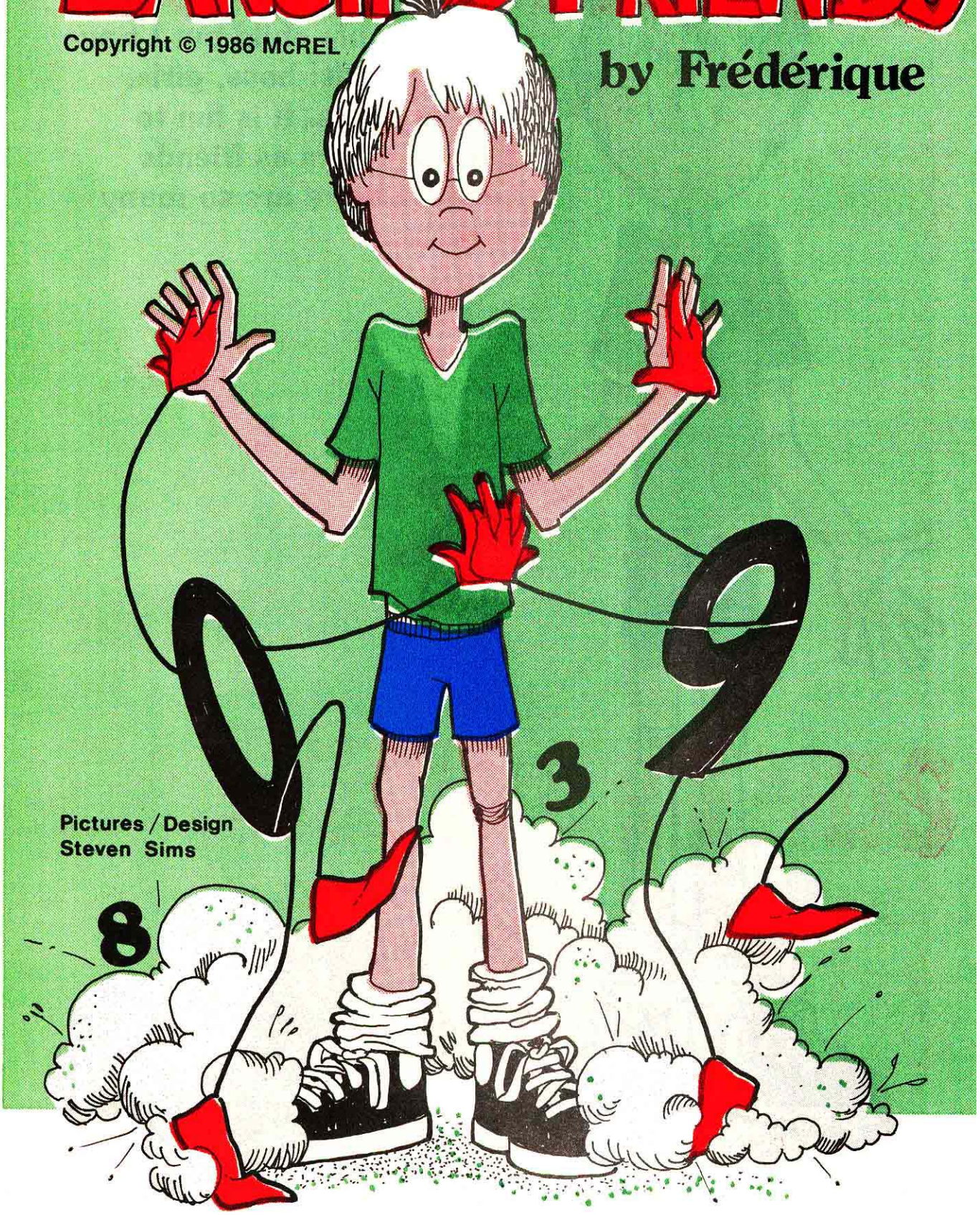
13-6104

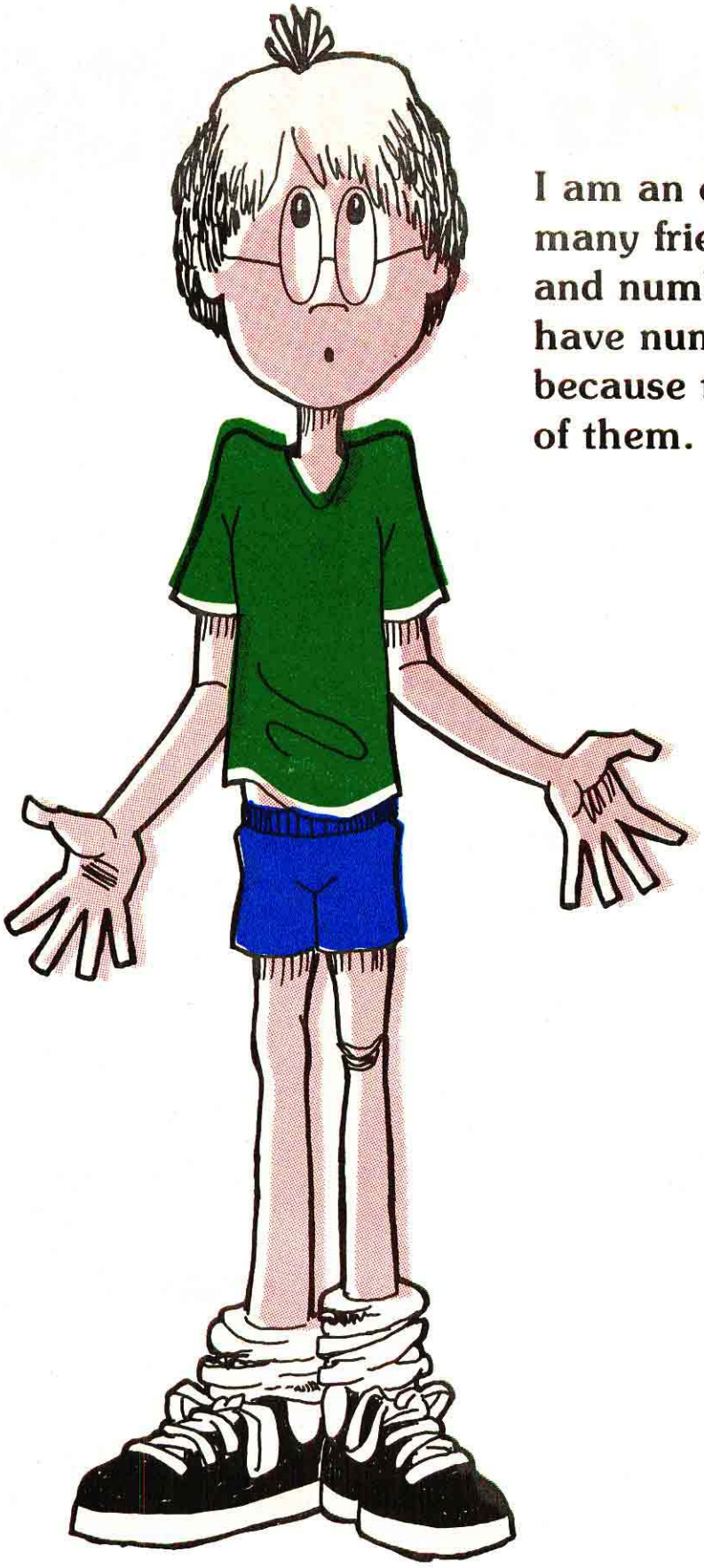
DANCING FRIENDS

Copyright © 1986 McREL

by Frédérique



Pictures / Design
Steven Sims



I am an only child but I have many friends: boys, girls, and numbers. It is fun to have numbers as friends because there are so many of them.

At times my friends, the numbers, are sad and stiff. They have no imagination. Their games are dull. They repeat the same old story over and over again.

2 + 6 = 8	2 × 6 = 12
3 + 6 = 9	3 × 6 = 18
4 + 6 = 10	4 × 6 = 24
5 + 6 = 11	5 × 6 = 30
6 + 6 = 12	6 × 6 = 36
7 + 6 = 13	7 × 6 = 42

. . . and so on. They are like prisoners.

At other times they are happy and relaxed. They run and jump all over the house; they sing and invent more and more new games.

They are so lively and noisy that my parents refuse to invite them all at one time.

This afternoon I was allowed to invite ten numbers to come to my house, and I chose 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9.

They were a little surprised at being so few. At first they didn't know any interesting games to play.

"If we play the adding game, it doesn't work," they said. "7 + 8 = 15 and you didn't invite 15."

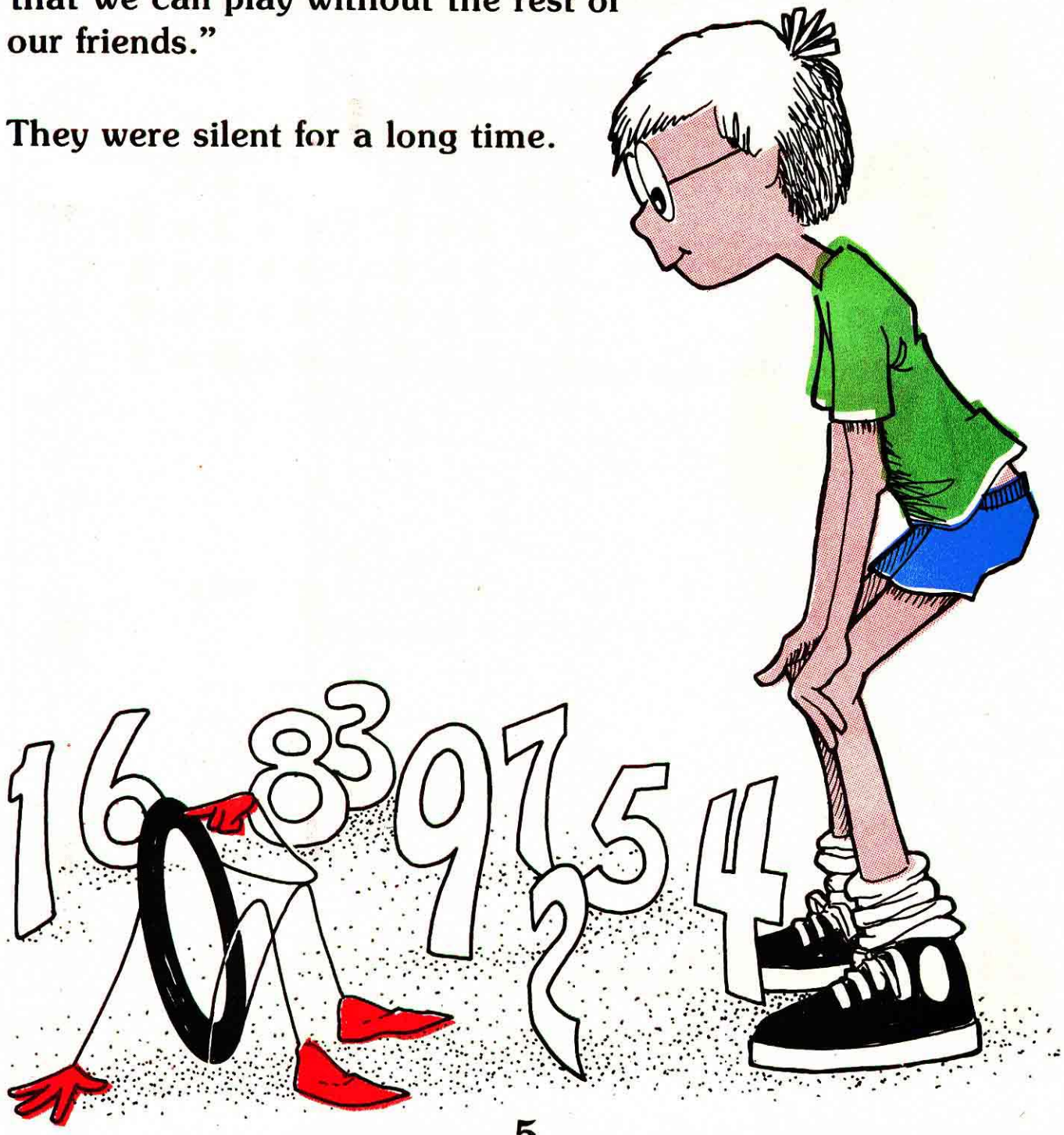
"If we play the times game, it is even worse; 7 × 8 = 56 and 56 is not here."

