms). If you then do an actual count, compare the count to your estimate. Also, you might group by tens to help organize the counting.

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### F25.1

With your child practice counting by twos and by tens. Also, practice counting backward from some number.

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### F25.2

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

- (1) Put on the starting number.
- (2) Press  $\ominus$  1.
- (3) Then, press  $\ominus$   $\ominus$   $\ominus$  and so on.

**Note:** You will need to use a calculator with an automatic constant feature.

Use the calculator to count backward from some fairly big number, for example, 50. Occasionally predict what number will come next when you are at, for example, 28. Predict what number you will see if you are at 17 and press  $\ominus$  two times.

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### F28

Find a collection of between 50 and 100 things to count with your child; for example, you might use a deck of cards. Organize the counting by grouping in tens. That is, with the cards, make piles of ten cards each and have two cards left over. Count: “10, 20, 30, 40, 50, 51, 52.”

## FIRST GRADE HOME ACTIVITIES

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### F31.1

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) are covered.

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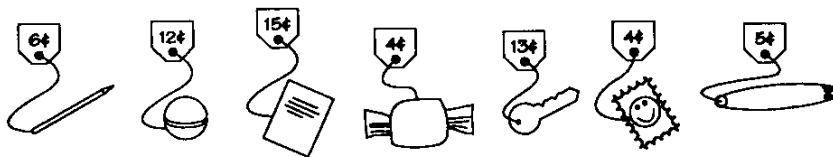
### F33

Find something that you might purchase or get in packages of ten (for example, a book of ten postage stamps or a package of ten cookies). With your child, decide how many packages you should buy if you need 30 (or 52). Read numbers like 38 as “thirty-eight” as well as “three tens and eight ones.”

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### F35

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



Give your child some coins with which to “purchase” some of these items. That is, ask your child to show you which coins they would use to make exactly 12¢ to buy the ball.

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### F41.2

With your child, practice adding 1 to a number between 0 and 50. You can do this by completing addition problems like those on the worksheets (F41.2 \* and \*\*) or by asking questions such as “which number is 1 more than 37?”

## FIRST GRADE HOME ACTIVITIES

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### F43

Your child is bringing a Tangram home. There are seven pieces in the Tangram. With your child, try to use all seven pieces to cover the designs on the attached pages.

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### F48

With your child, practice counting by ones, counting backward, and counting by twos. The attached connect the dot (dot-to-dot) puzzles can give your child this practice as well.

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### F52

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

- (1) Put on the starting number.
- (2) Press  $\oplus$   $\boxed{2}$  (forward) or  $\ominus$   $\boxed{2}$  (backward).
- (3) Then, press  $\equiv$   $\equiv$   $\equiv$  and so on.

**Note:** You will need to use a calculator with an automatic constant feature.

While using the counting calculator, occasionally predict which number will come next or predict which number you will see after pressing  $\equiv$  two more times.

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### F58

Your child is bringing home a headband made in math class. Ask your child to describe the pattern used to make this headband. Your child may also like to tell you about patterns used by classmates to make other headbands.

With your child, look for and describe patterns in such things as wallpaper or clothing.

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### F59

Find opportunities to count by fives with your child. For example, count by five to calculate an amount of money in a collection of nickels. The attached connect the dots (dot-to-dot) worksheet uses counting by fives.



## FIRST GRADE HOME ACTIVITIES

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### **F81.2**

Your child is going to measure some things at home using two different units of measurement: an orange C-rod and hands of various family members. It will be interesting to observe the different measurements you obtain using different family members' hands.

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### **F85.2**

Your child is going to ask various family members about the different ways they use math every day. Please discuss this question with your child so that he/she can share information with the class.

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### **F86**

Your child is bringing home a 2x arrow picture, starting at 3. This picture was generated from a story about a girl's interesting birthday present from her uncle. Your child may be able to tell you about the story. The idea is to start with 3 cents and double it each day for several days. Work with your child to label the dots in the arrow picture. You may use the Minicomputer to do some of the calculations.

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### **F91**

Try to find opportunities to estimate with your child. For example, estimate how many paper clips are in a small box. Then do an actual count to compare it with your estimate. When you count the actual number, you can put the clips in piles of ten and count by tens.

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### **F92.1**

Your child is bringing home a picture similar to one we used in a subtraction story. Work with your child to make up a story to go with this picture. Then write some number facts to go with the story.

## FIRST GRADE HOME ACTIVITIES \_\_\_\_\_

### **F92.2**

Your child is bringing home some blank number lines. In each case, choose a number between 0 and 100 to put at one of the dots. Then work with your child to label the other marks.

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### **F97.1**

Your child is bringing home an array of dots. First observe with your child how many dots are in the array. Next, use a piece of paper to cover some of the dots and ask, "How many dots can we see? How many dots are hidden?" Then, write some number facts about this array of dots.

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### **F102.2**

Ask your child to tell you about the attached map of Tina's neighborhood. **T** is where Tina lives and **L** is the library. With your child, find several different paths Tina could take from her house to the library. Also compare the lengths (measured in blocks) of the paths you find.

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### **F104.1**

Try to find opportunities to count by tens with your child. For example, you might calculate an amount of money in a collection of dimes.

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### **F108.1**

Try to find opportunities to work with your child on sharing activities. For example, share 24 things equally several (two, three, or four) ways.

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### **F111.2**

Work with your child to complete the problem on the attached sheet. Try to draw as many arrows as you can, but watch the color key for arrows. Write number facts told by the arrows.

## FIRST GRADE HOME ACTIVITIES

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### F114.2

Complete the attached number friends problem with your child. You may want to start by asking your child about number friends. For your information, two numbers are 9-friends (for example) if their sum is 9; two numbers are 7-friends when their sum is 7; and so on.

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### F117.2

There are two different  $3 \times 3$  squares on the attached page. Ask your child to determine whether or not these are magic squares. (You may want to start by asking your child to tell you about magic squares.) For your information, a magic square is one in which the sum of the three numbers in any row, column, or diagonal is always the same. You may suggest using a calculator to check the addition.

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### F121.2

Try to find some opportunities to add prices with your child. For example, after going to the store, write down the costs of two or three different items less than 50¢ and work with your child to find the total cost of those items. You may suggest using a calculator or the Minicomputer.

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### F123.2

Ask your child to show you how to teach a calculator to count forward and then backward by threes, starting at 0. For your information, you do this using the following steps:

- (1) Put on the starting number (0).
- (2) Press  $\oplus$   $\boxed{3}$   $\boxed{=}$   $\boxed{=}$   $\boxed{=}$  and so on (forward).
- (3) Press  $\ominus$   $\boxed{3}$   $\boxed{=}$   $\boxed{=}$   $\boxed{=}$  and so on (backward).

**Note:** You will need to use a calculator with an automatic constant feature.

Use counting by threes to count how many things there are in several packages that contain three items each. For example, tennis balls or fruit drinks come packaged in threes.

## FIRST GRADE HOME ACTIVITIES \_\_\_\_\_

### **F123.2**

Work with your child to label the dots and draw opposite arrows in the attached arrow picture. For your information, wherever this a  $-2$  arrow, there is a  $+2$  arrow going in the opposite direction.

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### **F124**

With your child look for some things at home that are about 1 meter long or high. Make a list of the things you find and ask your child to bring this list to class.

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### **F126.1**

Try to find some opportunities to count the amount of a small collection of coins (dimes, nickels, pennies) with your child. Also, let your child choose coins to make a given amount of money (between 10 and 50 cents).

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### **F136.2**

Your child is bringing home some blank number lines. In each case, choose a number between 50 and 150 to put at one of the dots. Then work with your child to label the other marks.

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### **F143**

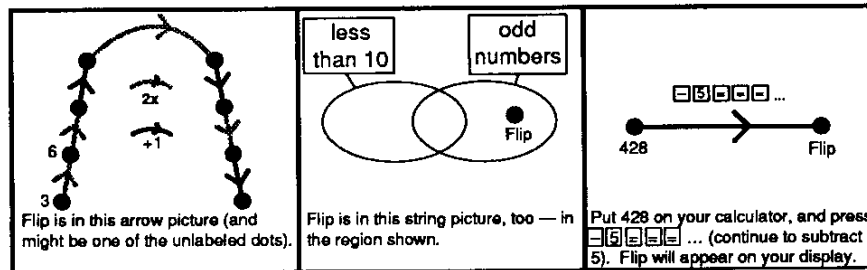
Try to arrange for your child to count small handfuls of change. For example, you might let your child count the change in your pocket or purse each day for a week.

**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 exiting 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 people who developed *CSMP* believe that mathematics is more than just arithmetic and that students learn best when they are solving interesting problems. Students should understand, enjoy, and use their skills instead of just practicing them. With *CSMP*, they use their arithmetic skills while they are playing a number game, solving a detective story, or building a number road.



**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 sometimes with the whole class, sometimes with a smaller group, and sometimes on individual work. 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 exiting experience.

Sincerely,

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



C-Rods

F2

Orange

Orange

Brown

White

Brown

White

Yellow

Purple

Yellow

Purple

Dark Green

Light Green

Dark Green

Light Green

Black

Red

Black

Red

Blue

Blue



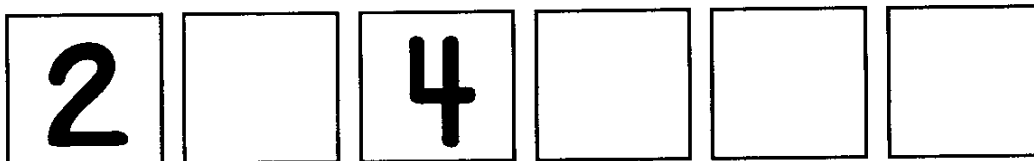
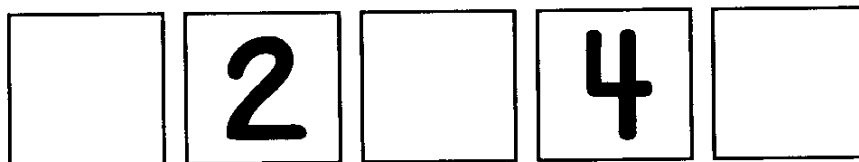
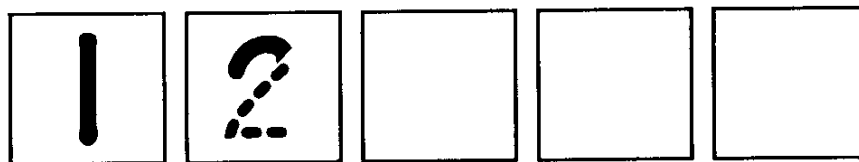
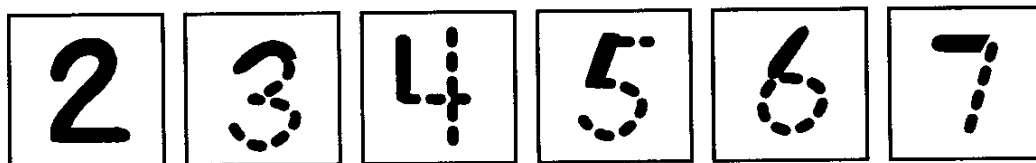


