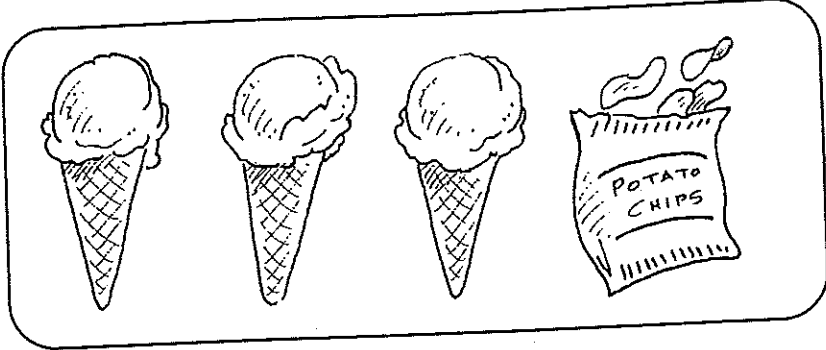


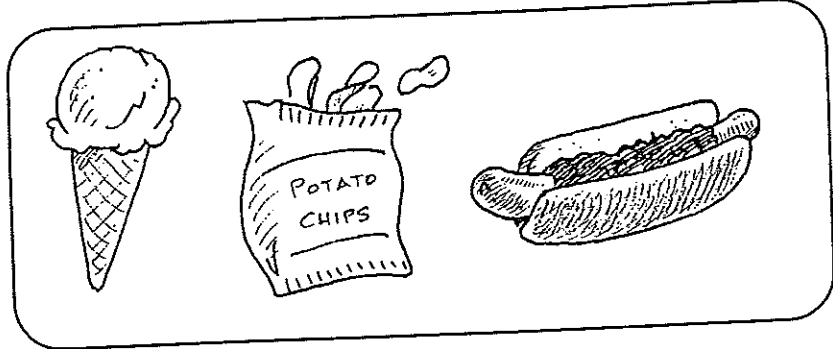
EMI

# Yum Yum!

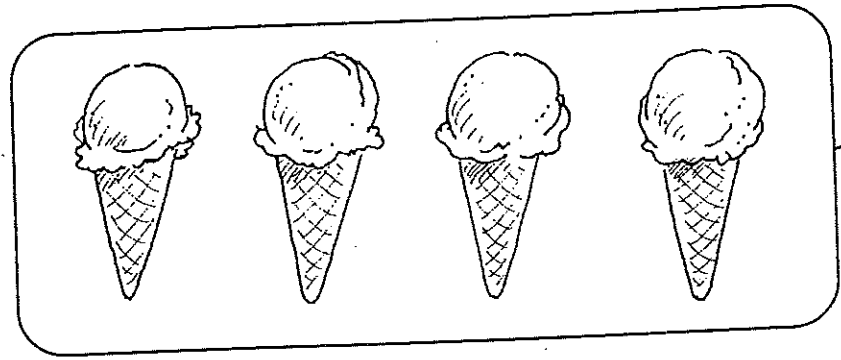
See if you can lick this puzzle. You need to use problem solving to calculate the cost of the ice cream cone, the hot dog, and the chips. Then figure out how much the items in row two would cost.



\$2.75





\$2.75




\$3.00

Prices:

 = \$ \_\_\_\_\_










 = \$ \_\_\_\_\_

 = \$ \_\_\_\_\_


Key available


IM 2

# Chips 'n' Dip

			<input type="text" value="\$3.60"/>
			<input type="text" value="\$"/> a
			<input type="text" value="\$"/> b
<input type="text" value=""/> c	<input type="text" value="\$4.40"/>	<input type="text" value=""/> d	

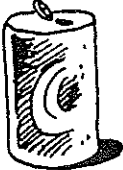







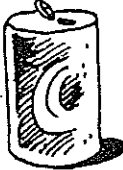

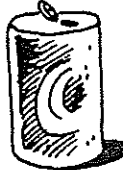




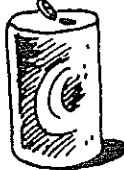
Oh, no! Here we go again! Dip into your brain and patience to calculate the missing prices for each row and column. In order to do that, you will have to calculate the individual prices of the chips and dip. Look at every row and every column until you find one that gives you useful information. You can do it!

 dip = \$ \_\_\_\_\_

 chips = \$ \_\_\_\_\_

Key available

# Thirst Quenchers

				\$2.75
				\$ _____ a
				\$2.50
				\$ _____ b
\$ _____ c	\$1.00	\$ _____ d	\$ _____ e	

Nothing quenches my thirst for a challenge better than a good logic puzzle, and this is one of those puzzles. Carefully examine each row and vertical column. Pay attention to what you know and what you need to know, and calculate the missing prices. It may take a bit, so you might want to fix yourself something cold to drink.

**Prices:**

- Cola \$ \_\_\_\_\_
- Juice \$ \_\_\_\_\_
- Coffee \$ \_\_\_\_\_

*Key available*

# THE VALUE OF WORDS

In the Value Box, each letter of the alphabet has been given a dollar value. To find the value of a word, add the values of all the letters. For example, the word *school* is worth \$72. ( $19 + 3 + 8 + 15 + 15 + 12 = 72$ ) Write words with corresponding values in each of the boxes below.