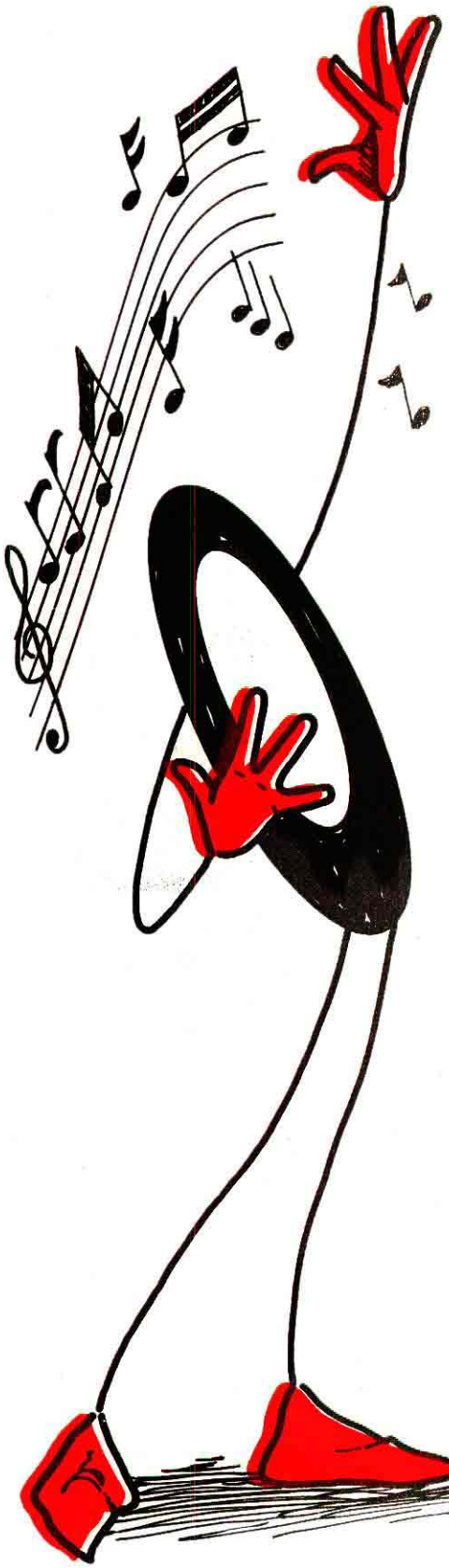
"If we play the dividing game, 4 ÷ 8 = ½ and you forgot your little friend ½."

They were in a bad mood.

"Be a little patient," I replied. "You are not at school. Try to make up a new game that we can play without the rest of our friends."

They were silent for a long time.





Then 0, who is my best friend and who thinks up most of our games, shouted, "I have an idea. Listen to me and you will see how much fun it is."

0 began to sing:

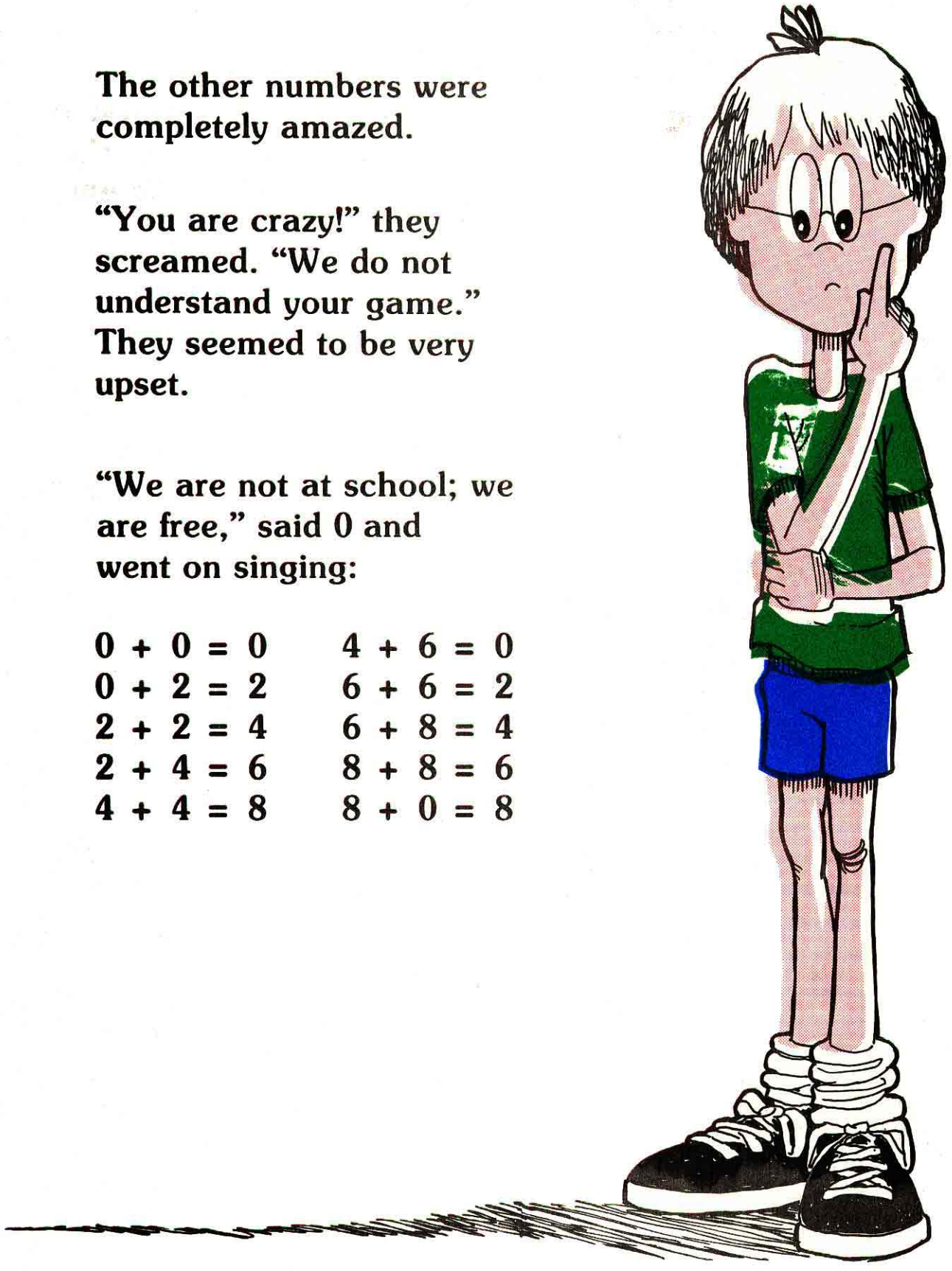
0 + 1 = 1	5 + 6 = 1
1 + 2 = 3	6 + 7 = 3
2 + 3 = 5	7 + 8 = 5
3 + 4 = 7	8 + 9 = 7
4 + 5 = 9	9 + 0 = 9

The other numbers were completely amazed.

"You are crazy!" they screamed. "We do not understand your game." They seemed to be very upset.

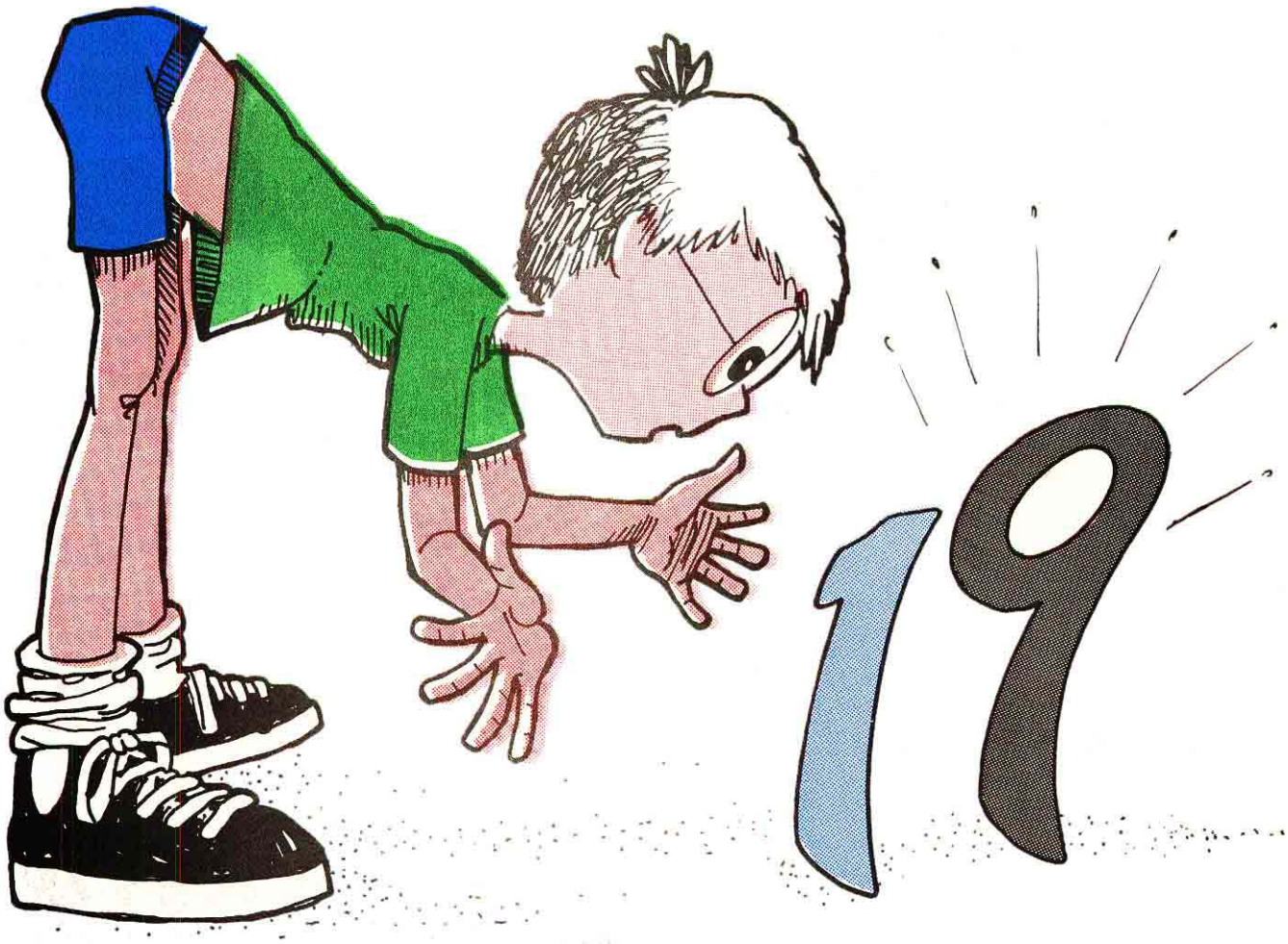
"We are not at school; we are free," said 0 and went on singing:

0 + 0 = 0	4 + 6 = 0
0 + 2 = 2	6 + 6 = 2
2 + 2 = 4	6 + 8 = 4
2 + 4 = 6	8 + 8 = 6
4 + 4 = 8	8 + 0 = 8



Numbers 1 and 9 became upset when 0 sang, "1 + 9 = 0."

"Calm down," I protested. "You are so restless today. It is only a game. Instead of fighting, try to understand it."



They agreed finally. We all thought about the new game while 0 continued to hum the song.

Suddenly my friends began to laugh one after another.

"Each time you add, you only say the last digit of this new number. For instance,
8 + 7 = 15 and you simply say '5';
6 + 6 = 12 and you say '2.' "

They were excited and they cheered the number 0.

"I have an idea to make our teachers happy too," smiled 0. "When we are playing this new addition game, we will write a special plus sign. I will show you."

$$8 \oplus 7 = 5$$
$$6 \oplus 6 = 2$$
$$9 \oplus 7 = 6$$

" . . . and so on."

We were so happy all together. I suggested to my friends that they could dance.

"Hurray!" they shouted, "But what dance do you propose?"

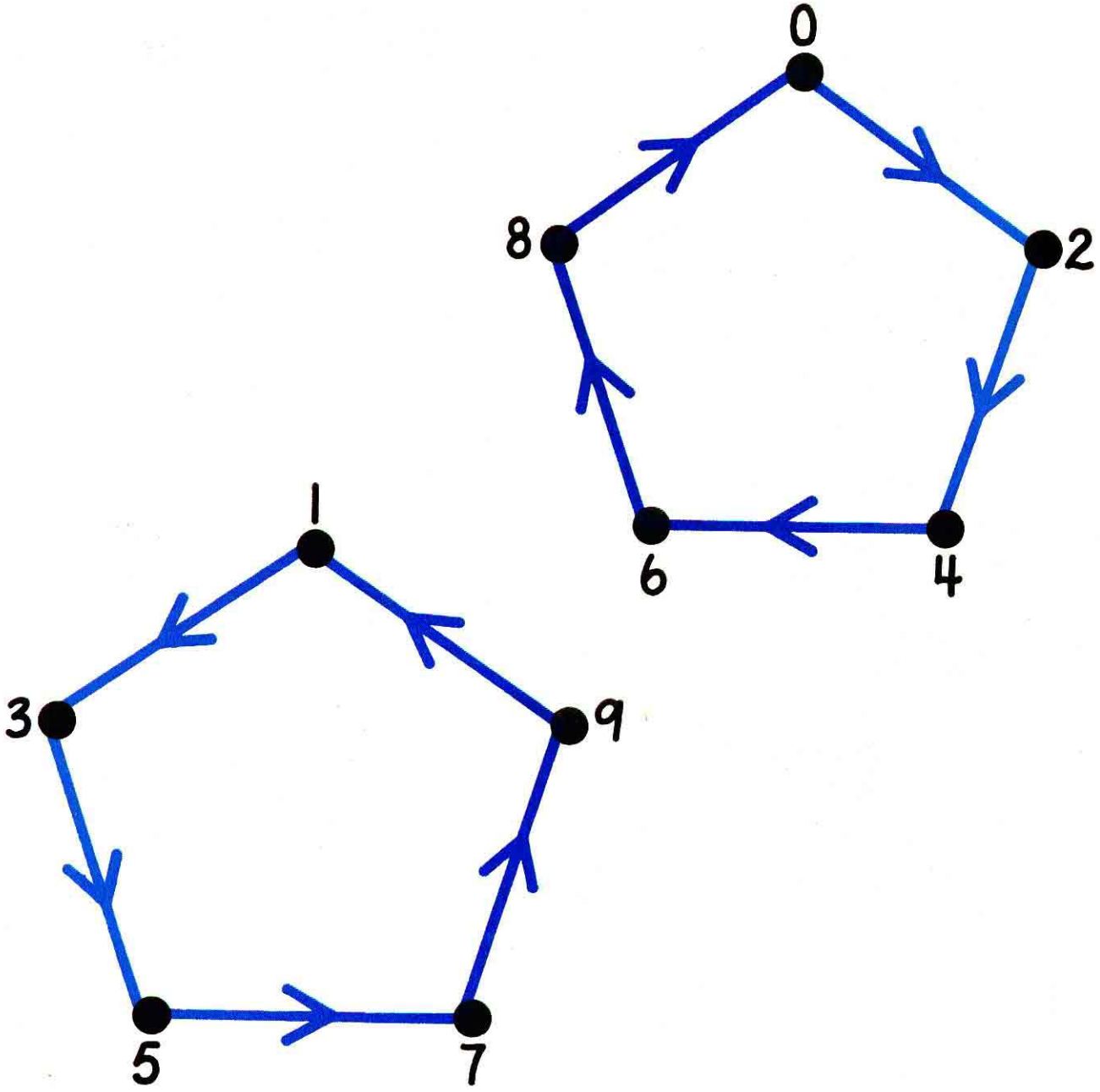
"Do you remember the marvelous **+2 snake dance** you made up for my birthday party?" I said. "Please dance it again for me."

"But there are only ten of us," they answered sadly, "and in order to enjoy this dance, we need **all** the whole numbers."

"With my new song, we can dance it very easily," 0 exclaimed. The ten numbers whispered among themselves. They laughed and happily jostled each other. Very soon the **⊕2 snake dance** was organized.

"You are a genius," I said to 0, who was looking very proud.

The ⊕2 Snake Dance



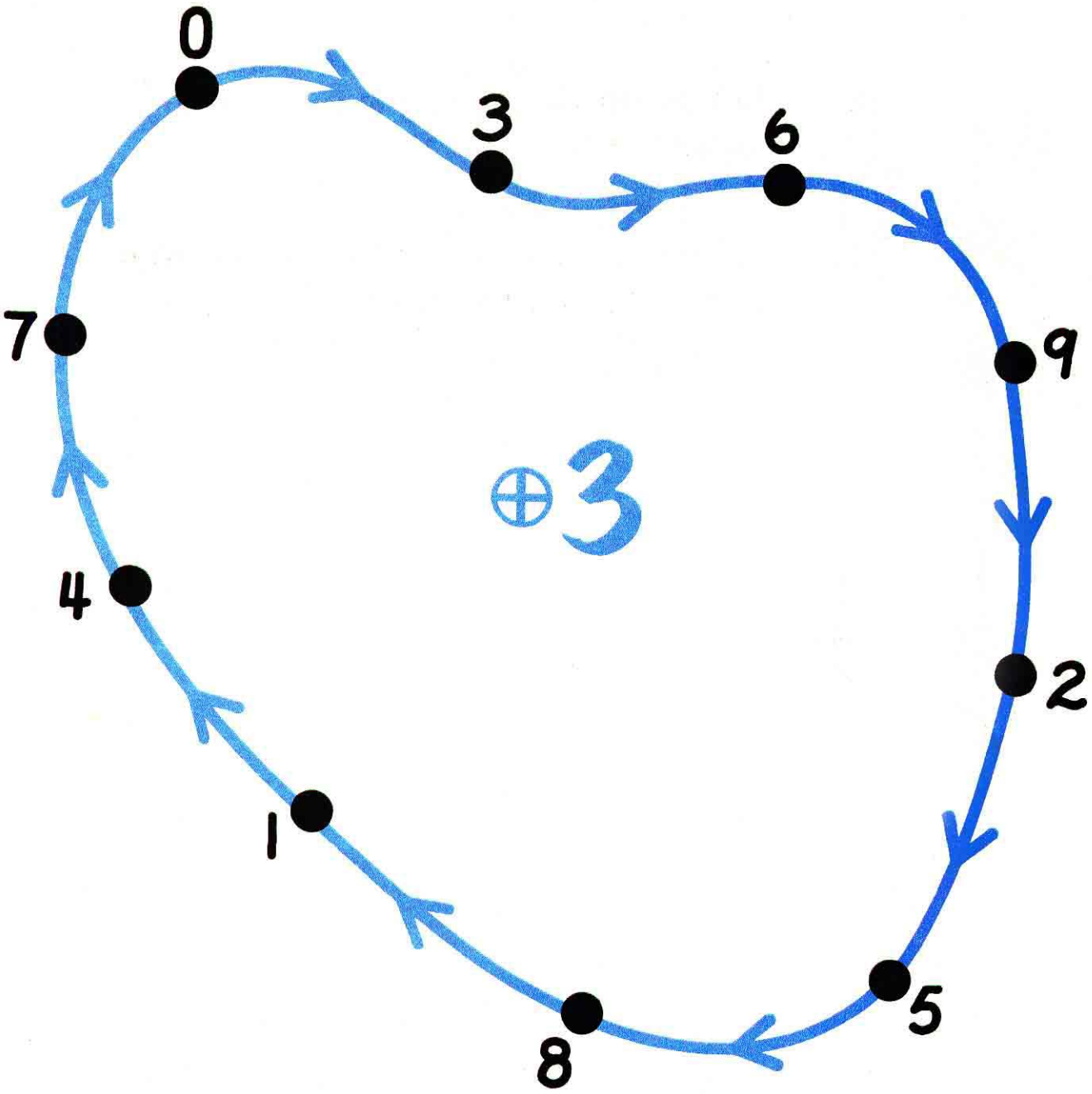
DO YOU UNDERSTAND THIS NEW DANCE?