Name \_\_\_\_\_

F5.2

\*

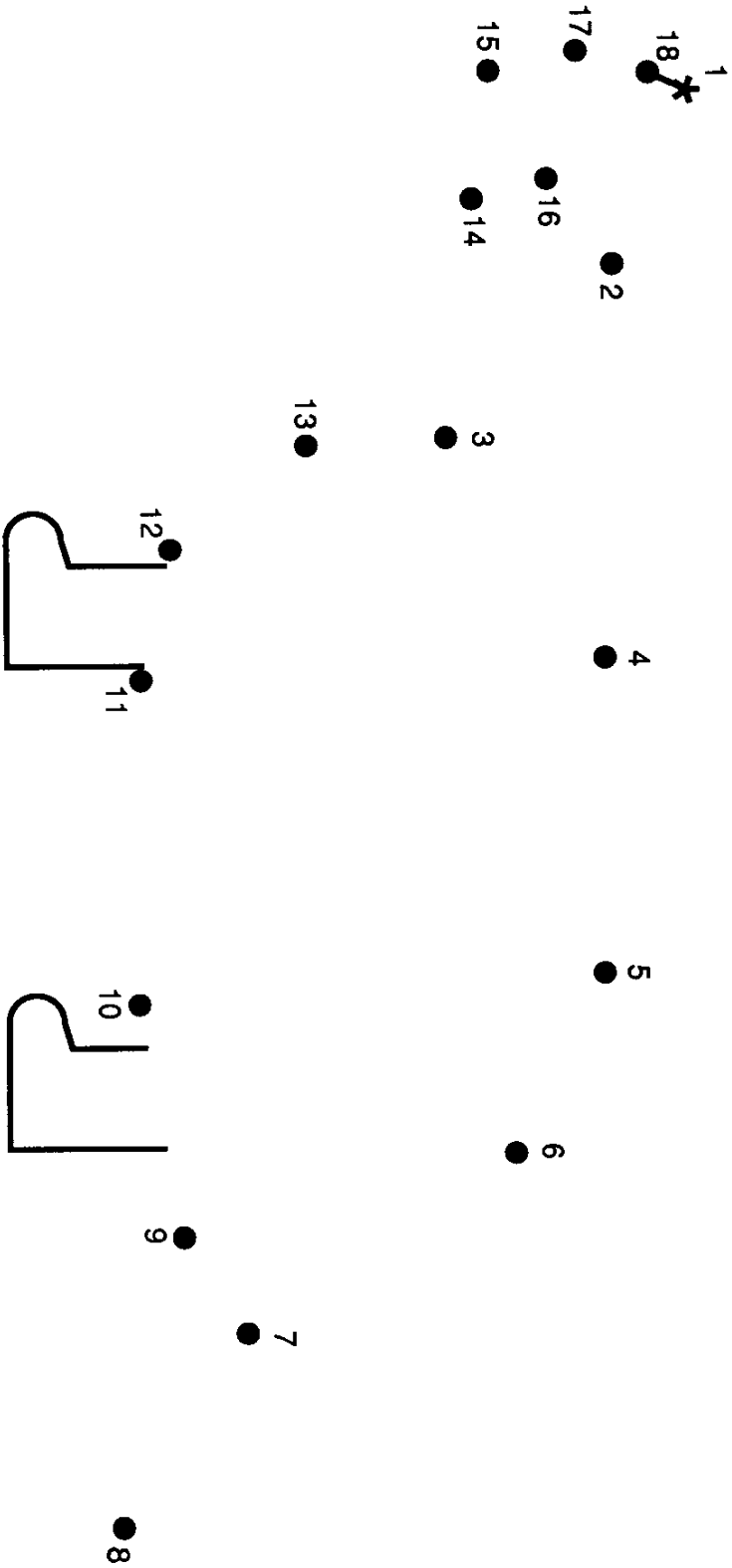
Complete these numeral rows.





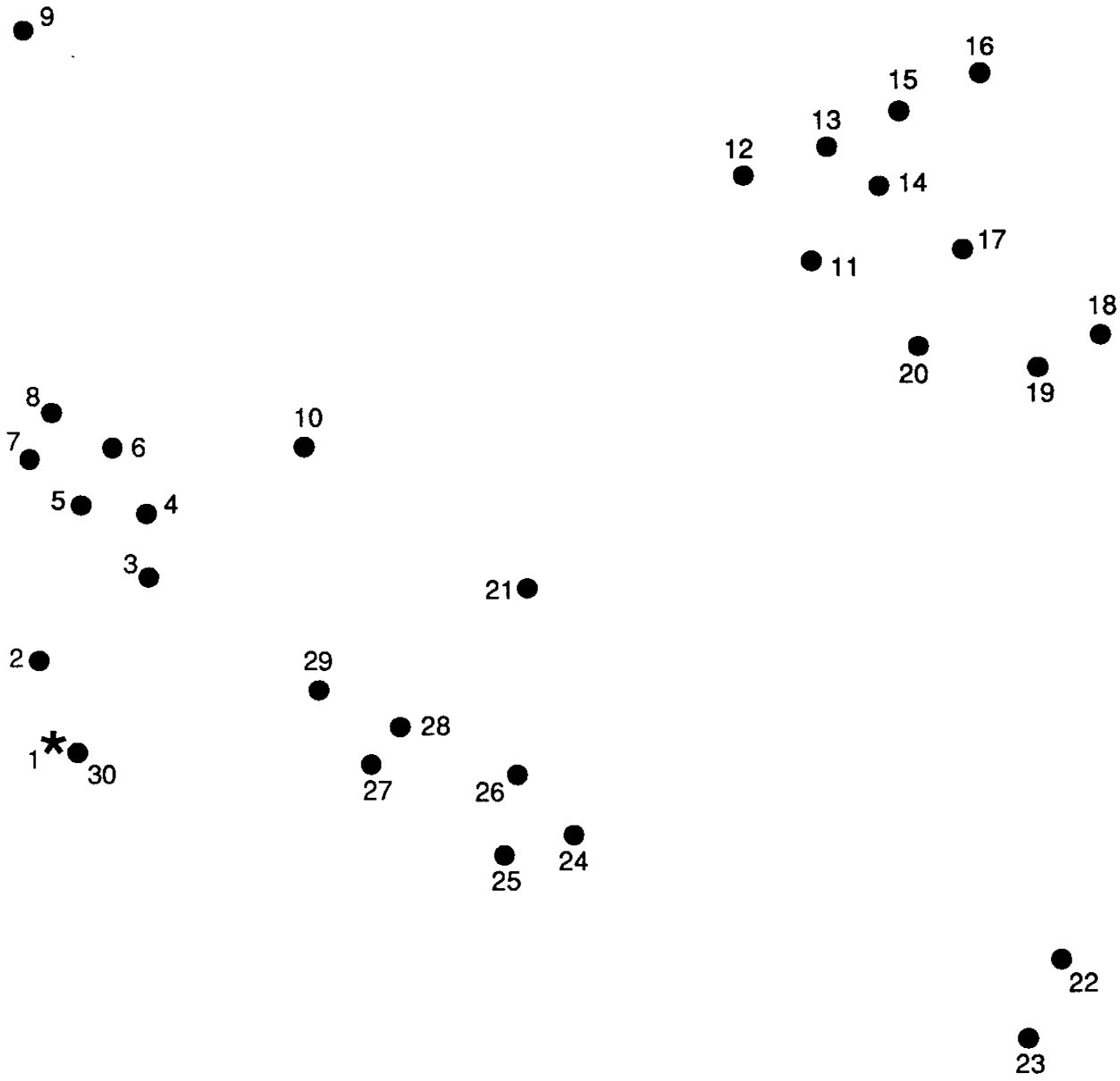
F6.2(a)

Start at the star. Join the dots, counting by ones.



F6.2 (b)

Start at the star. Join the dots, counting by ones.



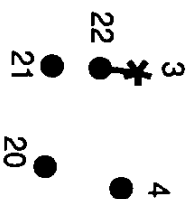
F6.2(c)

Start at the star. Join the dots, counting by ones.

The image shows a dot-to-dot puzzle of a sailboat. The puzzle consists of 49 numbered dots. The hull of the sailboat is already drawn. The rest of the puzzle is divided into sections: the mast and sail (dots 11-25), the cabin (dots 26-32), the deck (dots 33-40), and the water (dots 41-49). A star at dot 1 is the starting point. The puzzle is divided into sections: the hull (dots 1-10), the mast and sail (dots 11-25), the cabin (dots 26-32), the deck (dots 33-40), and the water (dots 41-49).

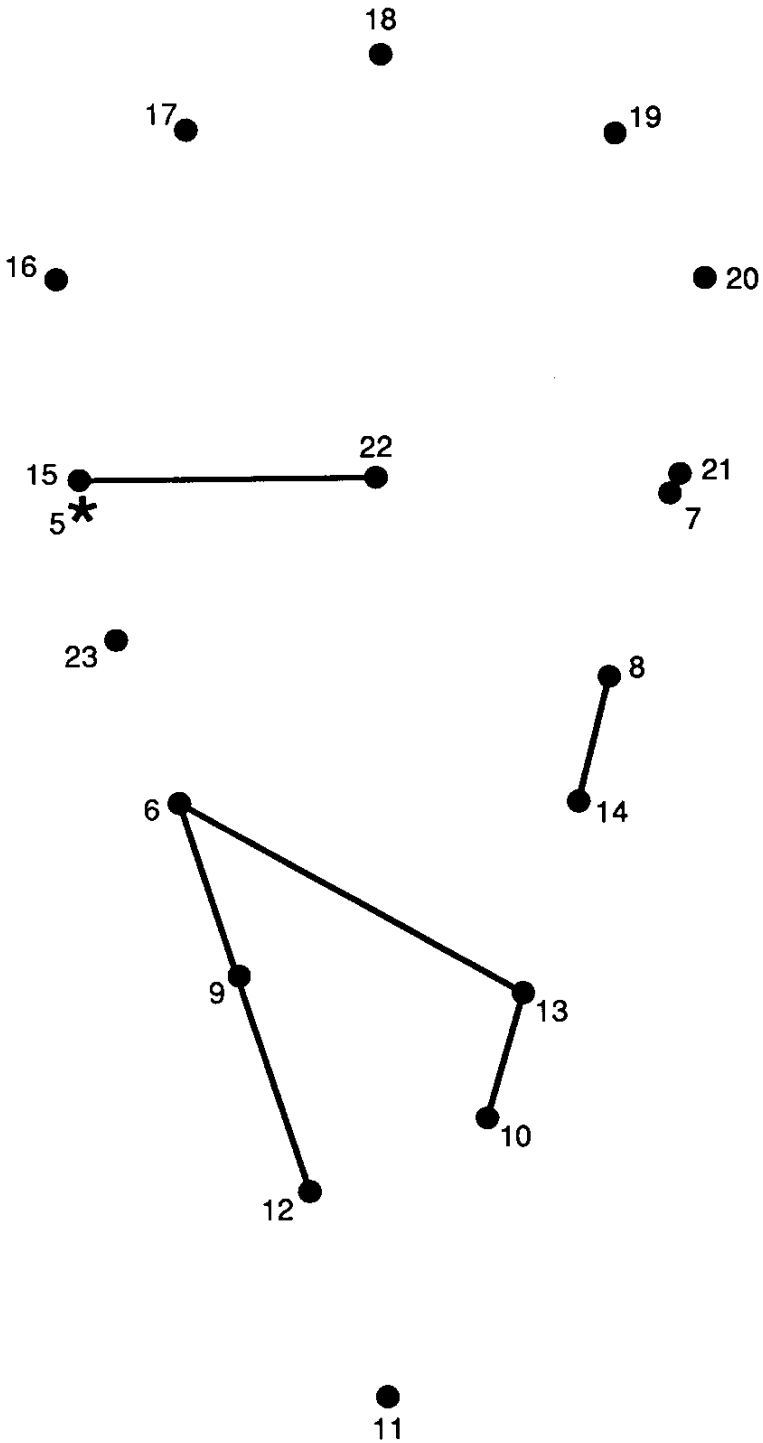
F6.2 (d)

Start at the star. Join the dots, counting by ones.



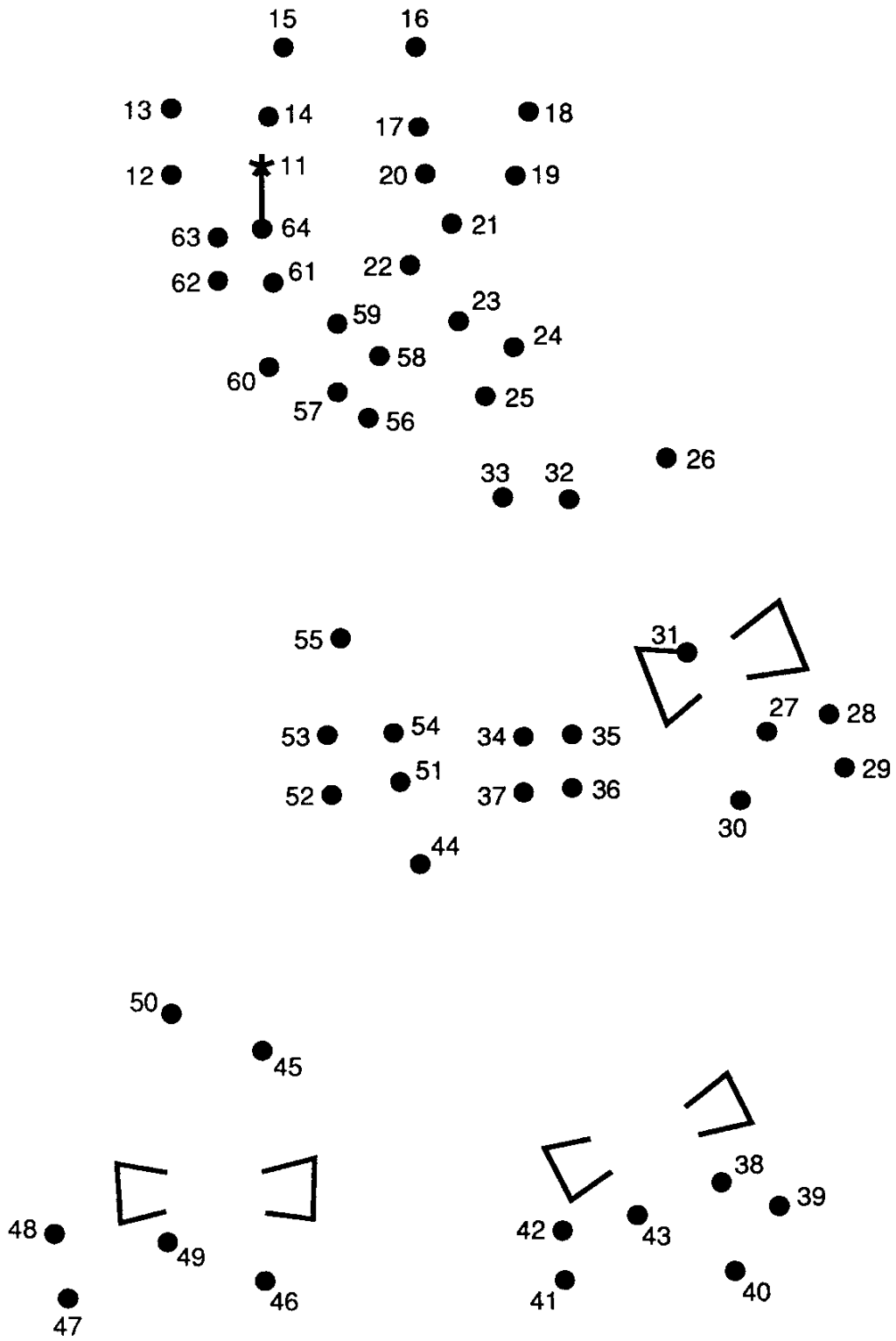
F6.2(e)

Start at the star. Join the dots, counting by ones.