\$10 Words

\$20 Words

\$50 Words

\$100 Words

\$101—\$150 Words

\$151—\$200 Words

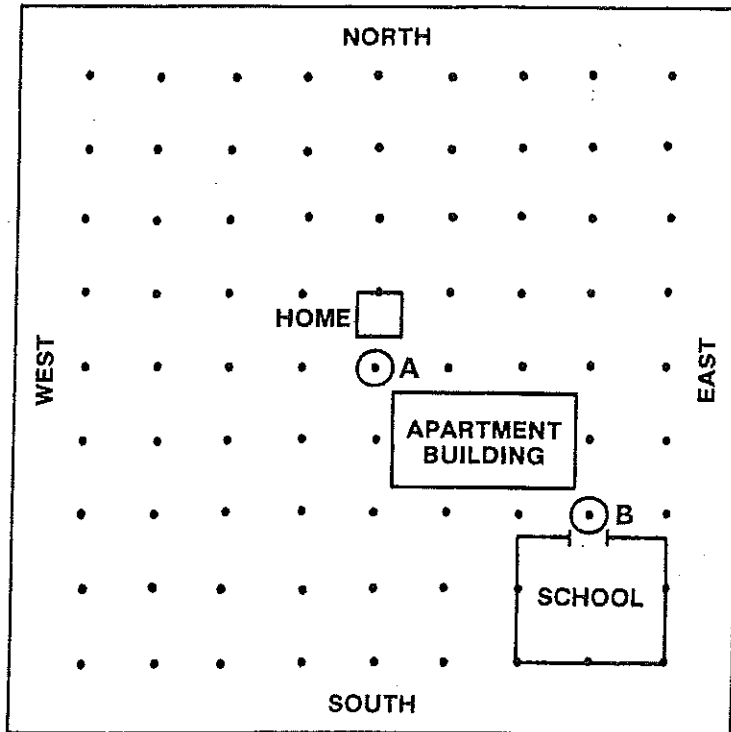
## Value Box

A	= \$1
B	= \$2
C	= \$3
D	= \$4
E	= \$5
F	= \$6
G	= \$7
H	= \$8
I	= \$9
J	= \$10
K	= \$11
L	= \$12
M	= \$13
N	= \$14
O	= \$15
P	= \$16
Q	= \$17
R	= \$18
S	= \$19
T	= \$20
U	= \$21
V	= \$22
W	= \$23
X	= \$24
Y	= \$25
Z	= \$26

# The Path to Good Thinking

**DIRECTIONS:** Use a pencil or pen to draw on the graphic below according to the instructions underneath.

## PRODUCING AND DESCRIBING PATHS



Start at point A. Your destination is the school, point B. Draw and describe two paths to travel from your original location, point A, to your destination. Move along either north-south or east-west lines. You should not take a path through the apartment building.

1. \_\_\_\_\_ spaces to the \_\_\_\_\_ and then \_\_\_\_\_ spaces to the \_\_\_\_\_.

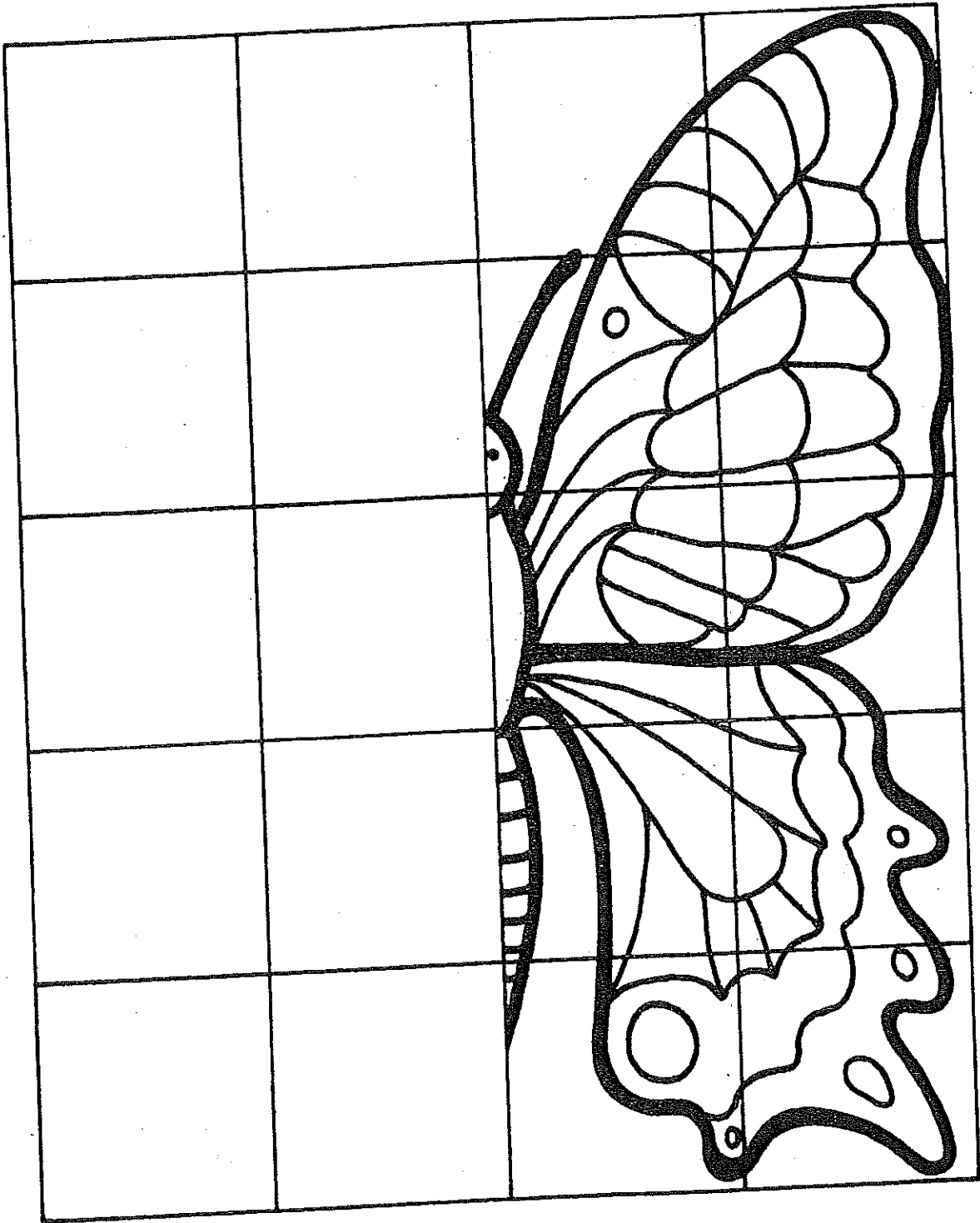
OR

2. \_\_\_\_\_ spaces to the \_\_\_\_\_ and then \_\_\_\_\_ spaces to the \_\_\_\_\_.