DON'T FORGET THAT 8 ⊕ 2 = 0 AND 9 ⊕ 2 = 1.

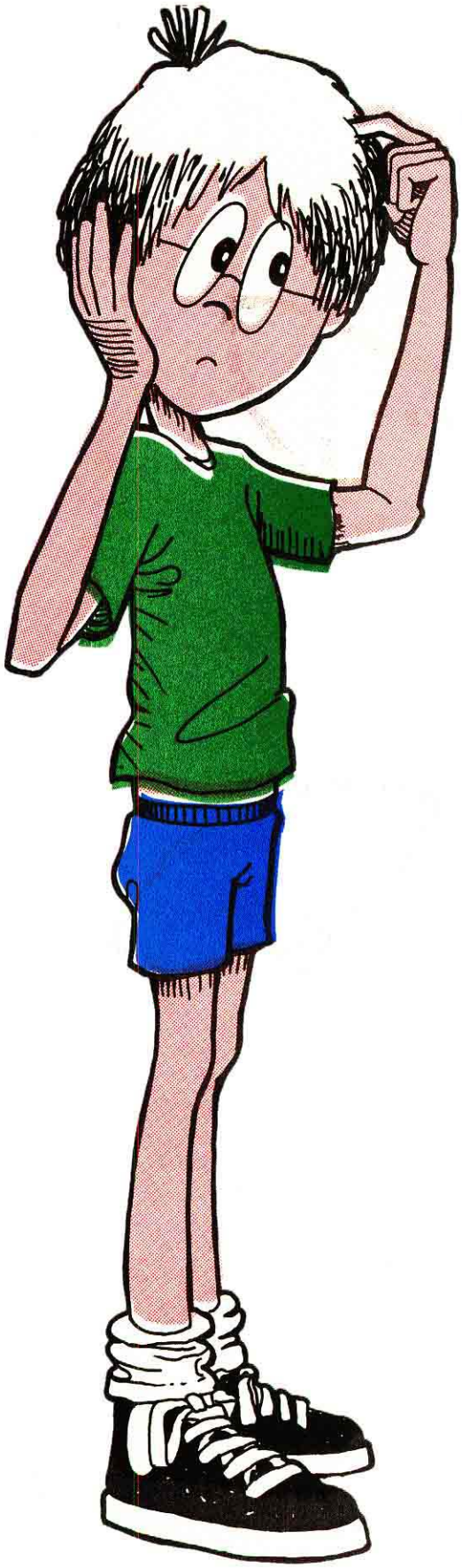
My friends were a little tired, so they sat on the floor and I offered them some drinks.

"Let us try the ⊕**3 snake dance,**" suggested the number 3.

No sooner said than done. I put on a record. Look what happened.



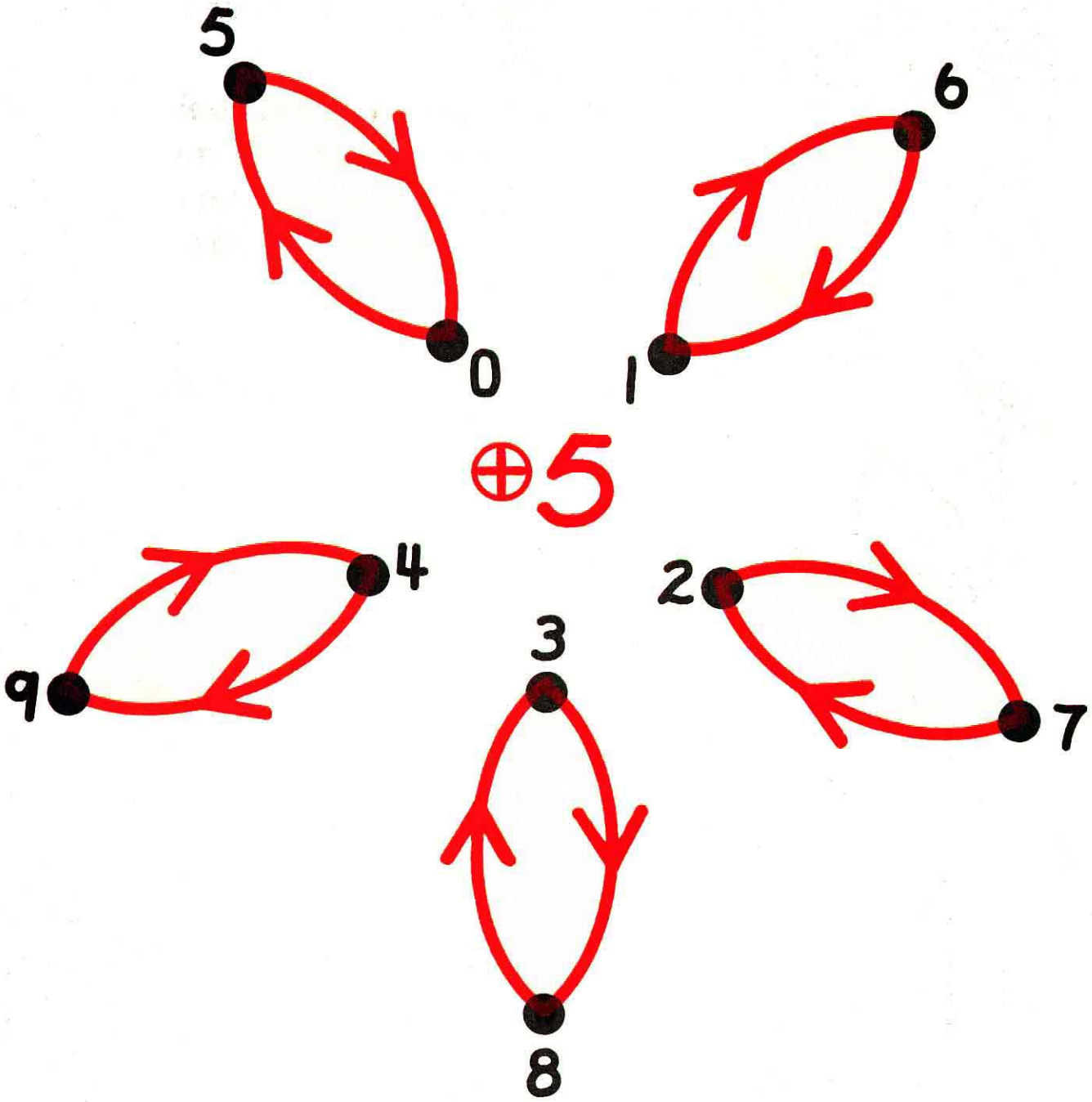
I was amazed by this new dance. How about you?



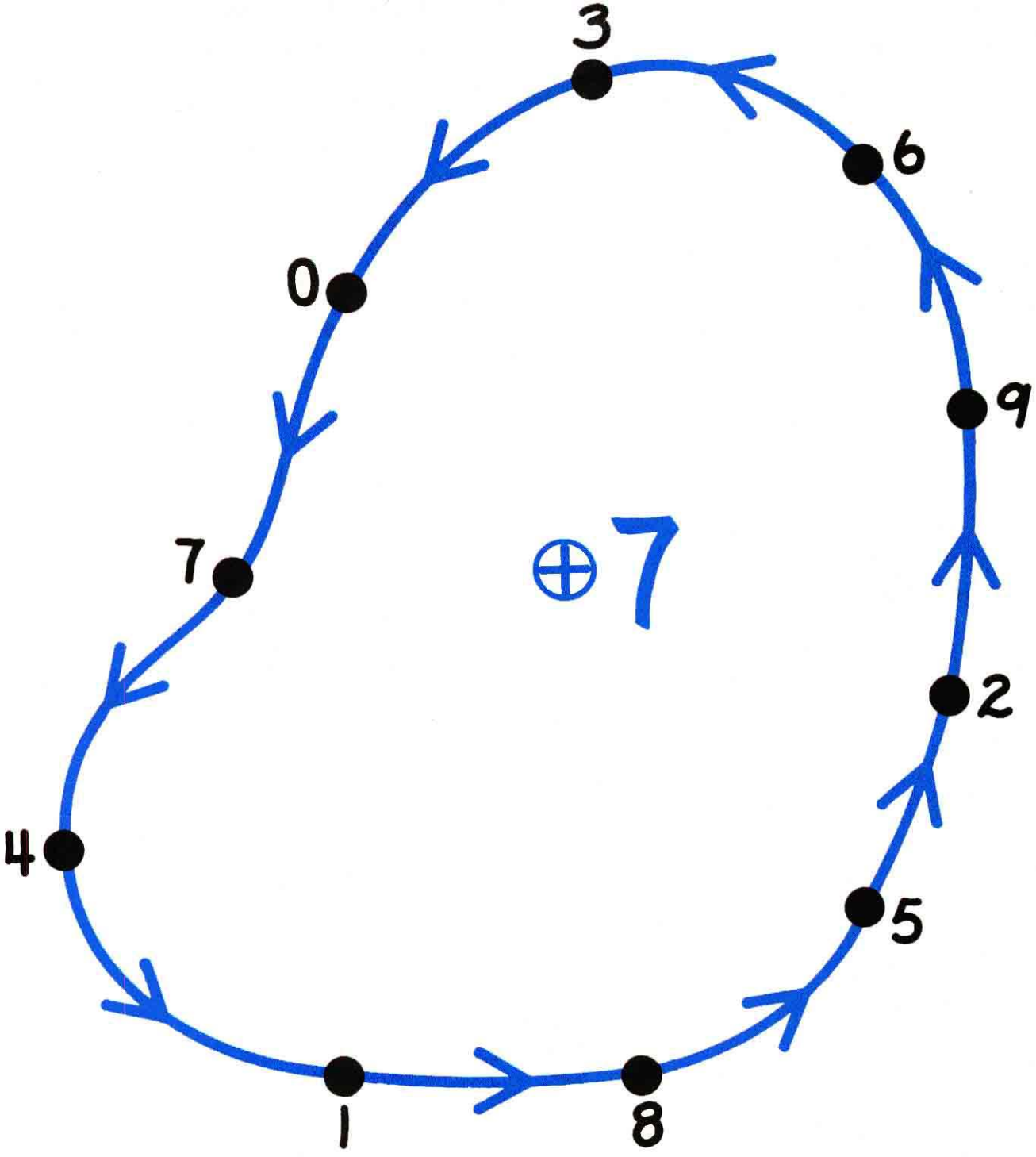
"Let us dance the ⊕5 snake," begged the number 5.

"But your dance doesn't look like a snake," observed my friends. "It is more like a flower with five petals."

"True," agreed 5, a little confused.