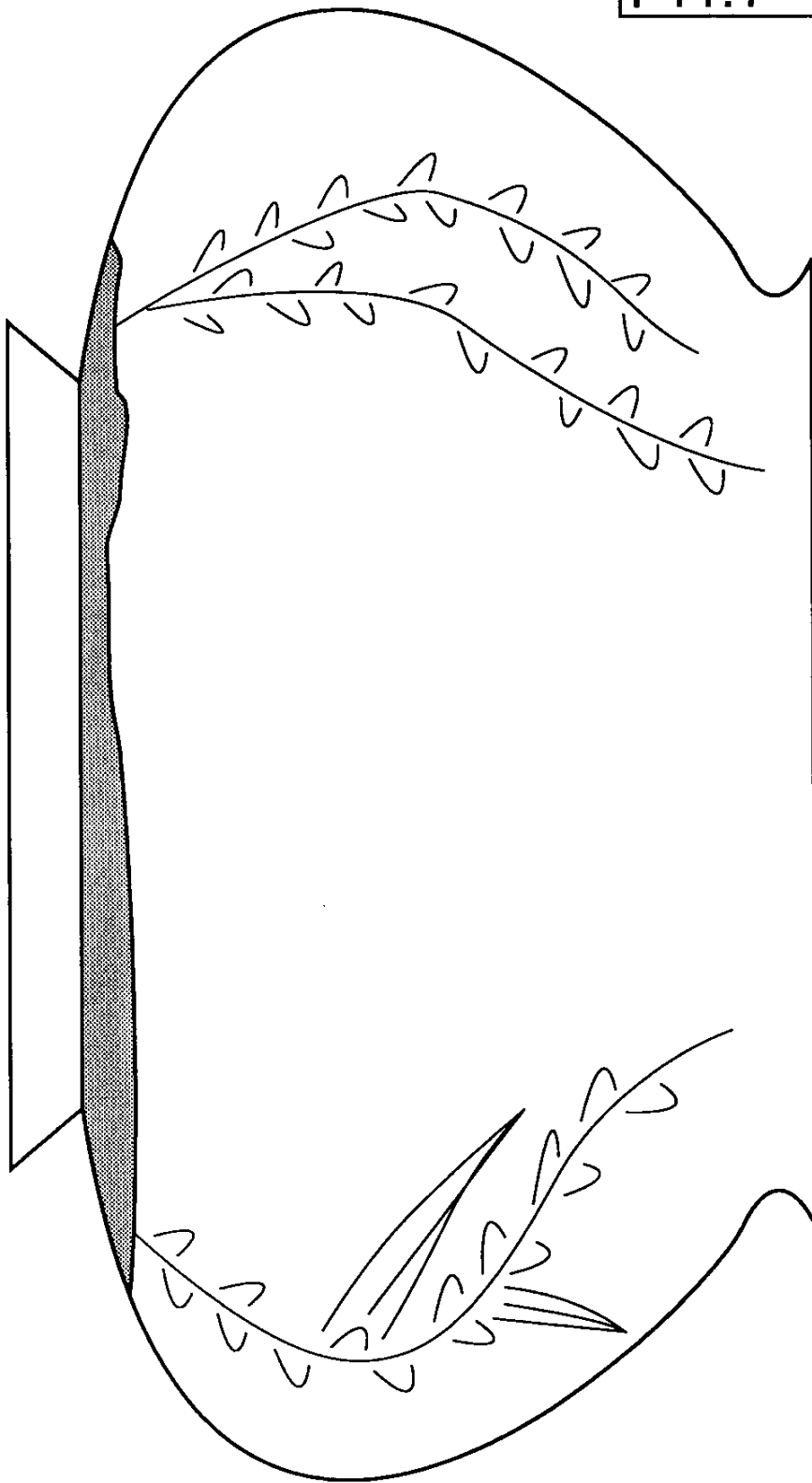
F6.2 (f)

Start at the star. Join the dots, counting by ones.



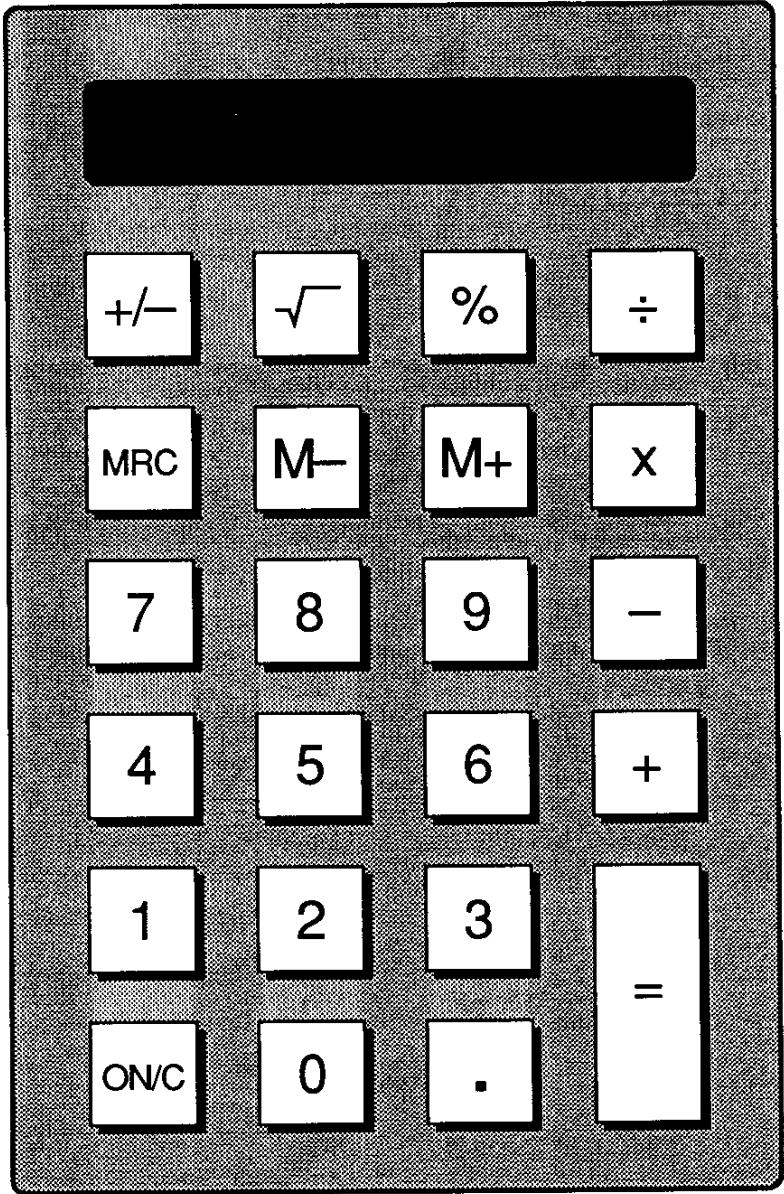


F11.1

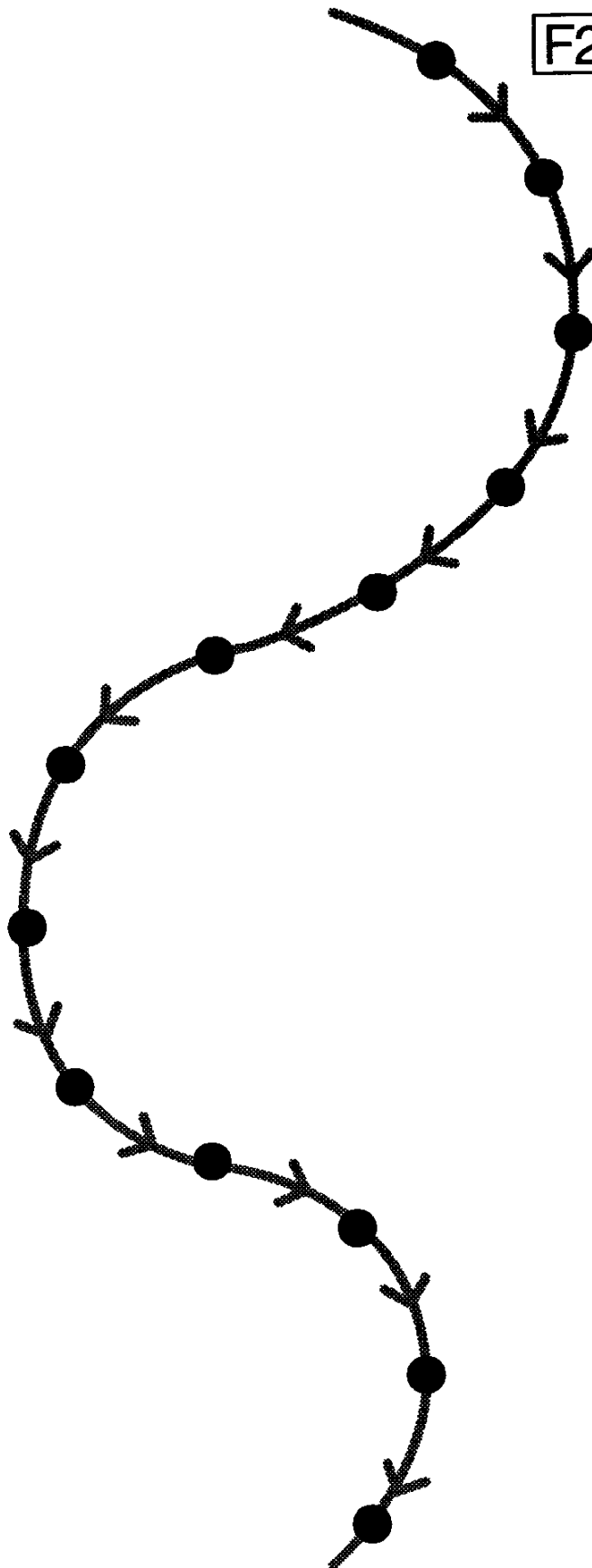




F22(a)

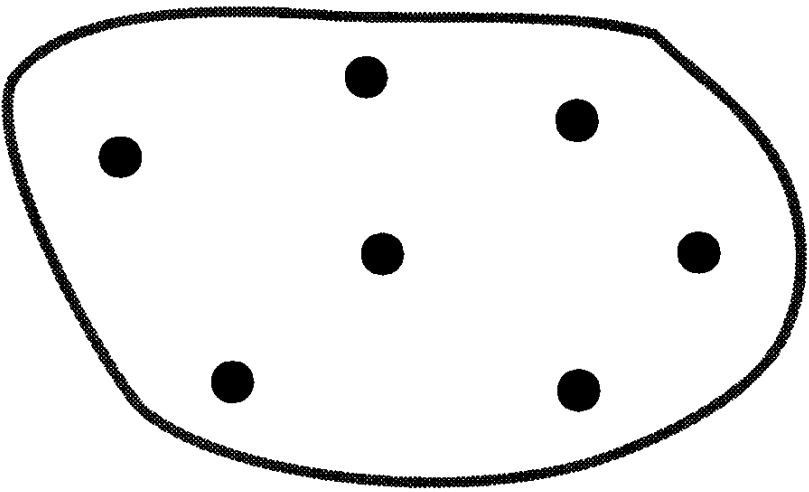


F22(b)

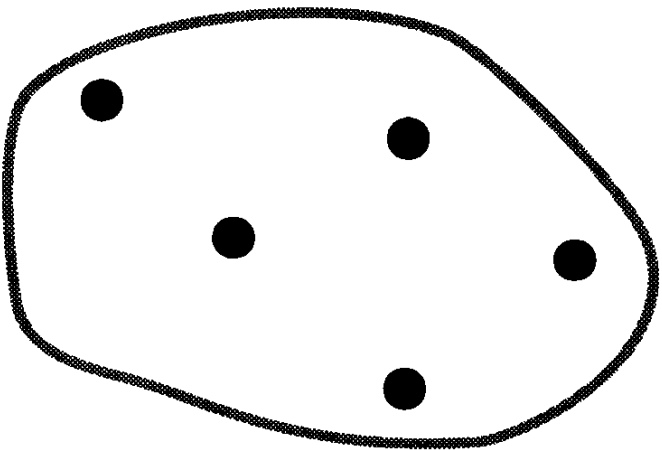


F24.2

Name \_\_\_\_\_



seven (7) birthday cards



five (5) children



F31.1

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

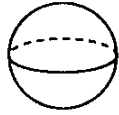




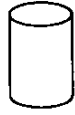
**F36.1**

Dear Parent/Guardian:

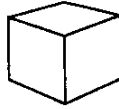
Please help your child locate several objects at home that have one or more of these shapes.