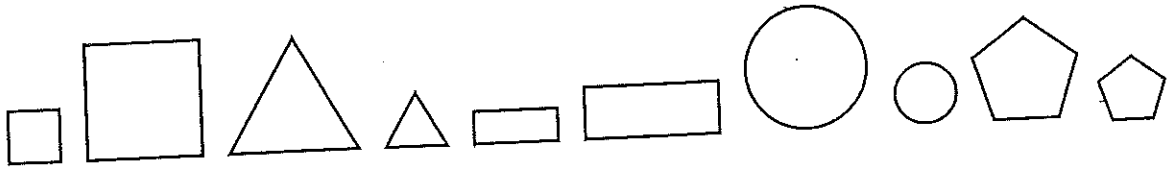
3. Length of path one: \_\_\_\_\_ spaces. Length of path two: \_\_\_\_\_ spaces.

# SYMMETRY

Draw the other half of the figure, using the squares as a guide. Then, color the picture.



# Mystery Shape

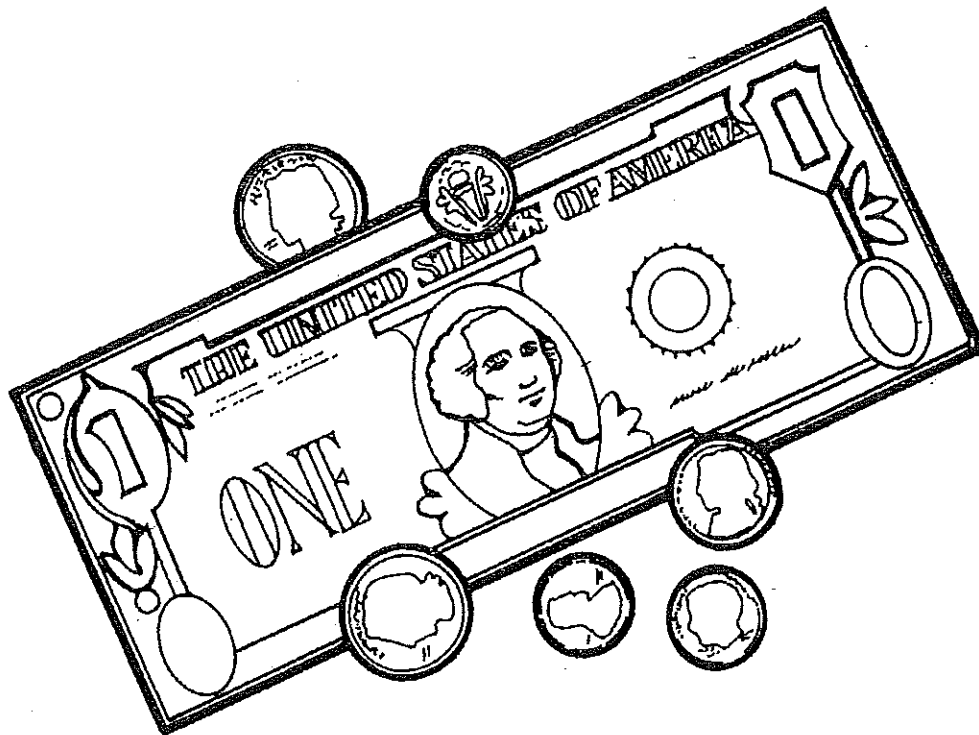


1. Inside the largest circle, write the numeral for the total number of shapes.
  
2. If your first answer is spelled with four letters, shade in the small triangle. If it's not, cross out the last two shapes.
  
3. The shape you are looking for has only straight lines.
  
4. Cross out the largest of each shape.
  
5. Cross out the shape that has fewer than four sides.
  
6. Cross out the shape that does not have equal sides.
  
7. Put the number 1 above the mystery shape.

# CHANGE, PLEASE

List the coins you would give each person below to make change for his or her dollar.

1. Dolly wants 1 coin for her \$1. \_\_\_\_\_
2. Zac wants 6 coins for his \$1. \_\_\_\_\_
3. Holly wants 7 coins for her \$1. \_\_\_\_\_
4. Andrew wants 10 coins for his \$1. \_\_\_\_\_
5. Casie wants 15 coins for her \$1. \_\_\_\_\_
6. Thomas wants 16 coins for his \$1. \_\_\_\_\_
7. Chelsea wants 17 coins for her \$1. \_\_\_\_\_
8. Austin wants 19 coins for his \$1. \_\_\_\_\_
9. Marc wants 25 coins for his \$1. \_\_\_\_\_
10. Roberto wants 28 coins for his \$1. \_\_\_\_\_







## Get Your Brain in Gear

**DIRECTIONS:** Read the information below carefully. Then use that information to help you answer the questions that follow.

1. The records of some students were checked. The records showed the following facts:
  - a. 11 of the students were taking a science class.
  - b. 9 of the students were taking an English class.
  - c. 5 of the students were taking both a science class and an English class.

How many students' records were checked? How do you know?

2. Mr. Dorts is a forest ranger who is very tired because he has been awake for 48 hours. It's 4:30 in the afternoon now, and he has to be awake at 6:30 in the morning. He sets the alarm for 6:30, figuring that he will have plenty of time to sleep, and he crawls in bed. If he falls asleep right away and doesn't wake up until the alarm is supposed to go off, how many hours of sleep will he get?

**Key Available**

Name \_\_\_\_\_

The following sets are in a logical sequence. Examine each set carefully and choose the item that should logically be the next item in the set. Write the correct answer on the line.