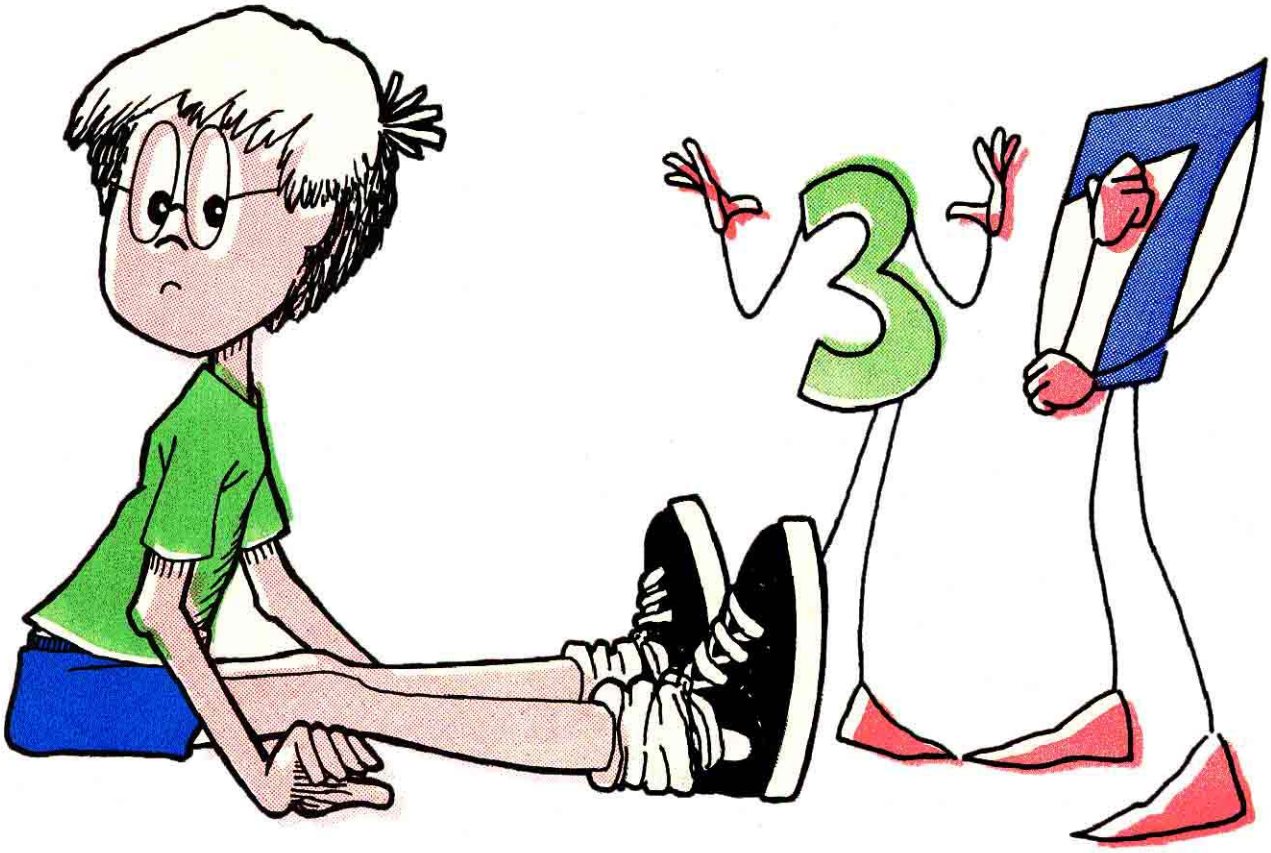

5
6
0
1
⊕5
4
2
9
3
7
8

"It is my turn," said 7.



WHAT DO YOU THINK OF IT?

"Your dance is really the same as mine," observed 3. "Look! It is almost the same picture, but we are dancing in the opposite direction."



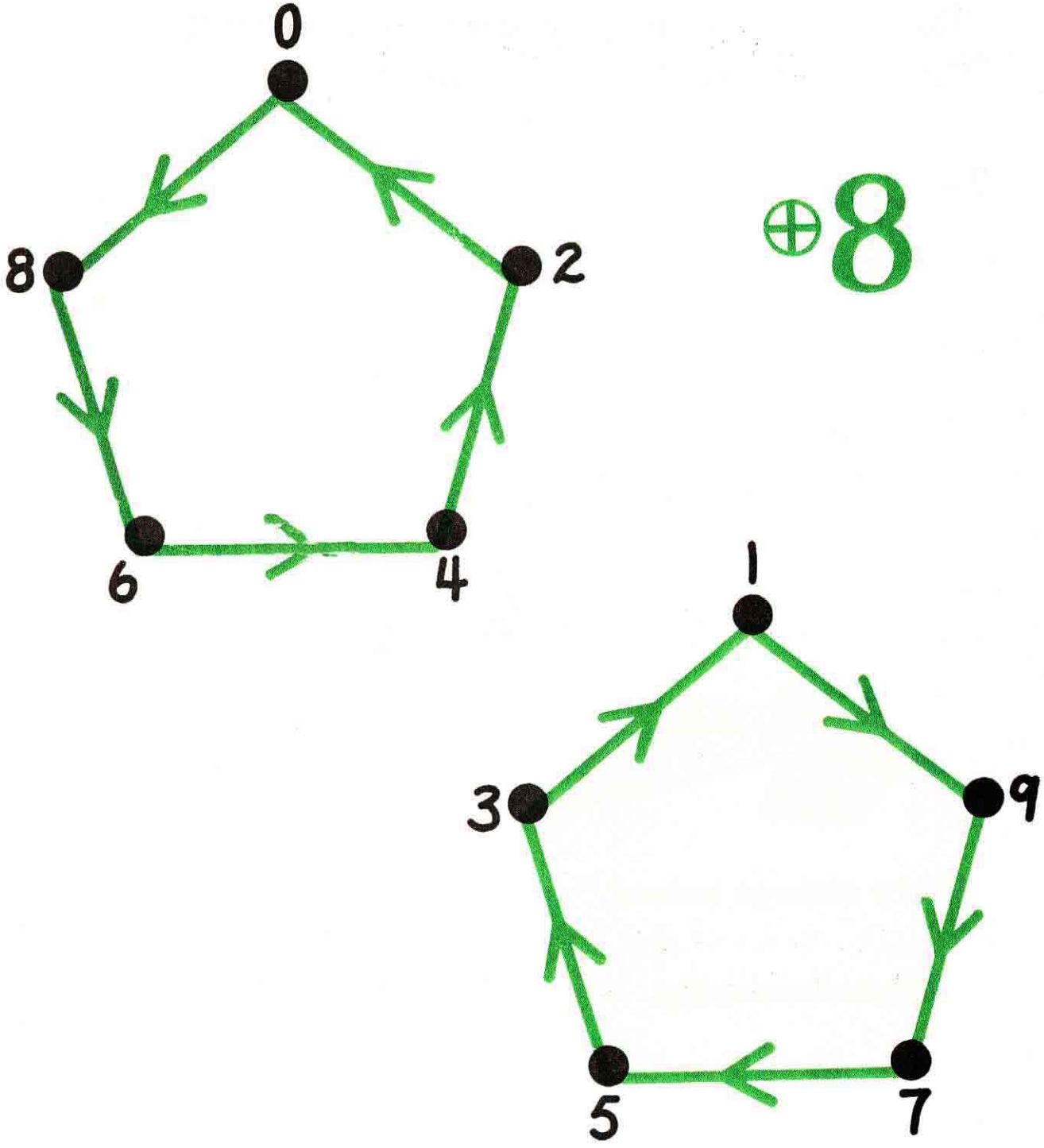
"Very strange indeed," said 7.

0 began humming,

"$3 \oplus 7 = 0; 7 \oplus 3 = 0$,"

and added: "It seems to me that I have something to do with that."

"Let us try the ⊕8 snake."



"That's very similar to my dance," observed 2, "but it's in the opposite direction."