Sphere (ball)



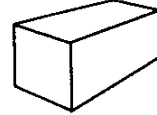
Cylinder (can)



Cube



Cone



Rectangular  
Prism (box)

Then, help your child choose one or two of these objects to bring to school. Please do not let your child choose an object that may be damaged or is valuable.

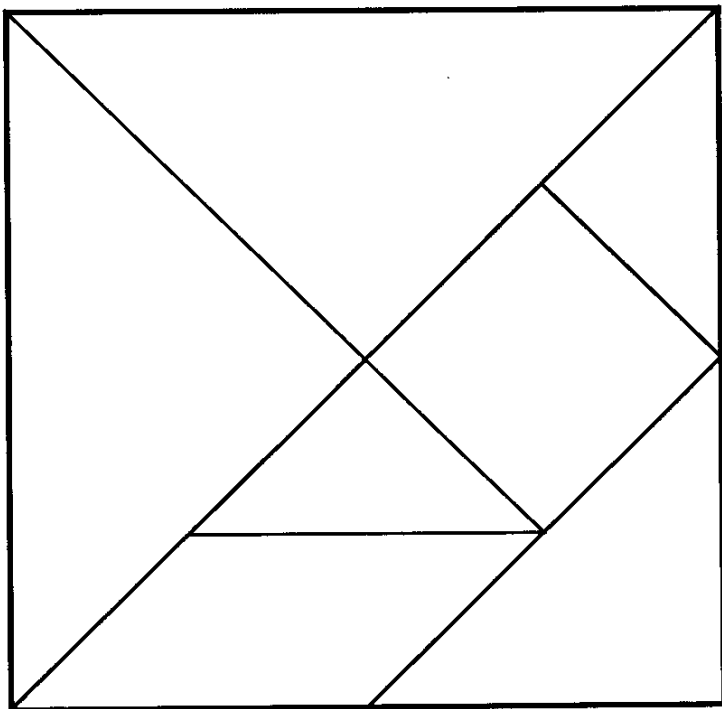
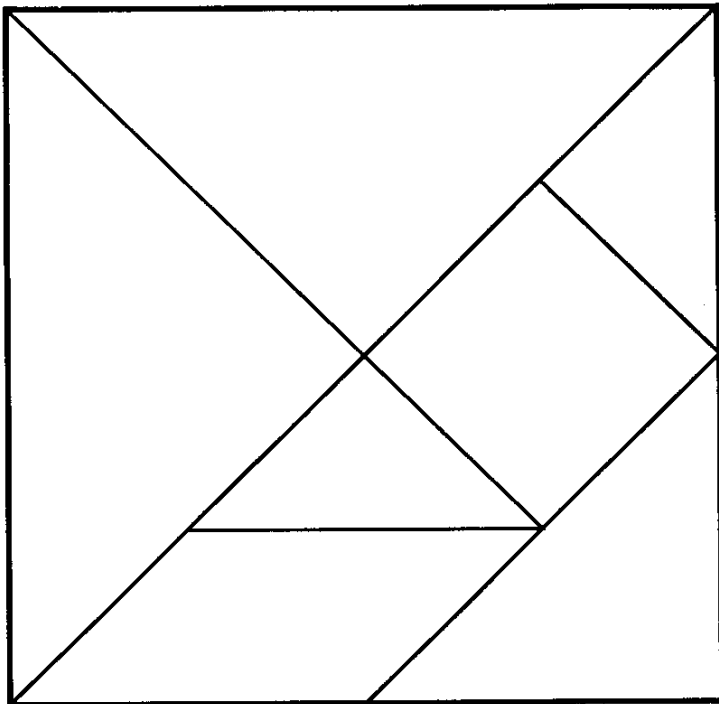
We will be making a graph with these objects, so they will need to remain at school for a week or more.

Thank you for your help.

Sincerely,



F43



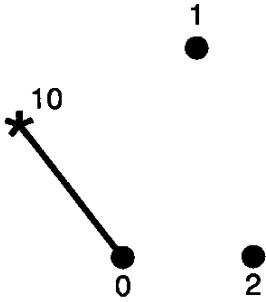


Start at the star. Join the dots, counting backward.

F48.1(a)

9

3



1

2

7

5

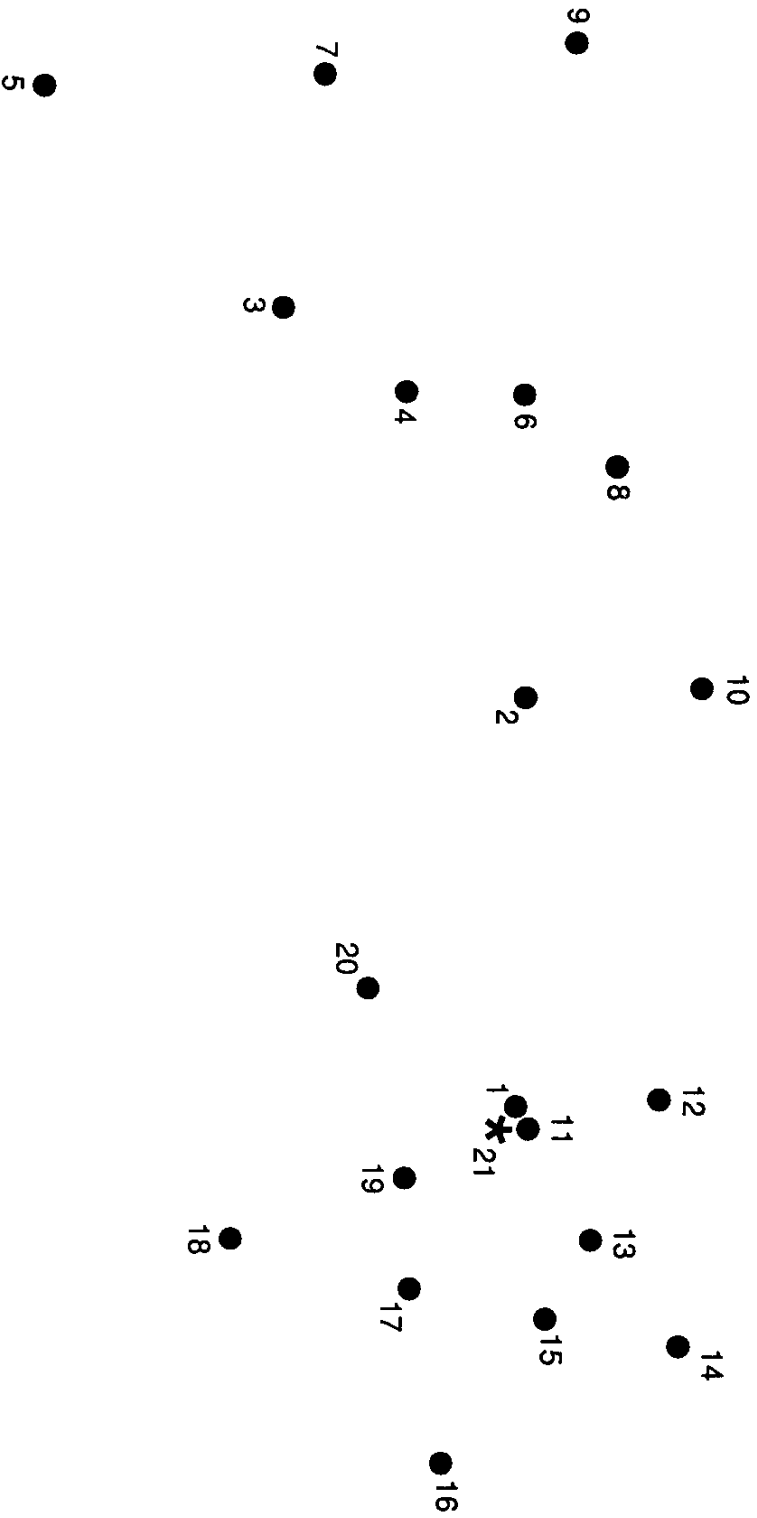
6

8

4

F48.1(b)

Start at the star. Join the dots, counting backward.



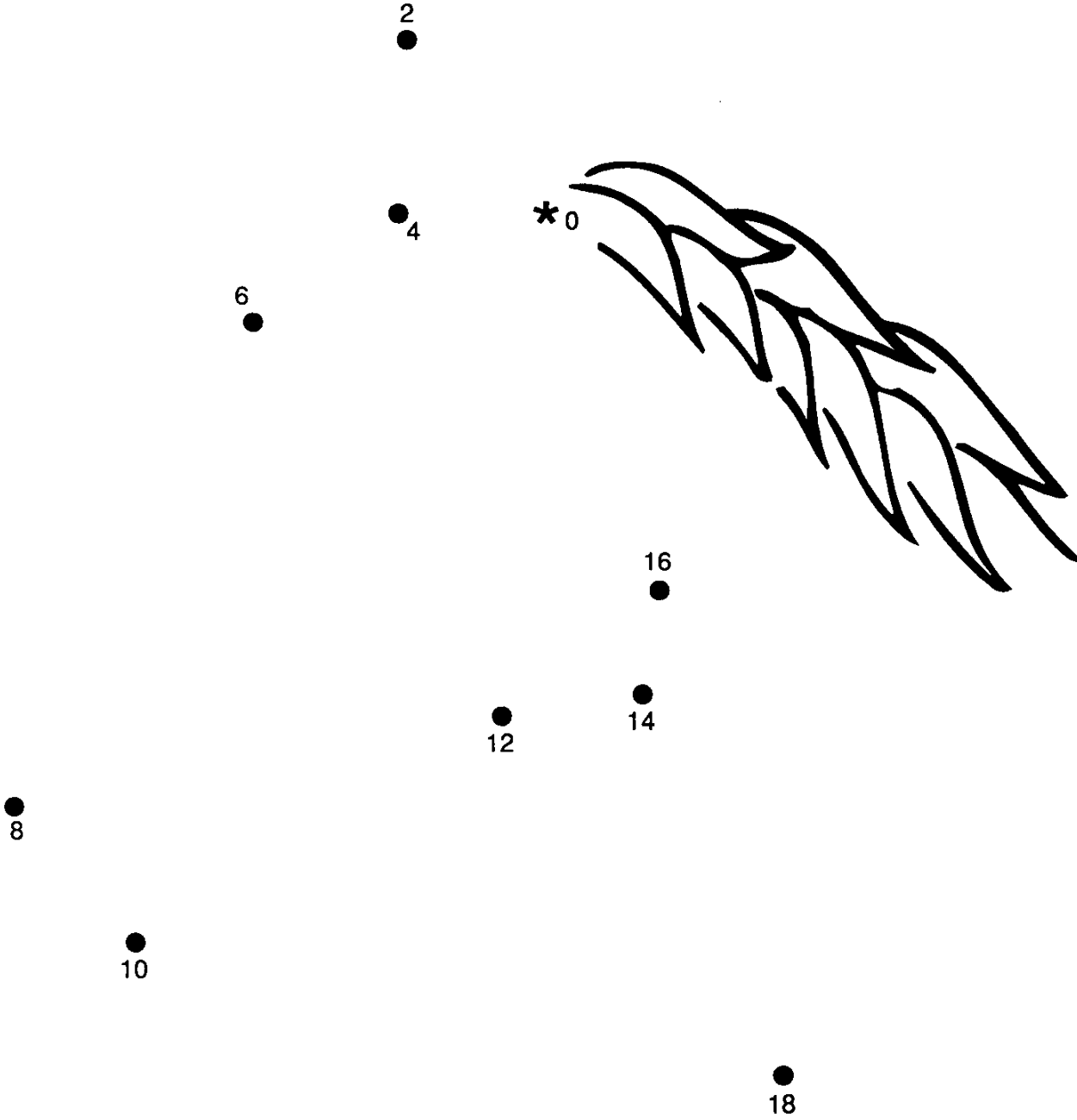
F48.1(c)

Start at the star. Join the dots, counting backward.