Example 1, 2, 3, 4  
a. 5 b. 2 c. 4 d. 6

1. 2, 4, 6, \_\_\_\_\_  
a. 7 b. 5 c. 10 d. 8

2. ab, bc, cd, \_\_\_\_\_  
a. ef b. de c. ed d. fg

3. 105, 107, 110, 112, \_\_\_\_\_  
a. 116 b. 115 c. 114 d. 109

4.  $1/2$ ,  $1/3$ ,  $1/4$ , \_\_\_\_\_  
a.  $1/5$  b.  $1/6$  c.  $2/4$  d.  $2/3$

5. kl, mn, op, \_\_\_\_\_  
a. pq b. on c. qr d. rs

6. 1, 5, 2, 10, 3, \_\_\_\_\_  
a. 4 b. 30 c. 25 d. 15

7. July 31, June 30, May 31, \_\_\_\_\_  
a. April 30 b. December 31  
c. March 31 d. August 31

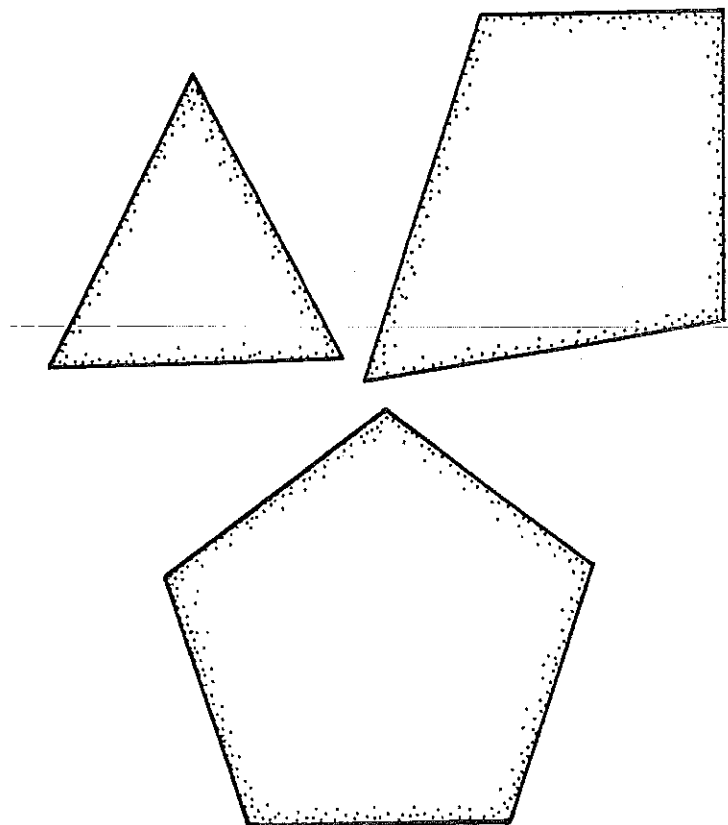
8. 1987, 1985, 1983, \_\_\_\_\_  
a. 1984 b. 1980 c. 1981 d. 1982

9. 560, 56.0, 5.60, \_\_\_\_\_  
a. 0560 b. .560 c. 56.0 d. 560.0

10.  $1/8$ ,  $1/4$ ,  $3/8$ , \_\_\_\_\_  
a.  $3/9$  b.  $5/8$  c.  $3/7$  d.  $1/2$

11. it, fit, fist, \_\_\_\_\_  
a. tif b. first c. flit d. is

12. triangle, quadrilateral, pentagon,  
\_\_\_\_\_  
a. hexagon b. polygon c. octagon  
d. decahedron



Name \_\_\_\_\_

The following sets are in a logical sequence. Examine each set carefully and choose the item that should logically be the next item in the set. Write the correct answer on the line.

**Example** 82, 84, 86, 88  
a. 80 b. 88 c. 87 d. 90

1. uni, bi, tri, \_\_\_\_\_  
a. quad b. quin c. octa d. hexa

10. 2, 6, 18, 54, \_\_\_\_\_  
a. 90 b. 108 c. 72 d. 162

2. 20, 21, 23, 26, \_\_\_\_\_  
a. 28 b. 29 c. 30 d. 31

11. Abe, Beth, Christopher, Doris, \_\_\_\_\_  
a. Ellen b. Frank c. Kim d. Ethan

3. 20, 30, 39, 47, \_\_\_\_\_  
a. 53 b. 54 c. 55 d. 50

12. 8:10, 8:15, 8:20 \_\_\_\_\_  
a. 9:30 b. 8:30 c. 8:25 d. 8:45

4. 1, 4, 9, 16, \_\_\_\_\_  
a. 26 b. 36 c. 20 d. 25

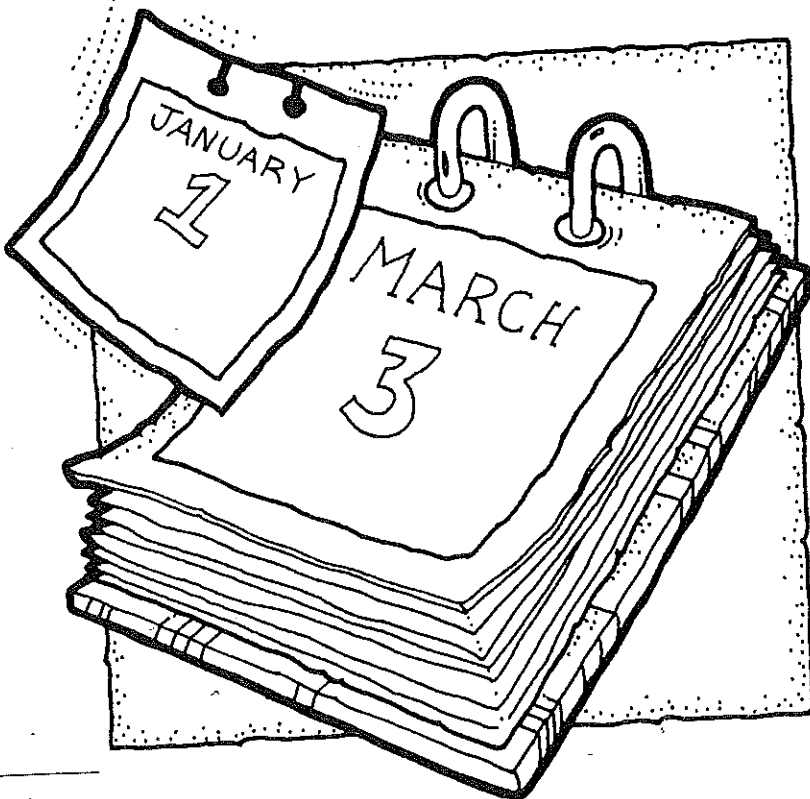
5. 100, 99, 97, 94, \_\_\_\_\_  
a. 93 b. 90 c. 92 d. 91