0 sang once more,

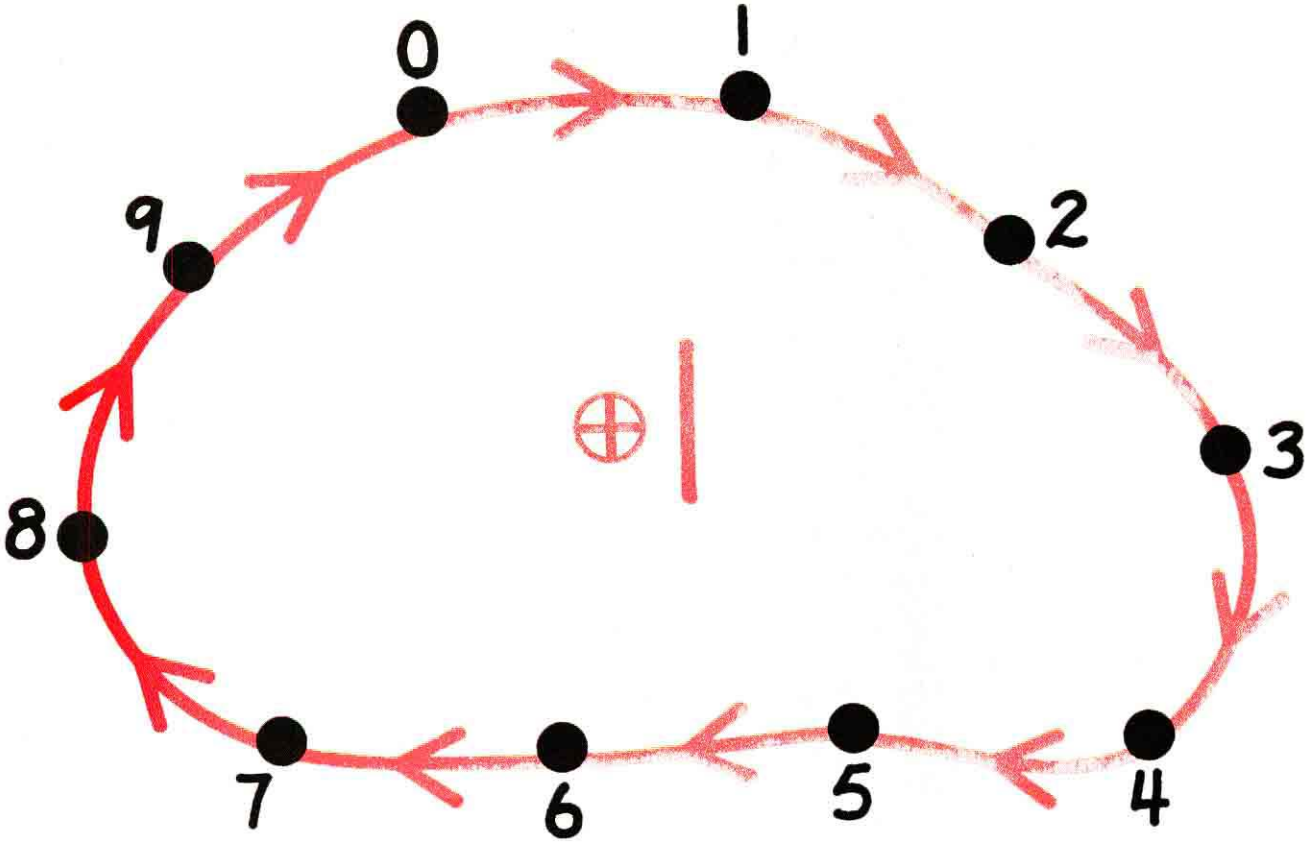
$$"2 \oplus 8 = 0; 8 \oplus 2 = 0."$$

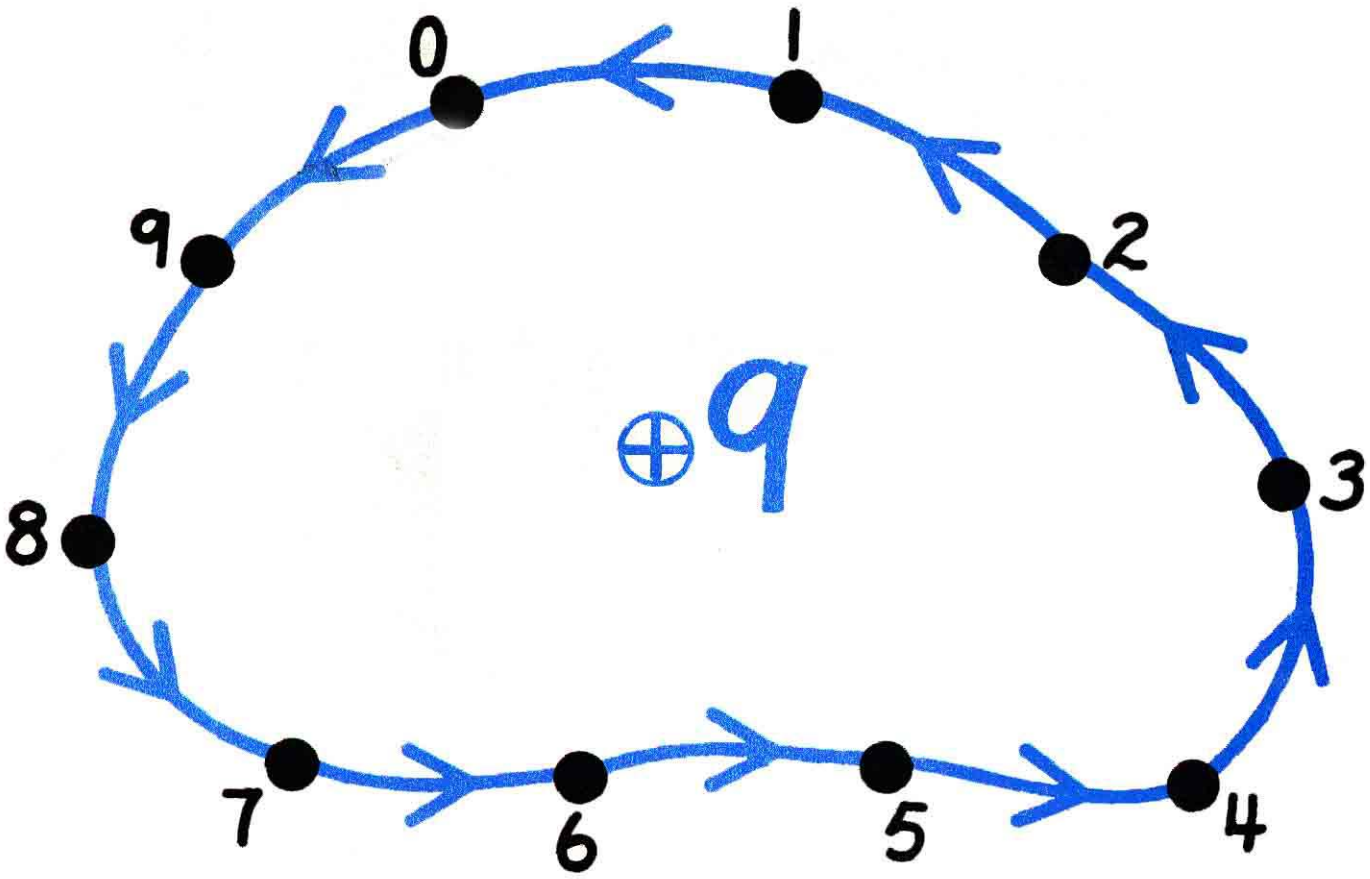
"The part I play is very important," said 0.

$$1 \oplus 9 = 0 = 9 \oplus 1$$
$$2 \oplus 8 = 0 = 8 \oplus 2$$
$$3 \oplus 7 = 0 = 7 \oplus 3$$
$$4 \oplus 6 = 0 = 6 \oplus 4$$
$$5 \oplus 5 = 0 = 5 \oplus 5$$

"Now it is our turn," shouted 1 and 9 at the same time.

BEFORE YOU TURN THE PAGE, TRY TO DRAW THE $\oplus 1$ and $\oplus 9$ DANCES YOURSELF.

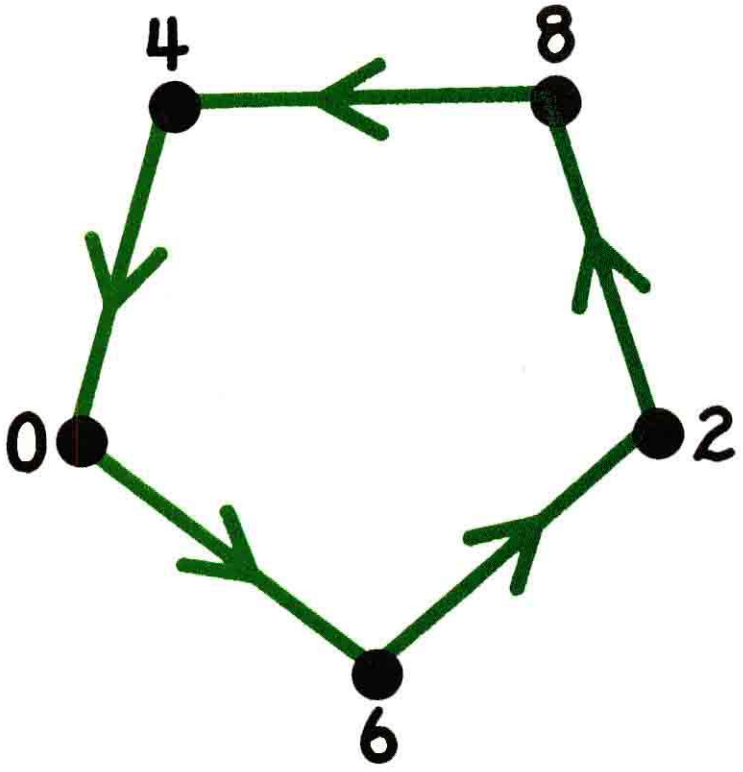

0
1
2
3
4
5
6
7
8
9



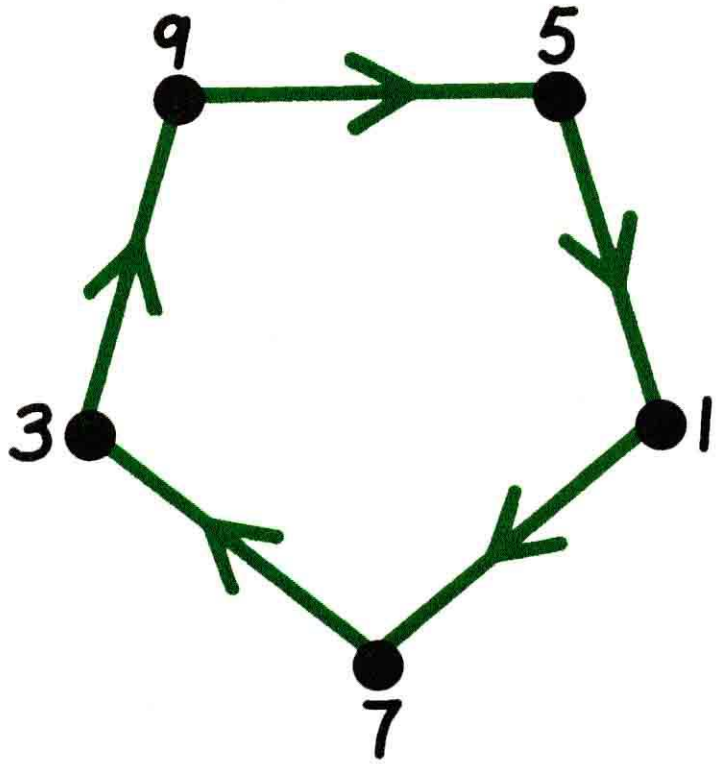
"They are almost the same dances, but in opposite directions," agreed 1 and 9.

"We have similar dances too," exclaimed 4 and 6.