F48.1(d)

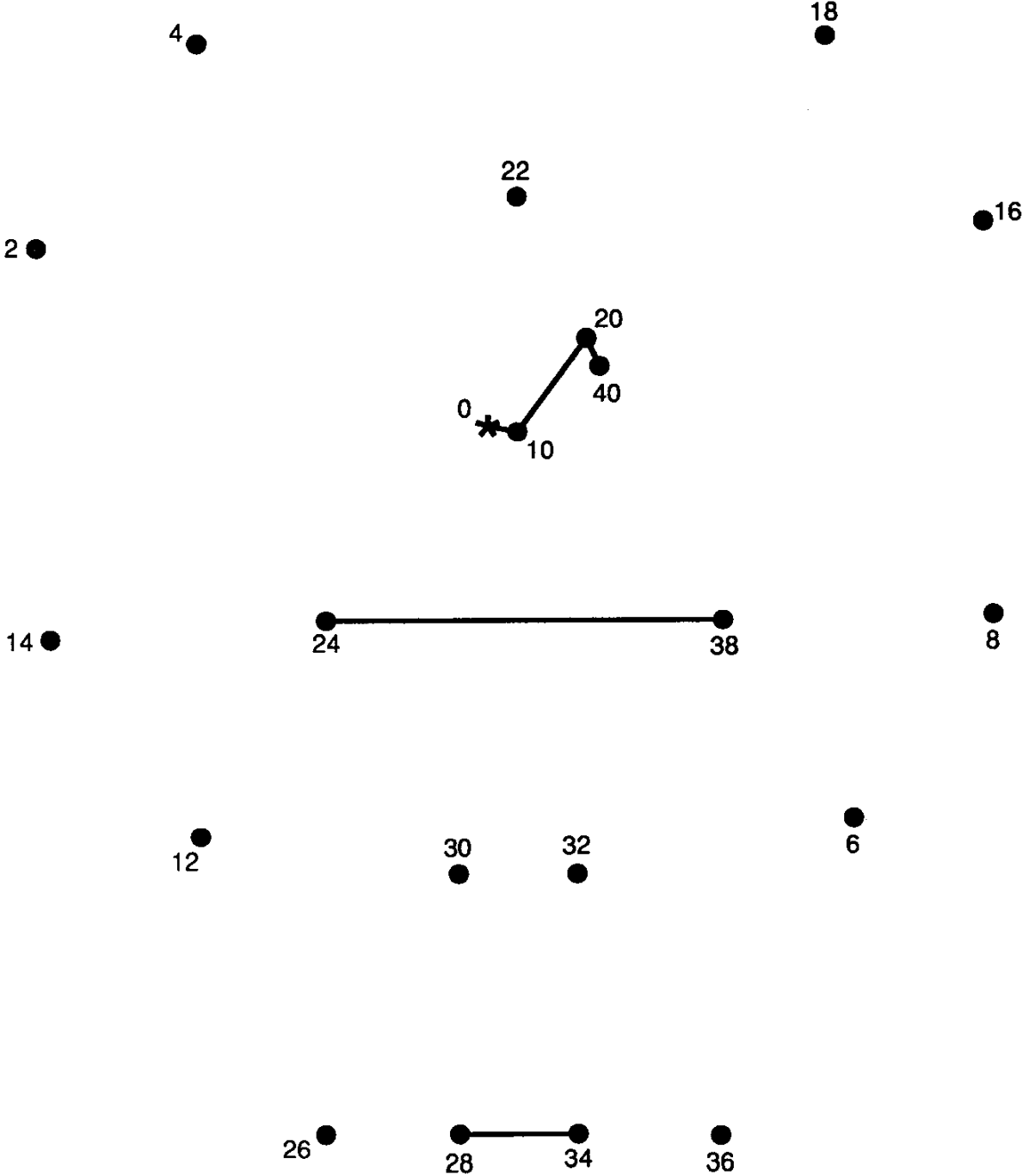
Start at the star. Join the dots, counting by twos.





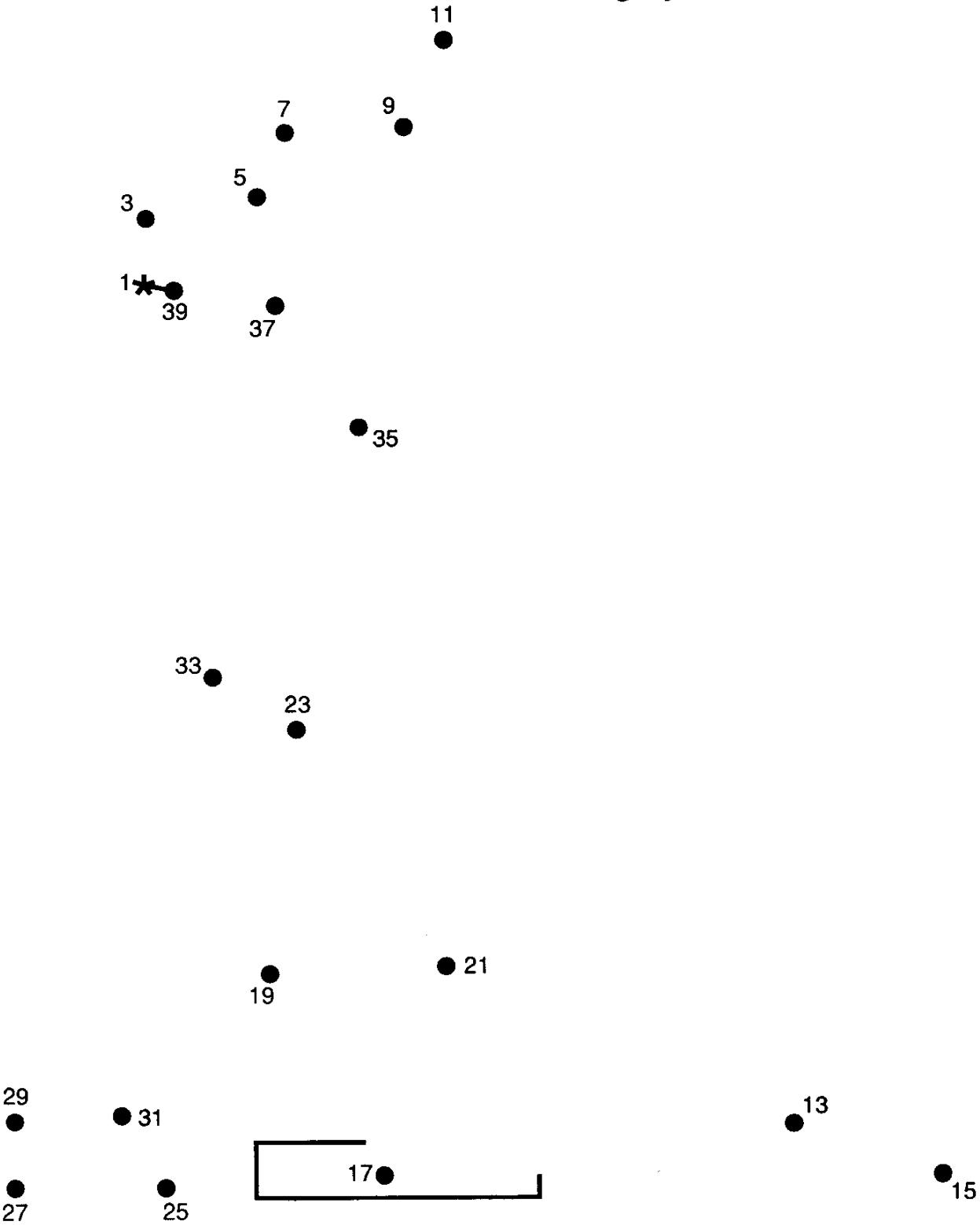
F48.1(e)

Start at the star. Join the dots, counting by twos.



F48.1(f)

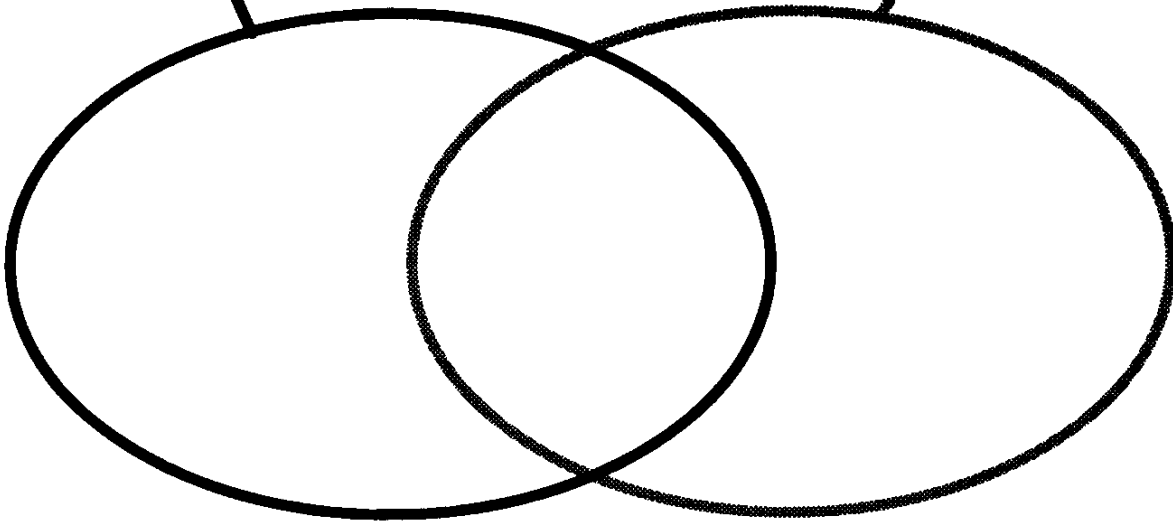
Start at the star. Join the dots, counting by twos.












F55(a)

Things to eat

Round things



Cut out the pictures and place them in the string picture.

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 are important skills 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:

Place these numbers in the picture: 5 17 20 3 0

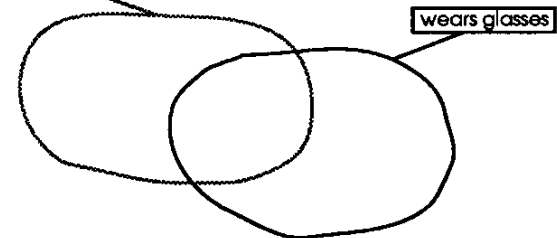
less than 10



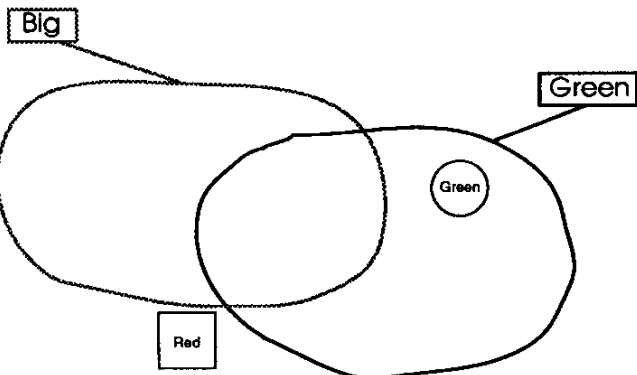
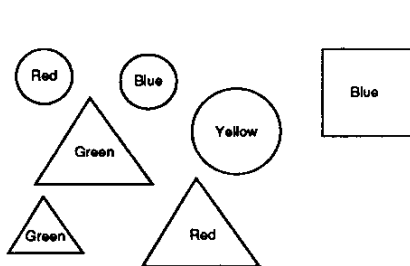
Place a dot for each member of your family.