6. 5, 25, 125, \_\_\_\_\_  
a. 250 b. 625 c. 550 d. 455

7. I, III, V, \_\_\_\_\_  
a. VII b. V c. VI d. IX

8.  $4\frac{1}{8}$ ,  $5\frac{5}{8}$ ,  $6\frac{6}{7}$ , \_\_\_\_\_  
a.  $8\frac{7}{8}$  b.  $7\frac{7}{8}$  c.  $9\frac{6}{7}$  d.  $9\frac{8}{9}$

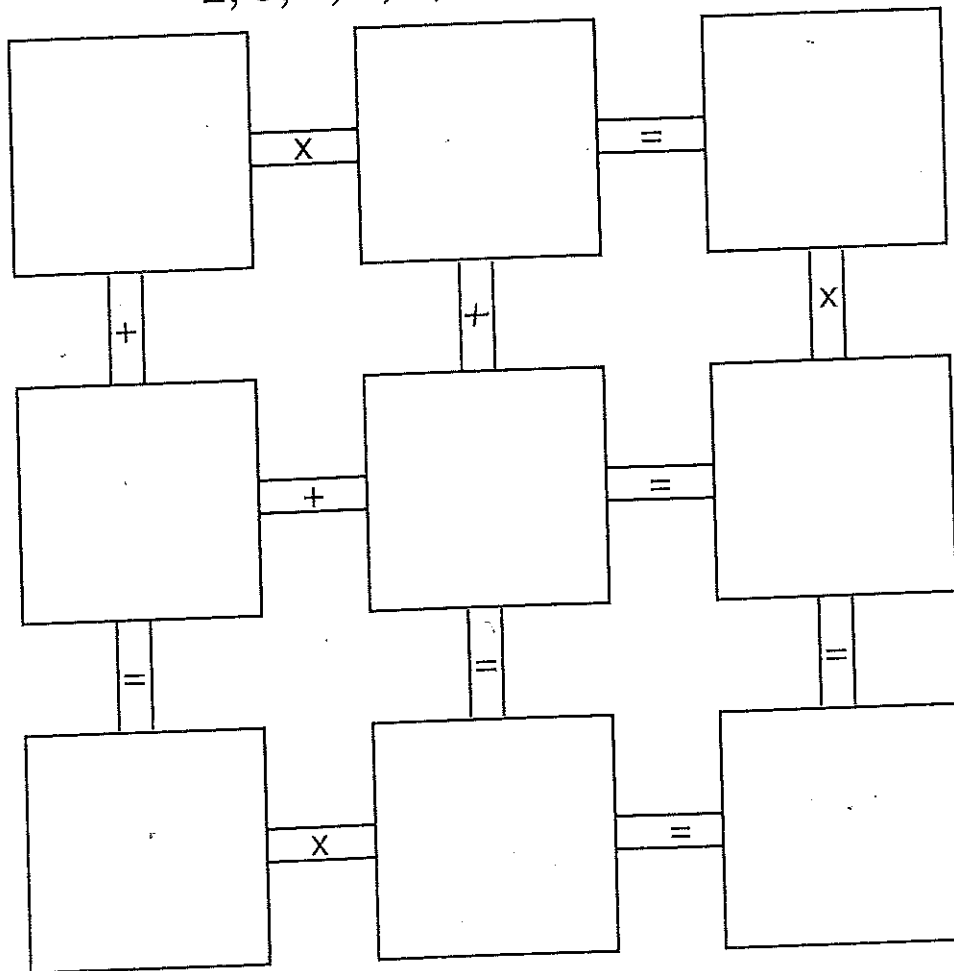
9. January, 1, March, 3, May, 5, \_\_\_\_\_  
a. August, 8 b. June, 7 c. July, 7  
d. July, 6



# Around the Squares

**DIRECTIONS:** Place the given numbers in the squares so that each row and each column has the right answer.

2, 3, 4, 6, 7, 10, 12, 14, 84



**Key Available**

Im 13

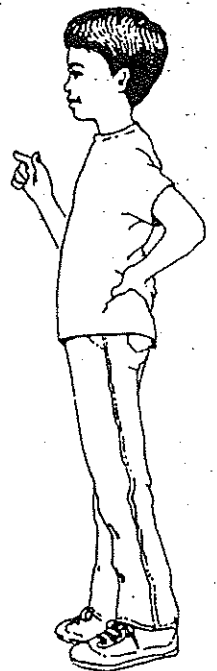
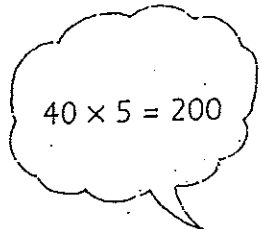
# Multiplication and Division