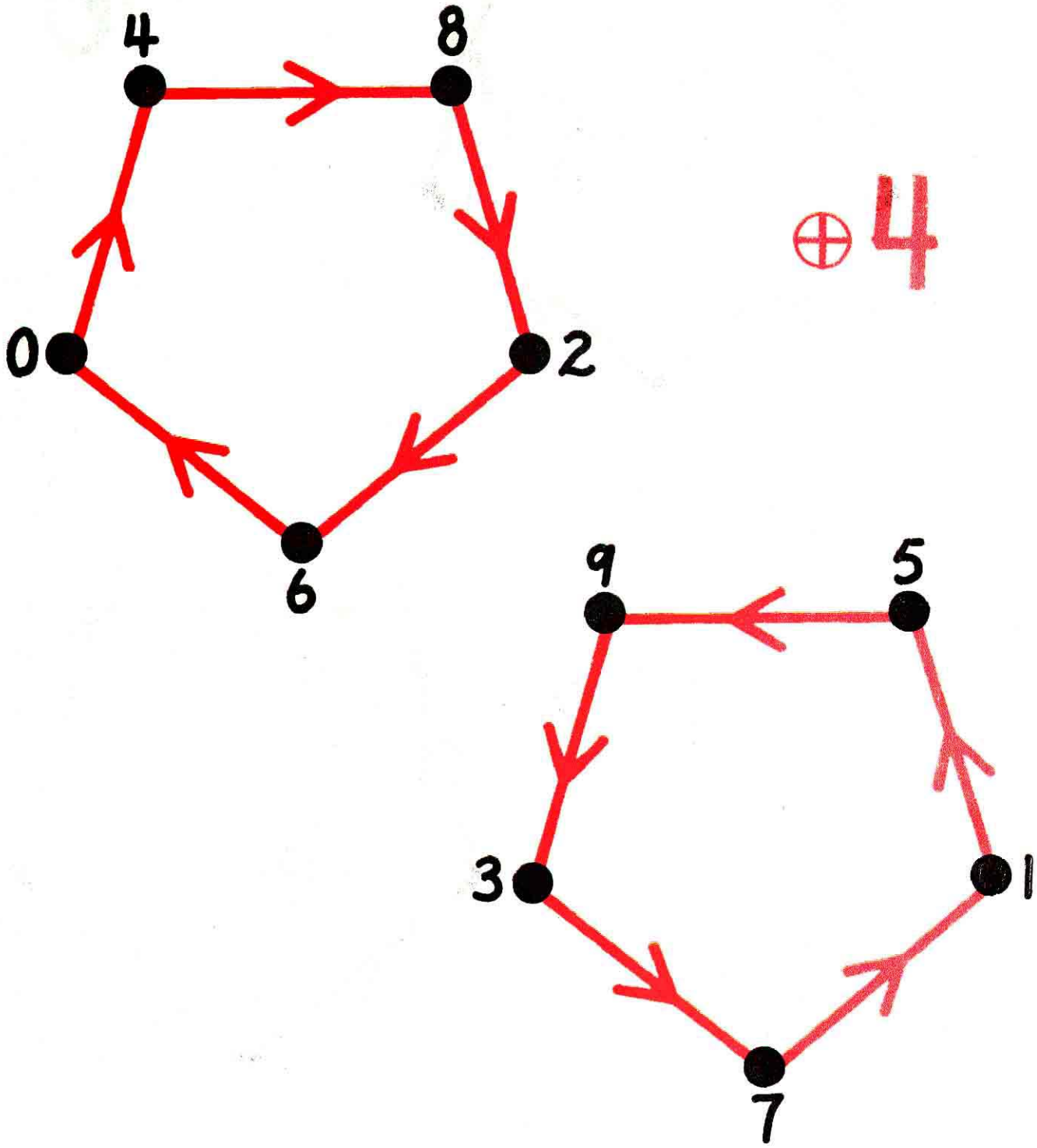
BEFORE YOU TURN THE PAGE, TRY TO DRAW THE ⊕4 and ⊕6 DANCES.



$\oplus 6$



4 and 6 were looking at each other. "They are almost the same pictures," they observed, "but the arrows go in opposite directions."

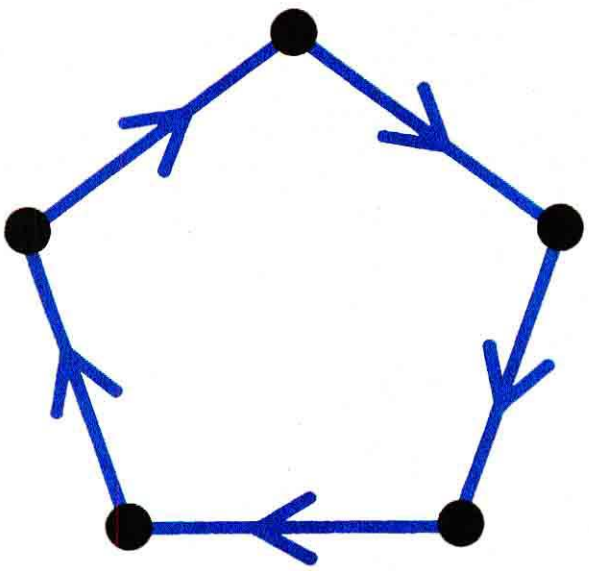


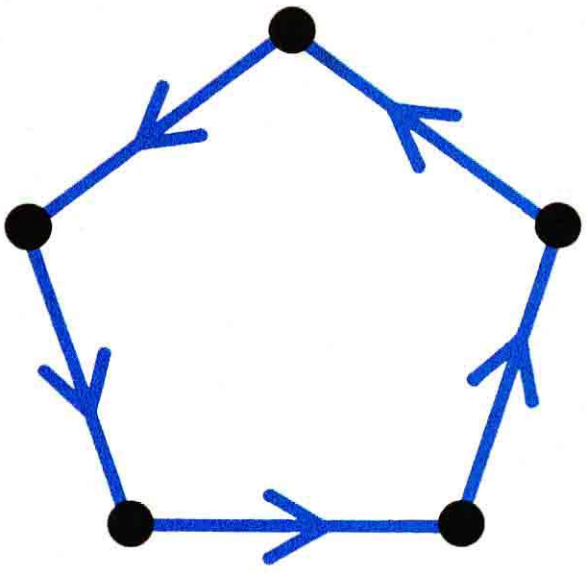
"I am important," shouted 0,
getting prouder and prouder.
"Everything depends on me."

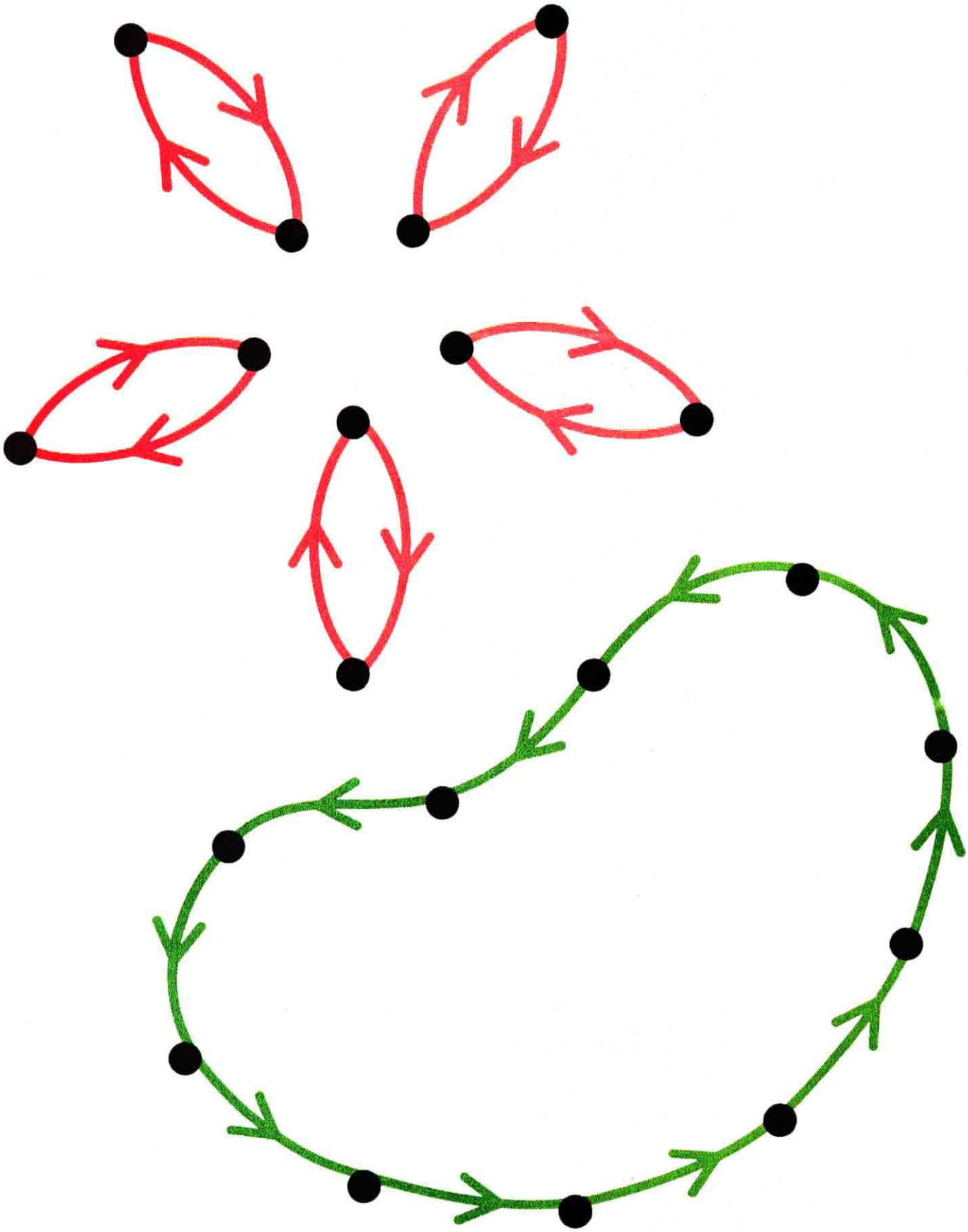
The other numbers were a
little jealous.

"I am interesting too," said
5. "Nobody else has the
same dance as I do. I am
all by myself. I am special."

"Right," replied 0, "but that
is because $5 \oplus 5 = 0$."





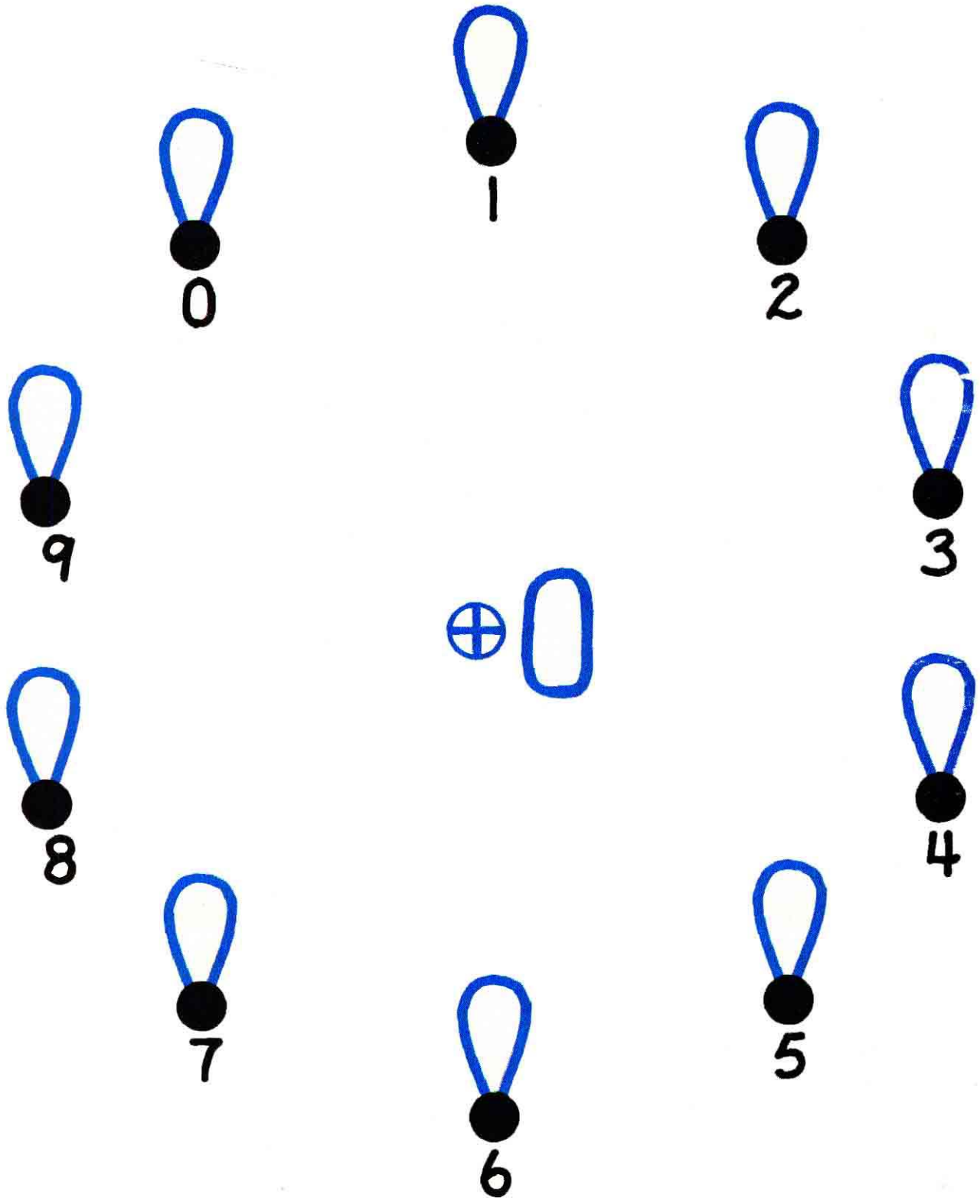


"Let us try the $\oplus 0$ dance," said the other numbers with a mocking smile.