girls (female)

wears glasses



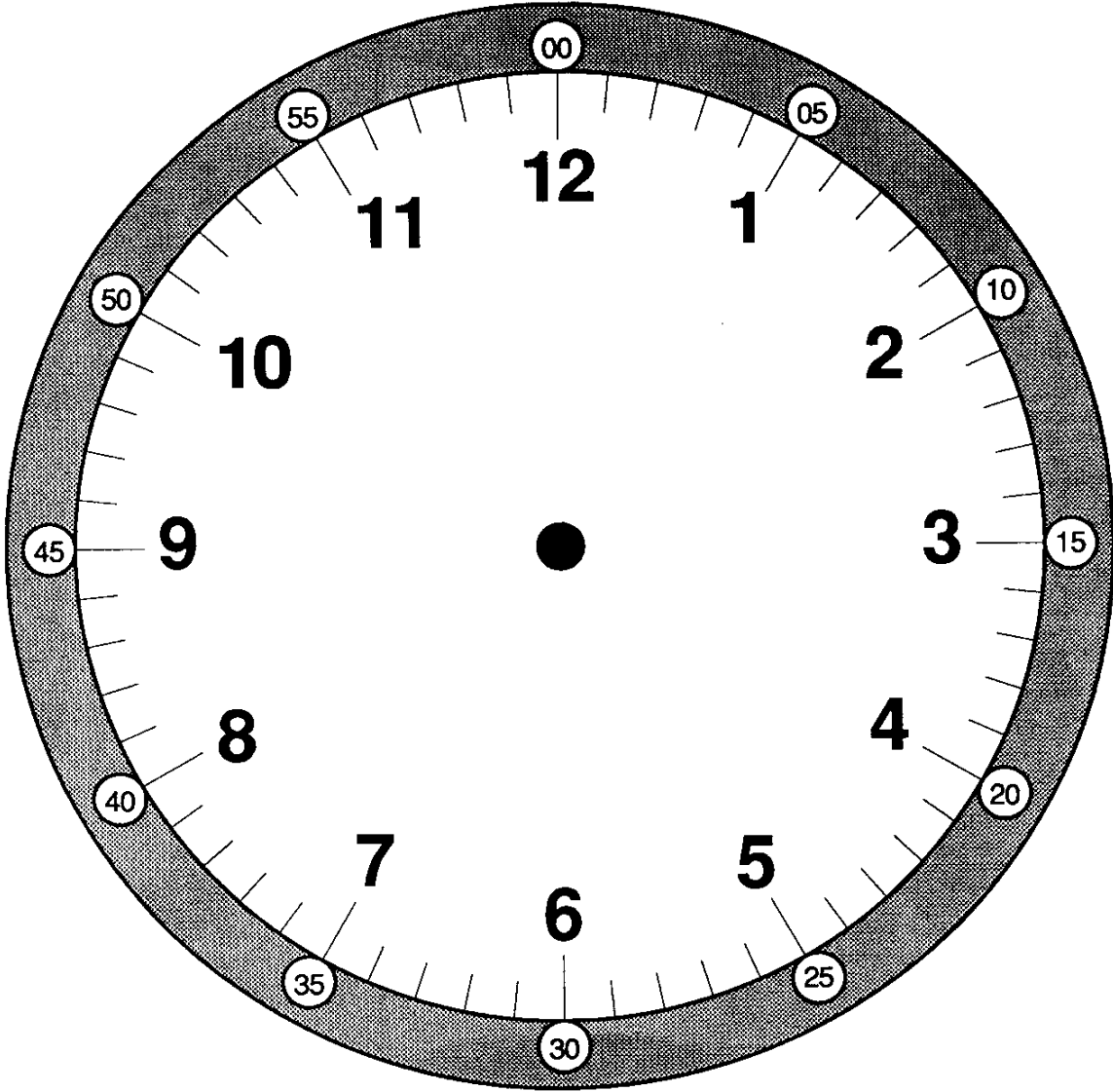
Place these attribute blocks in the string picture.



We hope you enjoy working with string pictures.

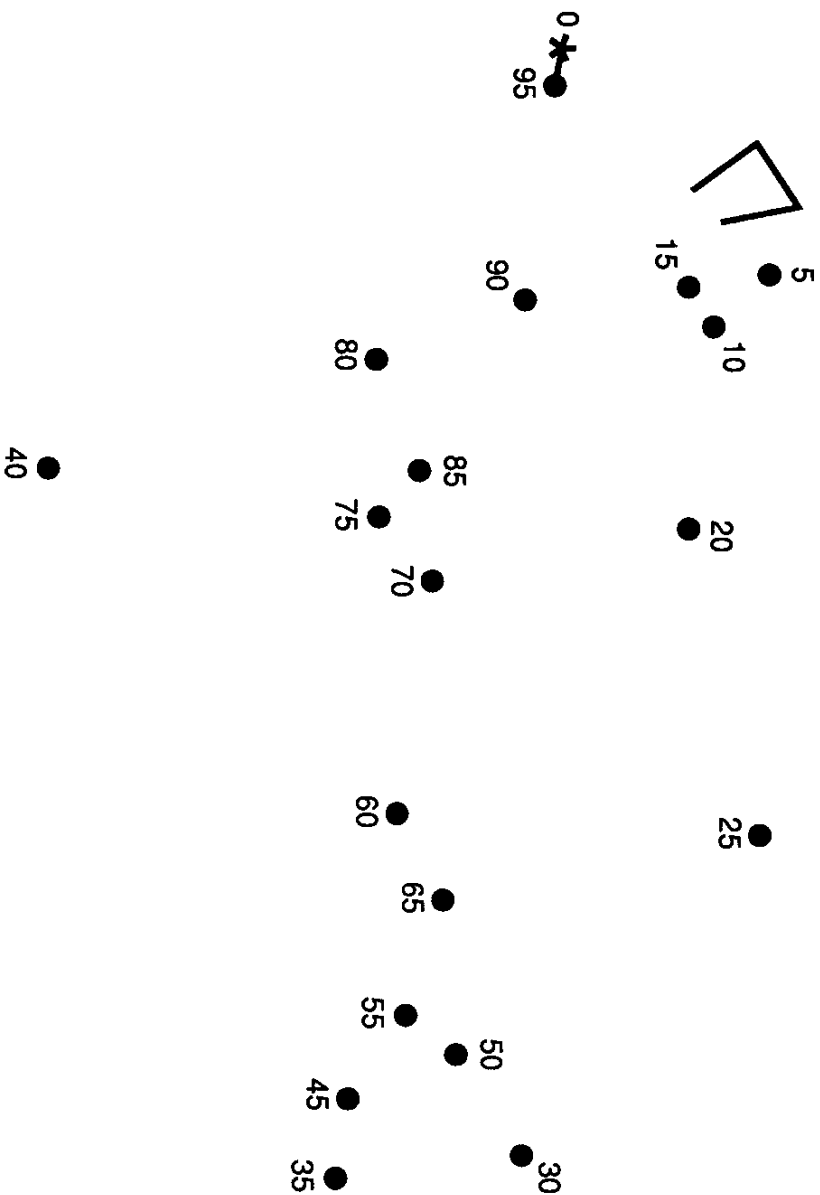
Sincerely,

F59(a)



F59(b)

Start at the star. Join the dots, counting by fives.



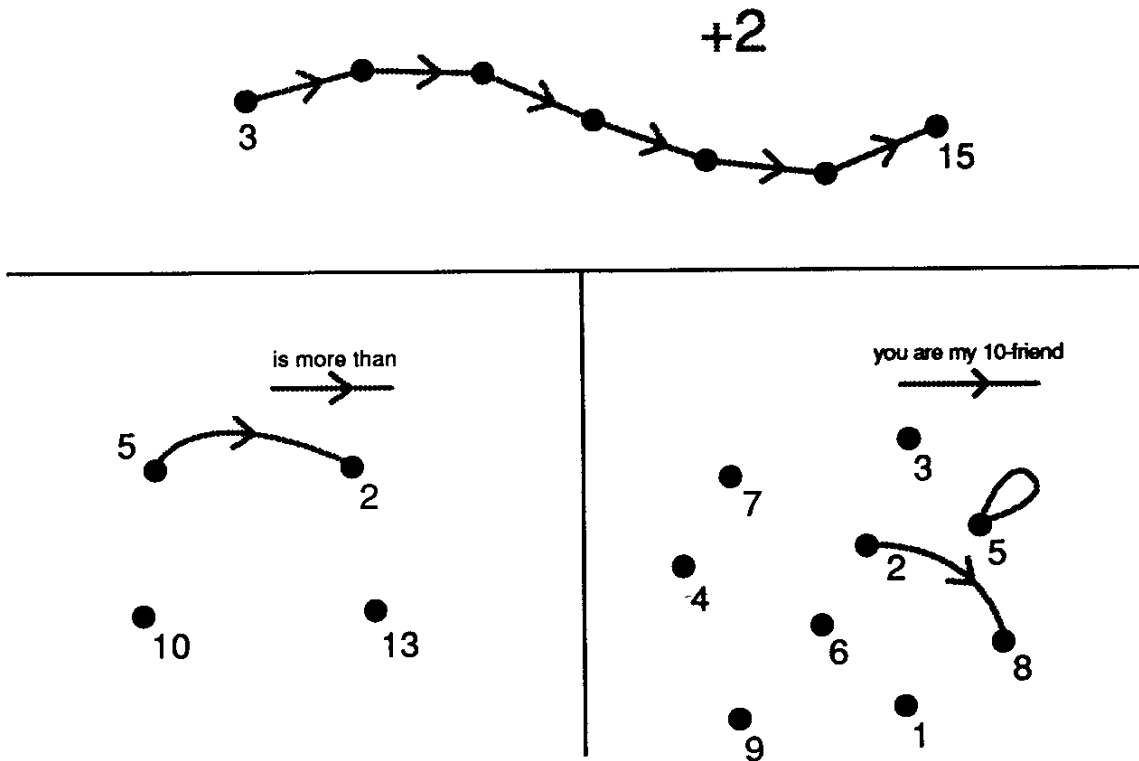
F66.2

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 work. 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,

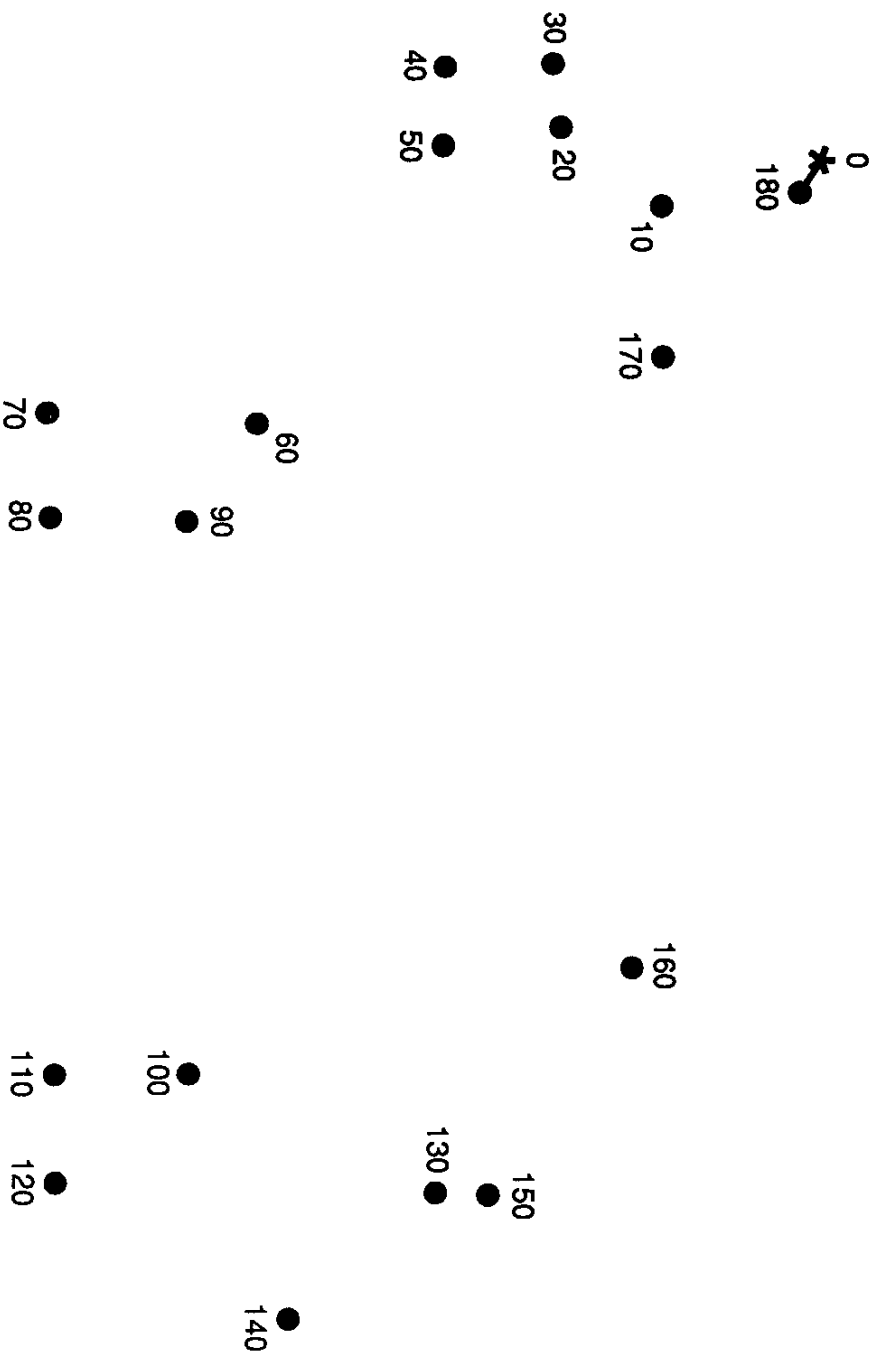
P.S. Your child will learn about number friends in a couple weeks, but you may be able to guess what numbers are 10-friends.