200	1000	10	250
40	2	400	500
100	20	50	5

1. Choose three numbers above, and show how they are related by multiplication or division.

180	600	72	10	300
24	120	30	50	60
6	20	150	2	240
	12	360	5	

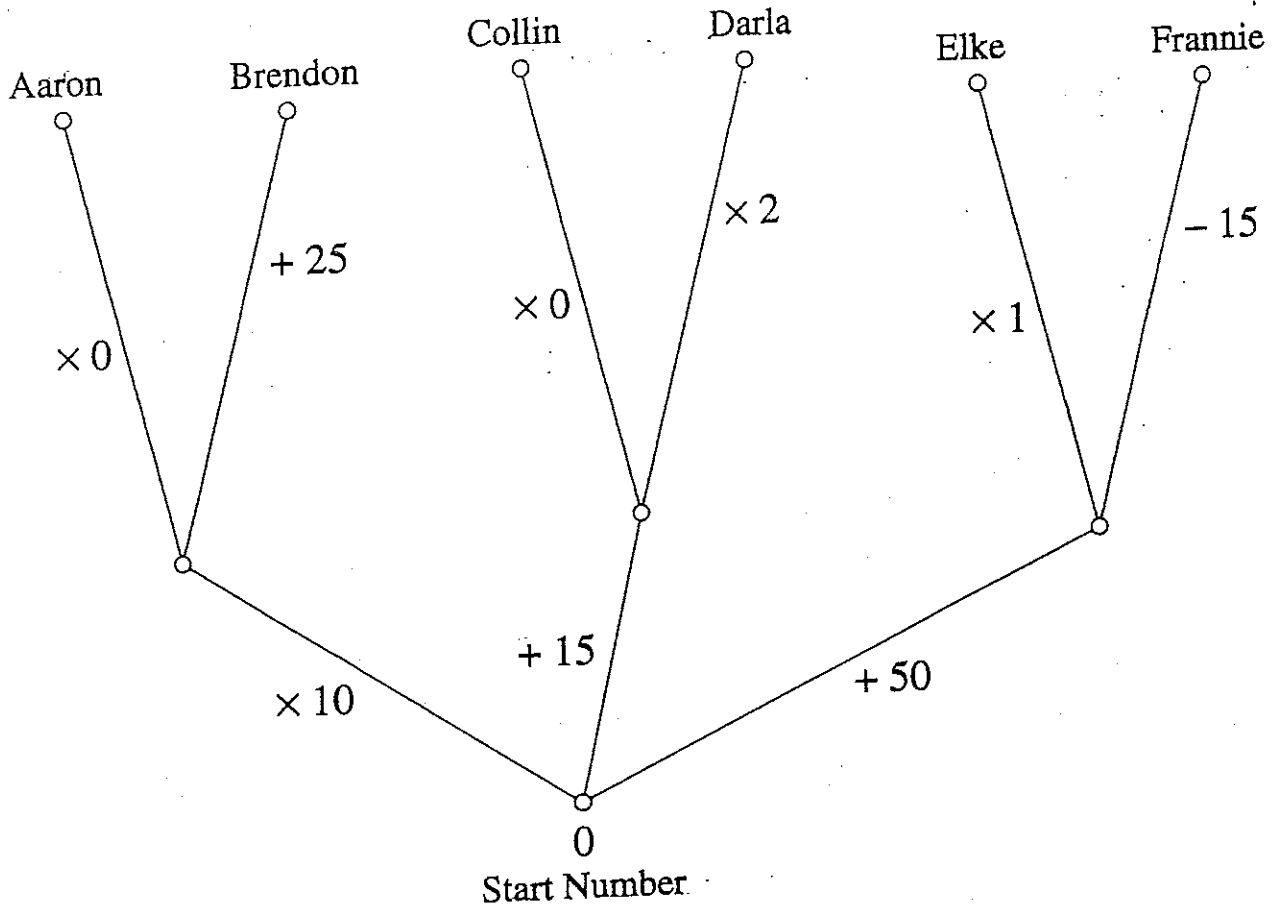
2. Choose three numbers above, and show how they are related by multiplication or division.



IM14

EXPERIENCE 5 / Activity 2

Which Path Will You Take?



1. Whose path gives 0?
2. Whose path gives 35?
3. What does Darla's path give?
4. Whose path gives the largest number?
5. What would the Start Number have to be for Brendon's path to give 75? Would Aaron's number change?

EM 15

# Box Math

Use the numerals 3, 5, and 7 in the  $\square$  and the symbols + and - in the  $\bigcirc$ .

$$\begin{array}{|c|c|} \hline \square & \square \\ \hline \bigcirc & \square \\ \hline \hline \end{array}$$

4 2

$$\begin{array}{|c|c|} \hline \square & \square \\ \hline \bigcirc & \square \\ \hline \hline \end{array}$$

2 8

$$\begin{array}{|c|c|} \hline \square & \square \\ \hline \bigcirc & \square \\ \hline \hline \end{array}$$

6 0

$$\begin{array}{|c|c|} \hline \square & \square \\ \hline \bigcirc & \square \\ \hline \hline \end{array}$$

3 2

$$\begin{array}{|c|c|} \hline \square & \square \\ \hline \bigcirc & \square \\ \hline \hline \end{array}$$

5 4

$$\begin{array}{|c|c|} \hline \square & \square \\ \hline \bigcirc & \square \\ \hline \hline \end{array}$$

7 2

$$\begin{array}{|c|c|} \hline \square & \square \\ \hline \bigcirc & \square \\ \hline \hline \end{array}$$

6 8

$$\begin{array}{|c|c|} \hline \square & \square \\ \hline \bigcirc & \square \\ \hline \hline \end{array}$$

7 8

Im 16

**Put in the Signs -,+ ,X,÷**  
(Example: 48042 = 20    480 ÷ 24 = 20)

*Try it! These need addition signs:*

1. 3 9 2 5 1 7 8 = 242

2. 4 8 0 7 3 5 0 = 7830

3. 9 6 5 2 3 8 0 = 1068

*These need both addition and subtraction signs:*

4. 1 2 3 4 5 6 7 8 9 = 497

5. 6 3 5 2 4 7 7 = 534

6. 3 5 9 1 0 5 3 = 257

*These need both multiplication and division signs:*

7. 4 9 2 3 7 0 = 344,610

8. 8 1 3 4 5 = 1,215

9. 2 9 7 9 9 4 = 12

*Each of these needs three signs. Put them in.*

10. 8 3 4 5 7 2 = 133

11. 3 2 7 3 2 9 9 9 5 = 2,785

12. 8 0 7 3 1 1 5 = 5,834



1M17

# CODED MESSAGE

Answer each question below. Then use the code to reveal a famous proverb.

1. If  $9 \times 9 = 81$ , circle L. If it does not, circle U.
2. If the Atlantic Ocean is west of Canada, circle V. If it is east of Canada, circle Y.
3. If lavender is a shade of purple, circle D. If it is not, circle M.
4. If Hawaii is an island, circle W. If it is a peninsula, circle K.
5. If homophones are words that mean the opposite, circle L. If they are not, circle T.
6. If the Statue of Liberty was given to the United States by Canada, circle B. If it was not, circle P.
7. If a telescope is used to view things that are far away, circle R. If it is not, circle P.
8. If Robert E. Lee was a Confederate general, circle A. If he was a Union general, circle I.
9. If Alberta is a state in the U.S., circle O. If it is a province in Canada, circle E.
10. If  $6 \times 8 + 2$  is equal to  $10 \times 5$ , circle S. If it is not, circle R.
11. If America was named after Christopher Columbus, circle O. If it was named after Amerigo Vespucci, circle N.
12. If southpaws are people who write left-handed, circle K. If they write right-handed, circle S.
13. If an octagon has five sides, circle E. If it has eight sides, circle O.
14. If Ronald Reagan was once a movie star, circle H. If he was not, circle L.
15. If IX means 11 in Roman numerals, circle J. If it means 9, circle C.