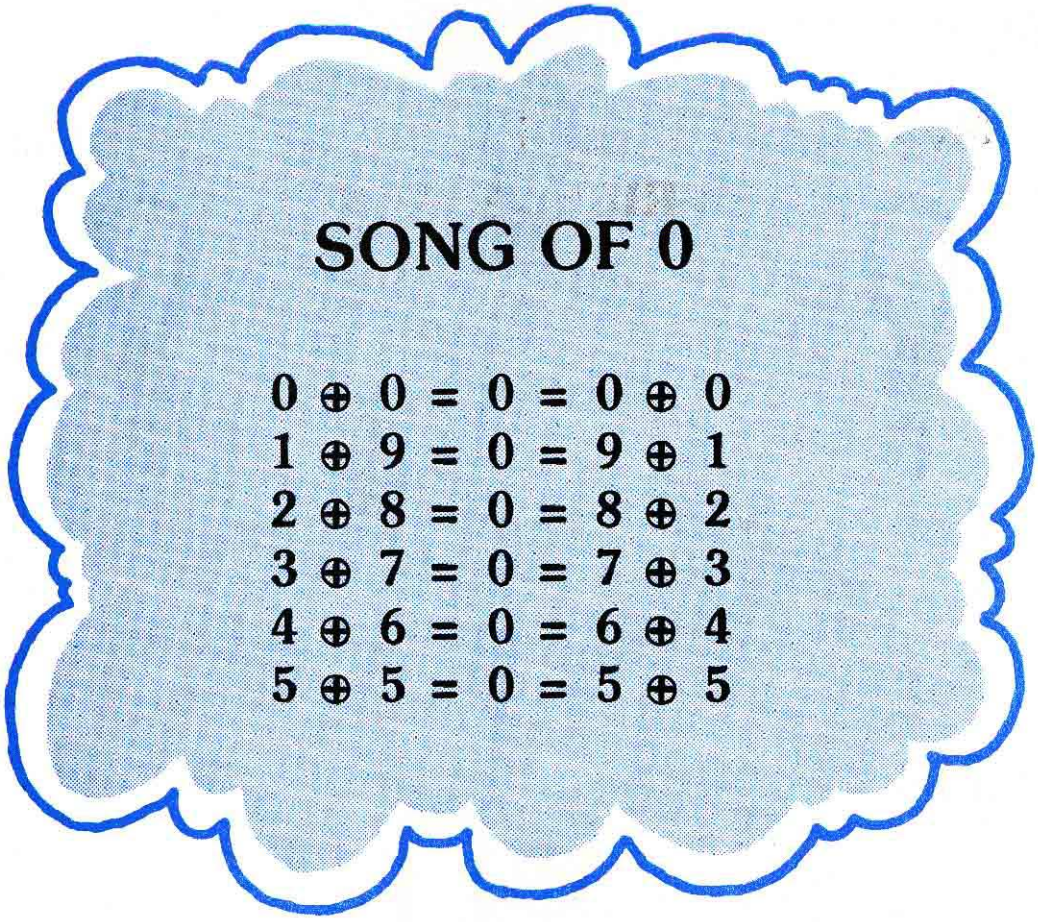
"Your dance is boring," the rest of my number friends complained to 0. "With you, we are all dancing by ourselves."

0 didn't answer, but looked a little ashamed.

But not for long!



0 began to hum a new song.



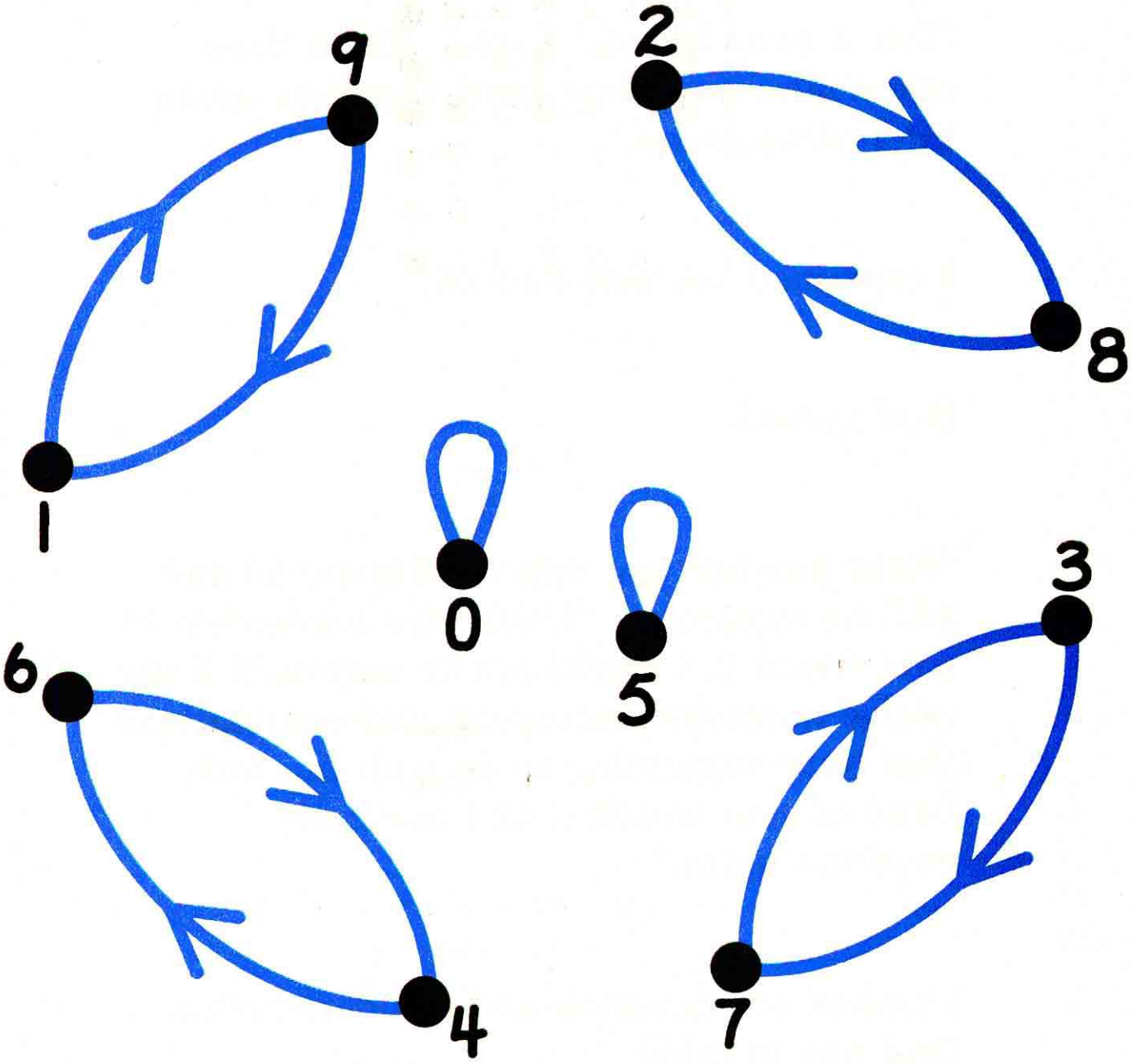
"Try to make up a dance that fits my new song," 0 suggested.

A little surprised, the numbers 1 through 9 agreed to do it. Look at what happened.

"Really you are a funny number," they said to 0 and cheered the new dance.

5 was very happy. "In this dance I do exactly the same thing that 0 does."

My friends suggested calling this dance the
0-FRIENDS DANCE.



In the evening, I told my dad how much I had enjoyed the afternoon spent with my friends.

"0 is a good friend," I said. "Each time some numbers come here, 0 makes up an interesting game."

I explained our new dances.

Dad smiled.

"Next Sunday you may also invite 10 and 11," he suggested. "Under the leadership of your friend 0, I would not be surprised if the twelve numbers discovered new calculations that have something to do with the little hand of your watch. But I won't say anything more."

I looked at my watch and wondered what Dad had in mind.

12
1
2
3
4
5
6
7
8
9
10
11

DANCING FRIENDS is a story about a boy and ten of his number friends. They speak to each other; they play together; they make up games. Isn't that how we wish things could be? After school, free from the usual constraints placed upon them, the numbers invent marvelous games and dance to the tune of vividly colored arrows.

The games of the numbers are not frivolous. There are rules to be followed and, as a result, orderly patterns emerge in their dances. The numbers observe similarities and differences as they go from one dance to another, and they discover the very important role that 0 plays in the whole scheme.

The child who reads DANCING FRIENDS may begin to accept some numbers as personal friends. That's what this book is all about.

Ann Karmos

STORIES BY FREDERIQUE

Ages 5 to 8

The Playful Numbers
The Baby Is Born
81 Roses
One Out of Seven
The Old Shoemaker
I Am A Very Happy Boy
The Little Dreamer
Two by Two
The Weird Story of 24
Where's My Nose?
The Happy Puppet
The Magic Box
Summer School in the Old Days

Ages 8 to 12

The Little Donkey
Singing Friends
Dancing Friends
I Am Not My Name
The Living Lines
The Square Trap
Nabu Wins an Award

Ages 10 to 14

The Hidden Treasure
A Valentine Mystery
Election in the Number World
A Very Strange Neighborhood