F69.1

Start at the star. Join the dots, counting by tens.





# F75(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. They work on the concepts of addition, subtraction, multiplication, and division on the Minicomputer 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/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

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 5$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 28$$

$$\begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \\ \hline & \\ \hline \end{array} = 137$$

Read what number is on the Minicomputer

$$\begin{array}{|c|c|} \hline \bullet & \\ \hline & \bullet \\ \hline \end{array} =$$

$$\begin{array}{|c|c|} \hline \bullet & \\ \hline & \bullet \\ \hline \end{array} \begin{array}{|c|c|} \hline & \bullet \\ \hline \bullet & \\ \hline \end{array} =$$

$$\begin{array}{|c|c|} \hline & \\ \hline \bullet & \\ \hline \end{array} \begin{array}{|c|c|} \hline & \bullet \\ \hline & \bullet \\ \hline \end{array} \begin{array}{|c|c|} \hline & \bullet \\ \hline & \bullet \\ \hline \end{array} =$$

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,

### THE POPY MINICOMPUTER

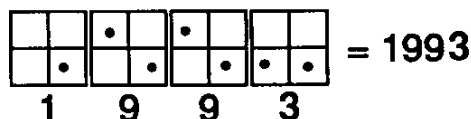
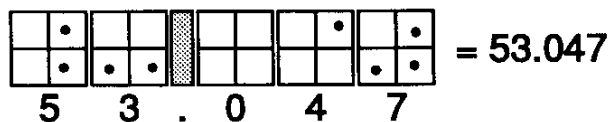
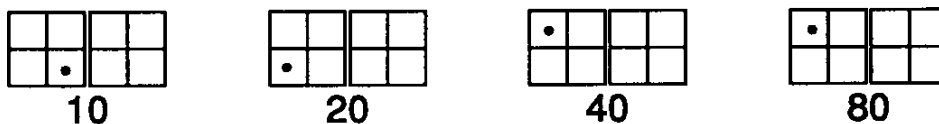
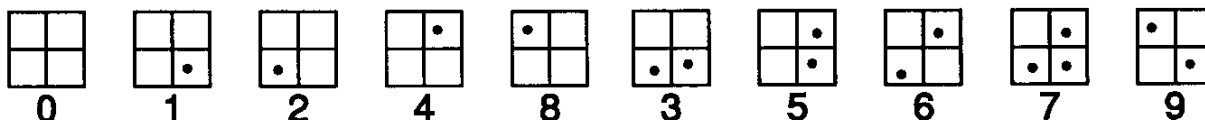
The Popy Minicomputer, a kind of abacus, models the positional structure of our system of numbers and hence lends itself as a powerful tool in arithmetic. The Minicomputer consists of brightly colored boards and a set of checkers. Each square has a numerical value.<sup>†</sup> These are the values on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

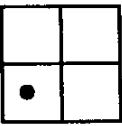
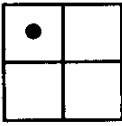
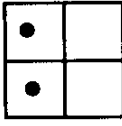
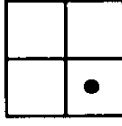
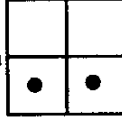
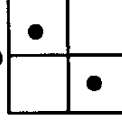
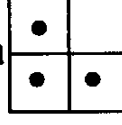
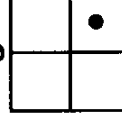
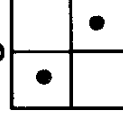
A number is put on the Minicomputer by placing checkers on its squares. A checker assumes the value of the square it is on. If several checkers are on the Minicomputer, the number is the sum of the values of the checkers. A number can be put on the Minicomputer in a variety of ways, but the representation which 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.



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

F75(c)

# Papy Minicomputer


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



F80(a)
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Parade of Problems #1

Student Name \_\_\_\_\_

Date \_\_\_\_\_

		Responses
Counting/Sequence/Order	p.2 (1-12)	16 _____
	p.6 (1-17 dot-to-dot, +1 facts)	22 _____
	p.9 (grouping in tens)	5 _____
	p.14 (0-109 numeral chart)	10 _____
	p.15 (more than, arrows)	5 _____
	p.16 (grouping in tens)	4 _____
	p.17 (<, =, >)	9 _____
	p.21 (counting by twos, fives, tens)	16 _____
	p.27 (<, =, >)	9 _____
p.31 (less than, arrows)	7 _____	
Arrows	p.3 (+1)	8 _____
	p.8 (+2, facts)	12 _____
	p.12 (+2, facts)	12 _____
	p.13 (path following arrows)	7 _____
	p.18 (+3, facts)	10 _____
	p.22 (+5, facts)	14 _____
	p.26 (+10)	11 _____
	p.29 (+1, +3, mixed)	8 _____
Minicomputers	p.4 (1-9)	6 _____
	p.7 (1-9)	6 _____
	p.11 (1-99)	8 _____
	p.25 (1-999)	8 _____
	p.28 (1-999)	8 _____
Money	p.5 (1¢, 5¢)	6 _____
	p.19 (1¢, 5¢, 10¢)	6 _____
	p.26 (1¢, 5¢, 10¢)	6 _____
Strings	p.23 (self)	1 _____
	p.30 (A-Blocks)	3 _____
Addition/Subtraction	p.10 (facts with dot pictures)	8 _____
	p.23 (repeated addition/multiplication)	4 _____
	p.32 (with Minicomputer)	5 _____
Patterns	p.20	10 _____

F80(b)

Dear Parent/Guardian:

With this letter, we are sending home your child's *Parade of Problems #1* Workbook. It contains pages with problems from various areas of our mathematics curriculum. During the past couple weeks, the students have had several opportunities to work in this booklet.

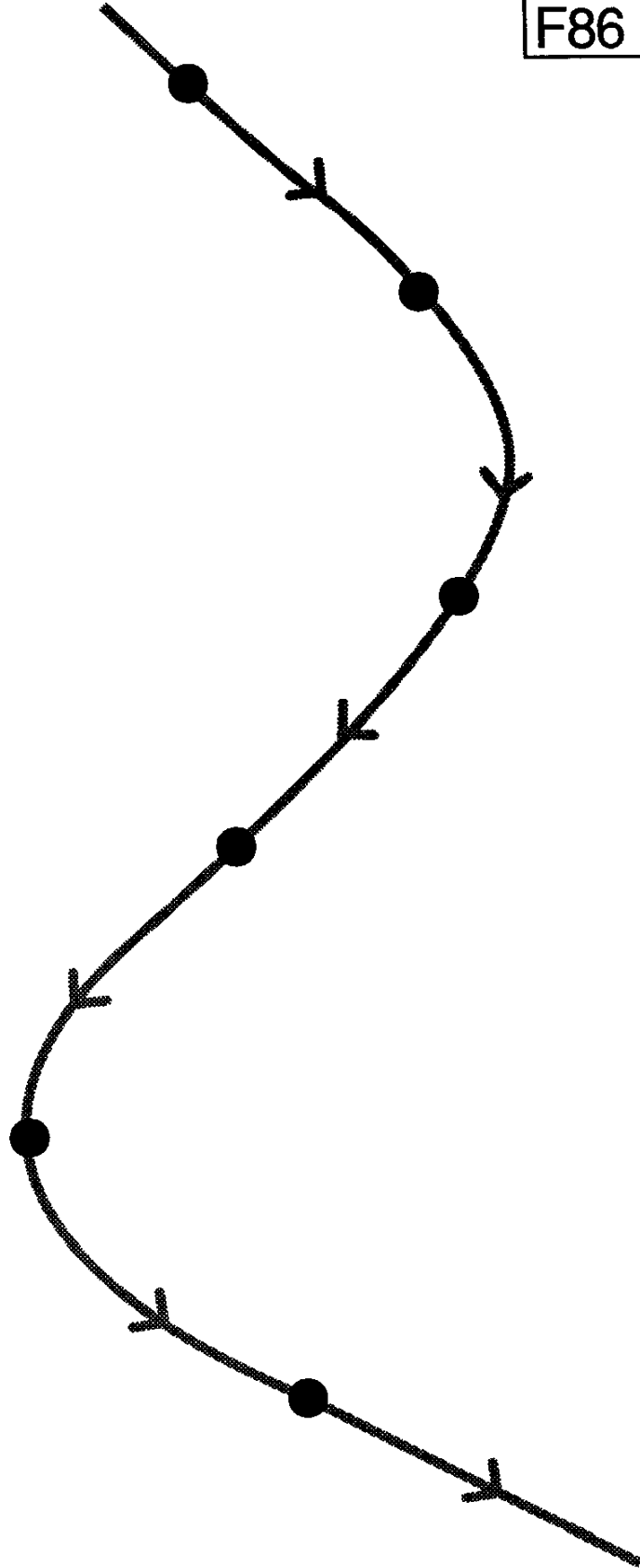
Please be aware that the workbook pages become progressively more difficult. Time constraints and individual understanding/skills/ experiences will influence how much of the booklet a student completes. We do not expect every student to complete every page, especially since the last one-third of the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

Similar 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,

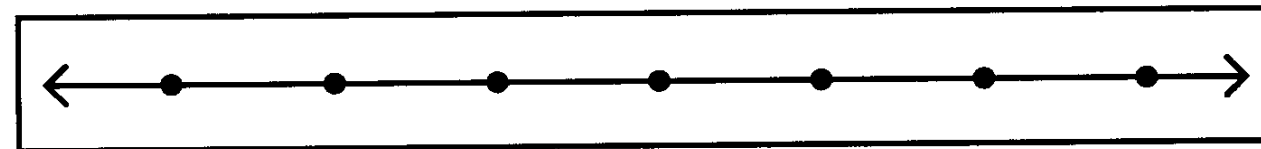
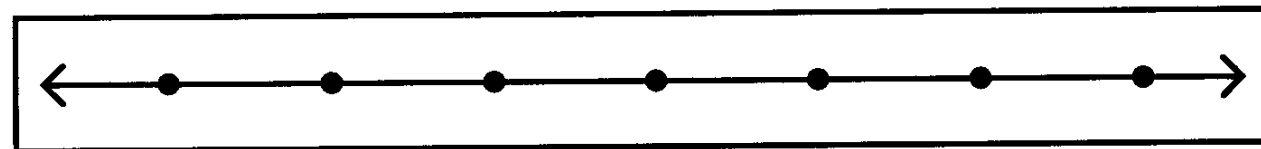
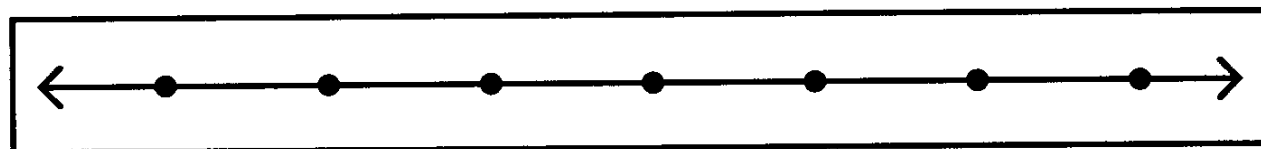
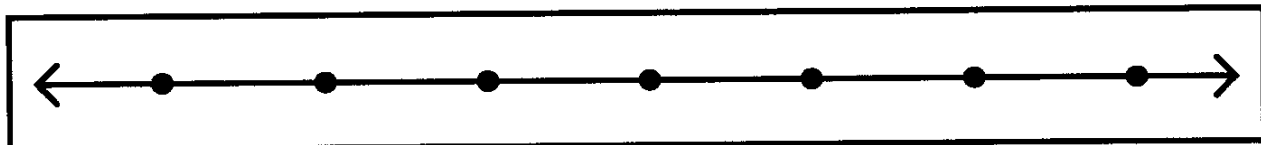


F86





F92.2





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  $5 \oplus 3 \ominus$ . 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  $\oplus 2$ .
  - 3) Then press  $\ominus \ominus \ominus$  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  $\ominus$  three more times.