8	11	8	6	6	1	9	8			
3	8	2	12	9	9	6	10	5	14	9
3	13	15	5	13	7	8	4	8	2	

**Key Available**

## Letters and Numbers

1. When you cross out seven letters in the grid below, you will reveal two and only two numbers. What are the two numbers?

S	N	E	F	V
E	T	N	O	L
E	E	T	I	R
E	R	N	U	S

2. What digit should replace the question mark in the grid of numbers below?

5	3	7	8	9
2	6	4	1	?
8	0	2	0	4

**Key Available**

# Big Numbers on Planet Frooze

Read these word problems. You will need to work with big numbers to find the solutions. Are you ready? Blast off!



1. **Space Dough** Claptrack Norsbott, commander of Planet Frooze's Space Fleet, loves fast food. She orders her crew to dock the spaceship at the Hover-Thru window of Froozle's restaurant. She spends 1,478,432 freebs (that's the money on Frooze) on a Galaxy Burger, 68,835 freebs on a Weightless Shake, and 20,467 freebs on a Frapple Pie. How many freebs did Commander Norsbott spend in all?

Answer: \_\_\_\_\_

2. **Gleeb Guzzler** They don't use gallons on Frooze—they use gleebs. On Earth we fill our cars with gas. On Frooze they use papaya juice. Malmar Vorton scoots into a service station and asks for a complete fill-up. The attendant squeezes out 34,214,003 gleebs of juice into his scooter tank, 2,987,406 gleebs into his reserve tank, and fills Vorton's thermos with 2,300,002 gleebs of papaya juice. How many gleebs of juice did Malmar get for his scooter?

Answer: \_\_\_\_\_

3. **Stadium Stuffer** For the Frooze Olympics, Bulbus Stadium is packed with 12,460,301 beings—many of them from neighboring galaxies. Exactly 42,320 Nootlians are here from the gassy planet, Nootlia. From Thrummta come 62,401 horn-faced Thrummtans. And from Vomrole are exactly 30,201 Vomrolites. The rest of the people are all Froozians. How many Froozians is that?

Answer: \_\_\_\_\_

4. **Three-Legged Race** Froozian Clara Moosh gets up every morning, slips her three legs into some running sweats, and hits the road. She runs 99,621 vomils before going to work, 65,437 snorts at lunch time, and 34,986 vomils after dinner. She runs another 21,308 snorts before bedtime. (Vomils and snorts are like our miles and kilometers.) Which does she run more of, vomils or snorts? How many more?

Answer: \_\_\_\_\_

5. **Froozie Smoothies** Commander Norsbott and her kids like to whip up a fruity dessert. They get out their Mega-Blender and toss in 3,490,637 strawberries, 5,622,942 bananas, and 2,500,000 mangoes. The Commander's son, Waldo, yells, "Not so many mangoes! They are way too fruity!" So the Commander removes half of the mangoes before switching on the blender. How many pieces of fruit do they end up using to make their Froozies?

Answer: \_\_\_\_\_

6. Make up your own big-number problem about the Planet Frooze. Ask a classmate to solve it. (Be sure you know the answer.)

# Problems and More

Put on your thinking cap to solve these problems.

## 1. SAILING AWAY!

In ancient Constantinople, sailmakers made eight sails a day, seven days a week. If each boat needs three sails, how many three-sail ships can sail from Constantinople at the end of one week?

\_\_\_\_\_

**Look it up!** Today Constantinople is known as Istanbul, Turkey. Can you find it on a map of the world?

## 2. OUR PAL, THE PALINDROME

What's a palindrome? It's a number like 1001 or 23432 that reads the same way backward as forward. The thing about palindromes is that you never know where they'll pop up. What if a car odometer (the device that shows the car's mileage) reads 12021? How many miles must pass before the next palindrome?

\_\_\_\_\_

What will that palindrome be?

\_\_\_\_\_

## 3. MAGIC CALCULATIONS

Try this problem as many times as you like. No matter what you do, your answer will always be 1,089!

**Step 1:** Chose a number made up of 3 different digits.

The difference between the first and third digits must be at least 2.

**Step 2:** Write your number backward.

**Step 3:** Subtract the smaller number from the larger one.

**Step 4:** Write the answer to Step 3 backward.

**Step 5:** Add the answers to Steps 3 and 4.

<b>EXAMPLE:</b>	
Step 1	583
Step 2	<u>-385</u>
Step 3	198
Step 4	<u>+891</u>
Step 5	1,089

## 4. FINDING FIBONACCI'S PATTERN

Leonardo Fibonacci lived in Italy during the Middle Ages. He was the greatest mathematician of his day. His fame rests on a series of numbers he found called the Fibonacci Sequence. Here's how it starts. Can you figure out the next five numbers?

1, 1, 2, 3, 5, 8, 13, 21, 34,

\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

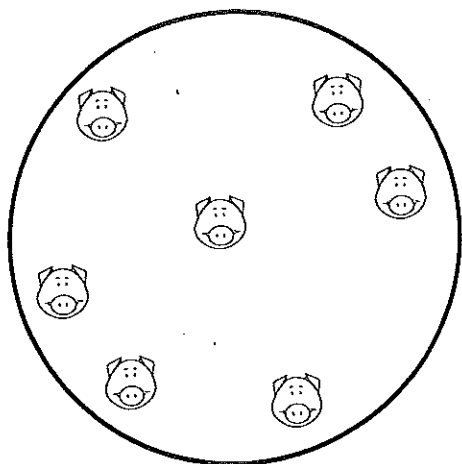
**Key Available**

Answers on page 64.

# Problems and More

## 5. PIGS IN A PEN

Put each of these pigs in its own pen by drawing only three straight lines.



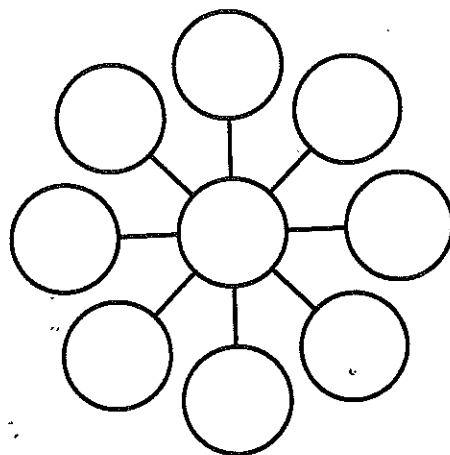
## 6. ANCHORS A-WEIGH!

Three animals want to cross a lake in a boat. There's an ape that weighs 800 pounds, a bear that weighs 500 pounds, and a lion that weighs 300 pounds. Their boat can hold only 800 pounds. They can't swim across the lake, walk around it, or hang off the edge of the boat.

How can they use the boat to get across the lake? Can you tell who is in the boat for each trip? (Hint: The animals make five crossings.)

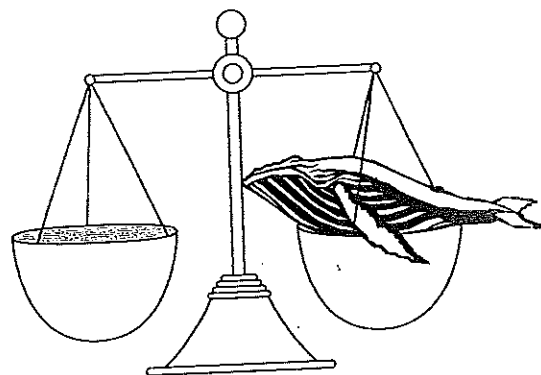
## 7. AROUND WE GO!

Using only the numbers 4 through 12, fill in the circles so that the numbers on each straight line add up to 21.



## 8. A WHALE OF A PROBLEM

The blue whale is the largest animal on earth. It weighs 297,000 pounds. Compared to the blue whale, an elephant is puny! It weighs only 16,500 pounds! What if you wanted to balance this scale. How many elephants would you have to put in the empty pan?



**Key Available** 39

Name \_\_\_\_\_

# Problems and More

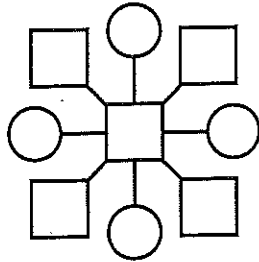
Put on your thinking cap to solve these problems.

### 1. ODDS 'N' EVENS

Complete this puzzle using each of these numbers only once: 2, 4, 5, 7, 8, 11, 13, 14, 16.

Put the even numbers in the squares and the odd numbers in the circles.

Each row of three numbers must add up to 26.



### 2. A HIDDEN NUMBER

Try to guess this number:  
 The number has three digits.  
 It is a multiple of 9.  
 Its tens digit is a factor of 16,  
 but not a factor of 4.  
 Two of the number's factors  
 are 5 and 2.

What's the number? \_\_\_\_\_

### 3. SNAIL TRAIL

There's a snail at the bottom of a 10-foot well. Every day the snail climbs up 3 feet. But at night the snail falls back 2 feet. How long does it take the snail to get to the top of the well?

(Hint: Try drawing a picture.)

### 4. SQUARE DEAL

To complete this square, use the numbers 1 through 9 only once to fill each of the spaces.

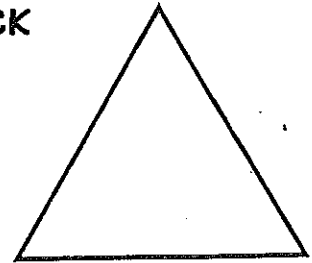
Each row, column, and diagonal will add up to a different sum. Some of the boxes are done for you.

1		8
8		4
7		

16

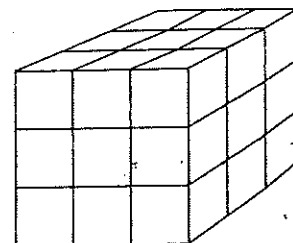
### 5. TRIANGLE TRICK

Can you add one more triangle to make five triangles in this picture?



### 6. PAINT PUZZLE!

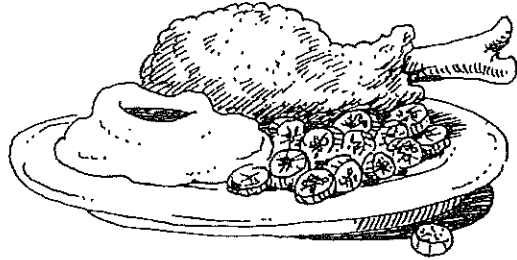
Imagine that you could paint the cube below and then take it apart. How many of the cubes would not have any paint on them at all?



IN 24

## Y'all Come Back Now...Ya' Hear?

Four friends went to the 1996 Summer Olympics in Atlanta, Georgia. They could not get enough of that southern hospitality. In addition to collard greens, they had some other favorites. In this puzzle, you will calculate how many servings of each finger-lickin'-good food they had.



Facts:

1. Elly's servings of grits plus her servings of fried okra are equal to the number of servings of boiled peanuts she ate.
2. Coley ate an equal number of servings of each food.
3. If you multiply Madeline's servings of grits by Jerry's boiled peanuts, you will know how many servings of okra Madeline ate.
4. Each person ate an equal number of total servings.
5. Jerry's servings of grits are equal to Madeline's servings of grits times the number of okra servings eaten by Elly.
6. Coley ate seven more servings of grits than Madeline who did not eat any peanuts.

	Boiled Peanuts	Fried Okra	Grits	Totals
Madeline				
Elly				
Jerry		0		
Coley				
Totals				120

*Key available*