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

- Teach the calculator to count backward by tens from 100 to 0 using these steps:
  - 1) Put 100 on the display.
  - 2) Press  $\ominus 10$ .
  - 3) Then press  $\ominus \ominus \ominus$  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 $5 \ominus 5 \ominus$
Double	- Press $2 \times 0 \ominus$
Add 4	- Press $\ominus 4 \oplus 4 \ominus$

Each time you put a number on the display of the calculator and press  $\ominus$ , the calculator will show a new number—the result of using the rule on your number.

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

Sincerely,



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.

$2 + 2 = ?$

$10 - 1 = ?$

$4 + 4 = ?$

$3 + 10 = ?$

$3 + 1 = ?$

$10 - 2 = ?$

$2 \times 4 = ?$

$13 + 10 = ?$

$4 + 1 = ?$

$10 - 3 = ?$

$10 + 10 = ?$

$23 + 10 = ?$

$5 + 1 = ?$

$10 - 4 = ?$

$2 \times 10 = ?$

$53 + 10 = ?$

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  $10 + 2$ ,  $2 \times 6$ ,  $15 - 3$ ,  $\frac{1}{2} \times 24$ , 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,

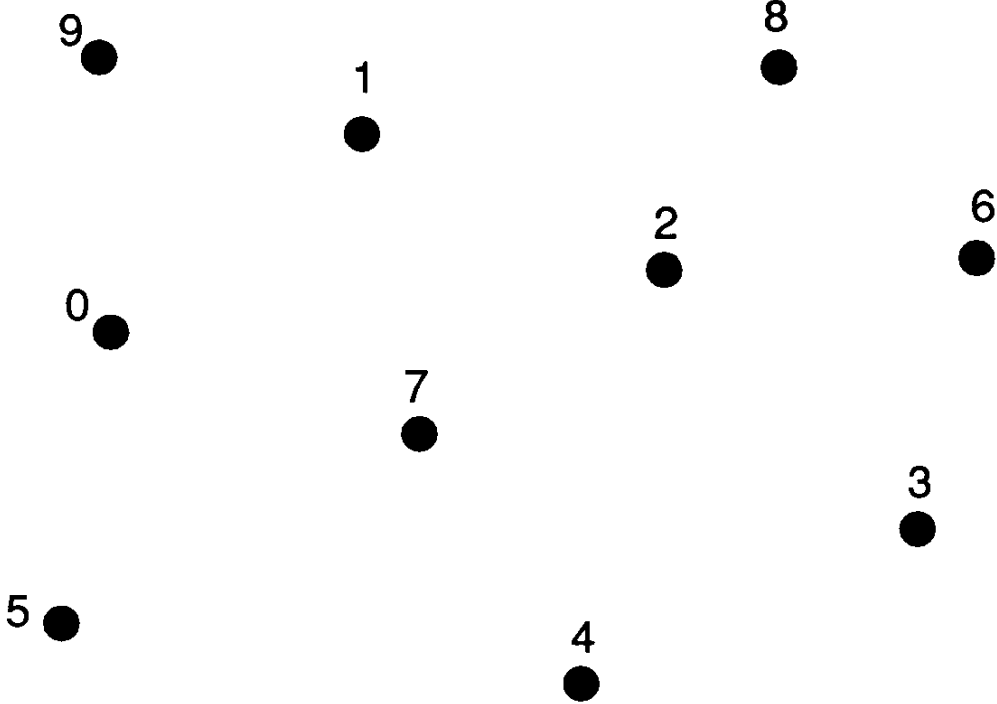




Name \_\_\_\_\_

Draw all the red arrows.

You are my 9-friend



Complete.

$5 + 4 = \underline{\quad}$

$8 + 1 = \underline{\quad}$

$8 + 2 = \underline{\quad}$

$6 + 3 = \underline{\quad}$

$7 + 1 = \underline{\quad}$

$7 + 2 = \underline{\quad}$

$6 + 4 = \underline{\quad}$

$9 + 1 = \underline{\quad}$

$9 + 0 = \underline{\quad}$



Parade of Problems #2

Student Name \_\_\_\_\_

Date \_\_\_\_\_

			Responses
Counting/Sequence/Order	p.2	(1–50)	29 _____
	p.9	(<, =, >)	9 _____
	p.10	(counting by twos)	14 _____
	p.11	(0–109)	12 _____
	p.15	(counting by tens)	4 _____
	p.29	(98–209)	29 _____
Arrows	p.3	(+1)	10 _____
	p.6	(+2)	10 _____
	p.8	(–1, facts)	15 _____
	p.13	(+1, number names)	6 _____
	p.16	(more than, less than)	9 _____
	p.18	(+10, facts)	16 _____
	p.19	(+3, facts)	17 _____
	p.21	(+5)	9 _____
	p.24	(+3, +6, composition)	15 _____
	p.28	(+10)	8 _____
	p.30	(2x)	7 _____
	p.32	(2x)	5 _____
Minicomputers	p.4	(1–9)	12 _____
	p.12	(1–99)	12 _____
	p.23	(1–500)	6 _____
	p.31	(1–99 with trades)	8 _____
Money	p.5	(1¢, 5¢, 10¢)	6 _____
	p.21	(1¢, 5¢, 10¢)	6 _____
Strings	p.20	(A-Blocks)	4 _____
	p.25	(attributes)	4 _____
Addition/Subtraction	p.7	(facts)	8 _____
	p.22	(story problems)	5 _____
	p.26	(dot patterns, number sentences)	4 _____
	p.27	(match facts)	5 _____
	p.29	(story problems)	3 _____
Geometry	p.14	(paths, length)	3 _____
Statistics	p.17	(reading graphs)	5 _____



Dear Parent/Guardian:

Your child has heard several episodes in a story about “Eli’s Magic Peanuts.” Magic peanuts give us a model for introducing the concept of negative numbers. The story in brief is the following:

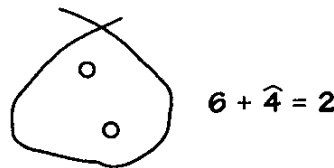
There is an elephant named Eli who lives in the jungle and is always hungry. Eli’s favorite food is peanuts. He likes peanuts so much that he always carries a little bag in which to collect peanuts wherever he goes. One day, while walking through the jungle, Eli spots a strange peanut bush he has never 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.

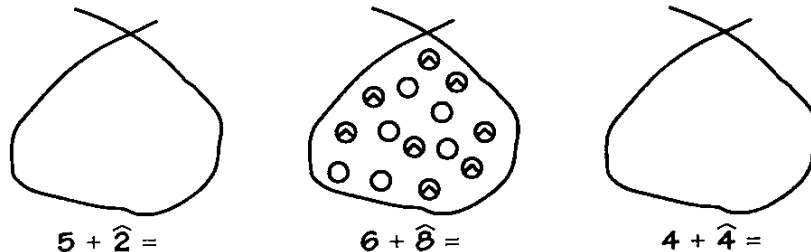


When Eli returns home, he is hungry from walking through the jungle all day. He decides to eat the peanuts. When he opens his bag, he is surprised because there are just two regular peanuts. The rest have disappeared.



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.



You may like to ask your child to tell you about other adventures Eli has.

Sincerely,

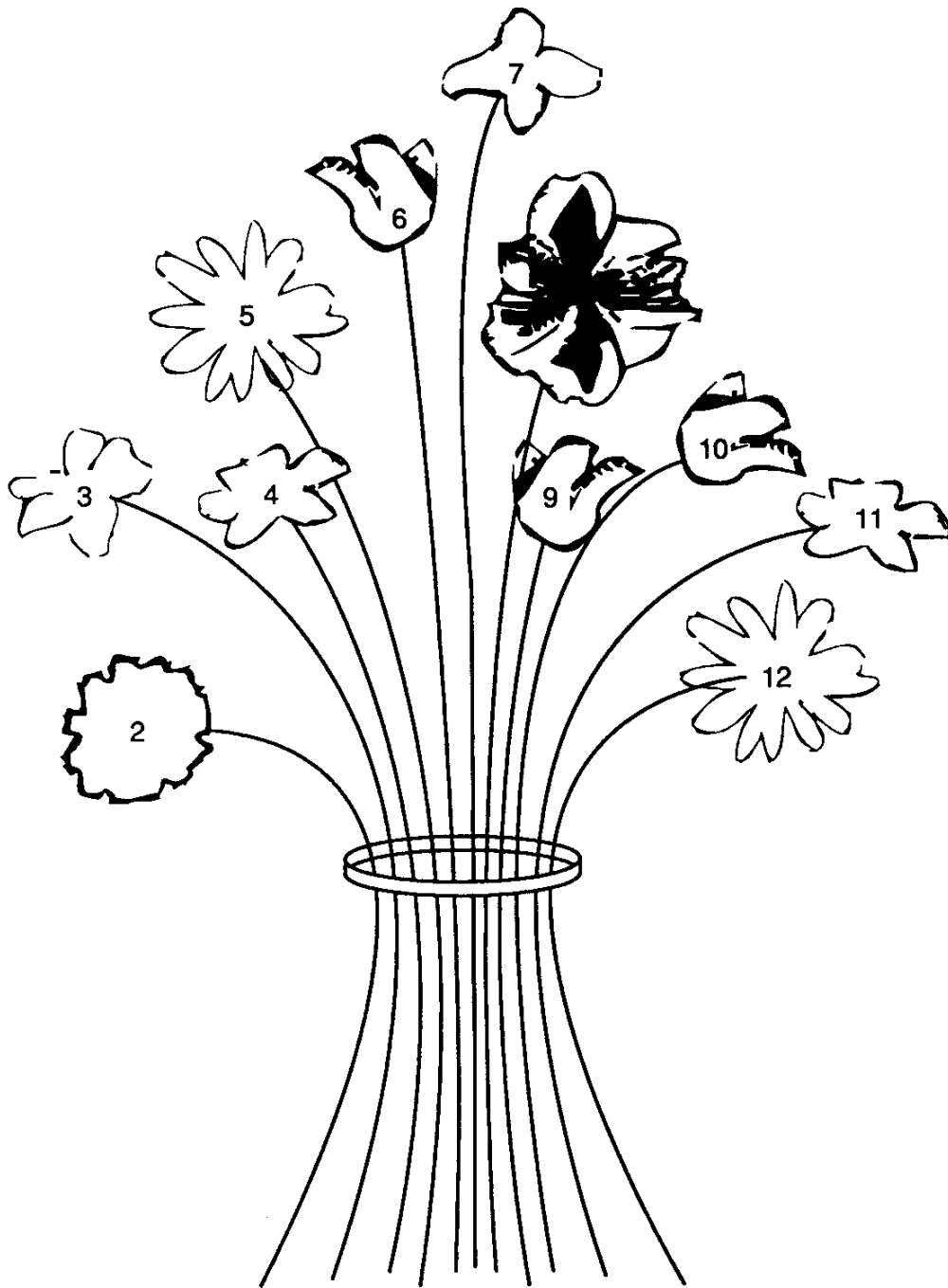


		Responses
<hr/>		
Counting/Sequence/Order	p.3 (4–105)	29 _____
	p.6 (0–109)	16 _____
	p.12 (1s, 10s, 100s)	5 _____
	p.14 (<, =, >)	9 _____
	p.22 (98–214)	29 _____
<hr/>		
Arrows	p.2 (+1, facts)	15 _____
	p.7 (+2, facts)	15 _____
	p.9 (–1)	14 _____
	p.11 (7-friends, 10-friends)	14 _____
	p.13 (+5, facts)	16 _____
	p.16 (+4)	12 _____
	p.20 (+10)	19 _____
	p.22 (+2, +3, –2)	13 _____
	p.24 (2x)	5 _____
	p.26 (+3, +2)	10 _____
	p.28 (–2)	15 _____
	p.32 ( $\frac{1}{2}x$ )	5 _____
<hr/>		
Minicomputers	p.5 (1–99)	12 _____
	p.7 (1-99)	8 _____
	p.14 (1-999)	5 _____
	p.19 (1-999)	6 _____
<hr/>		
Money	p.4 (1¢, 5¢, 10¢)	6 _____
<hr/>		
Strings	p.8 (self)	1 _____
	p.18 (A-Blocks)	4 _____
	p.25 (odd, less than 10)	4 _____
<hr/>		
Addition/Subtraction	p.11 (Eli)	5 _____
	p.17 (positive and negative numbers)	10 _____
	p.23 (story problems)	3 _____
	p.27 (with Minicomputer)	5 _____
	p.29 (with Minicomputer)	5 _____
	p.30 (Eli)	5 _____
	p.31 (story problems)	7 _____
<hr/>		
Geometry	p.15 (paths)	3 _____
	p.21 (area)	4 _____





F159(a)



F159(b)

