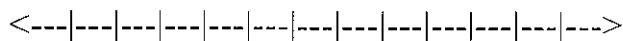


★★ 1. Here is part of the number line. Place the following numbers where they belong: 33, 31, 37, 28.



★ 2. Put in + or - to make this statement true:

$$3 \square 4 \square 2 \square 5 = 10$$

★★ 3. Complete this pattern:

- 2 ---> 4
- 4 ---> 6
- 6 ---> 8
- 8 ---> _____
- 10 ---> _____

★★★ 4. Kristin wishes to bake some cakes. Each cake requires four eggs. How many cakes can Kristin bake if she has one dozen eggs?

★★★ 5. Twenty-eight is a two-digit number whose digit sum is 10. [$2 + 8 = 10$] How many other two-digit numbers have a digit sum of ten?

What are the numbers?

Strategy of the Month

Someone said, "A picture is worth a thousand words." Turning the words of a problem into a picture or a diagram can help you "see" the problem. By using the part of your brain that visualizes a situation or object, you may see relationships or information that helps you solve the problem. When someone tells you a story, try turning the words into a motion picture or a cartoon. When reading a description, try "seeing it in your mind's eye." If you can do these things, this strategy may be for you! Try using a picture or make a diagram to solve this problem:

In the playground there are three bicycles and four tricycles. How many wheels are there?

MathStars Home Hints

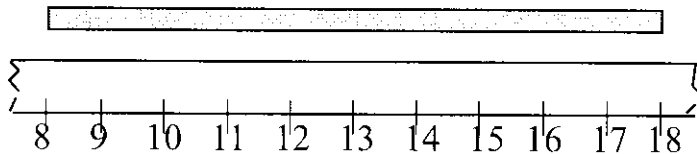
Every year you grow and change in many different ways. Get someone to help you measure and record these data about yourself. Be sure to save the information because we will measure again in two months!

How tall are you? _____

How much do you weigh? _____

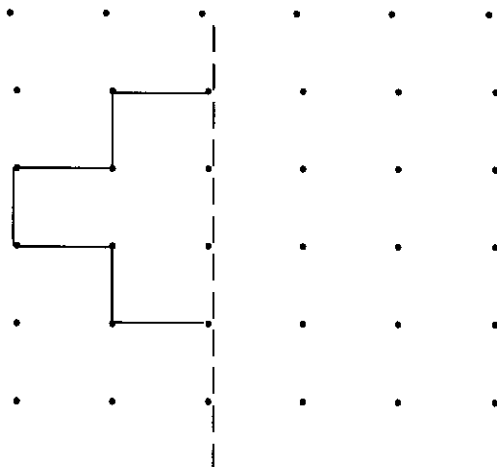
What is the circumference of your head?

★★ 6. Pat's Mom asked her to measure some ribbon. The only ruler she could find was broken. Pat says she can still measure the ribbon.



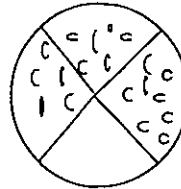
How long is the ribbon?

★★ 7. This is half of a symmetrical figure. Draw the other half.

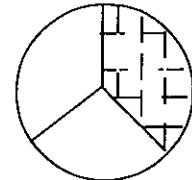


★★★ 8. Look at the shaded parts of each circle.

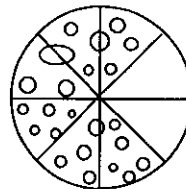
Which ones are less than half shaded?



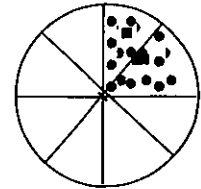
A



B



C

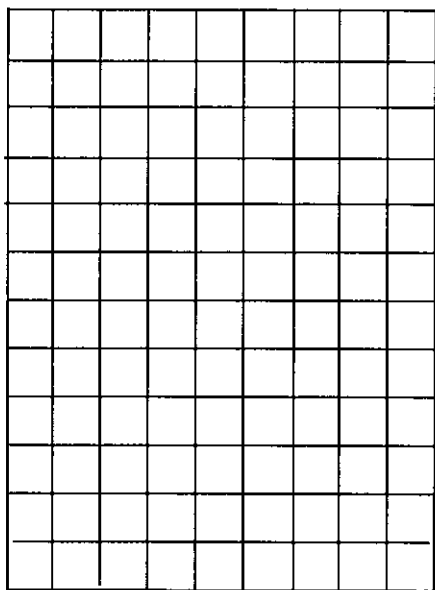


D

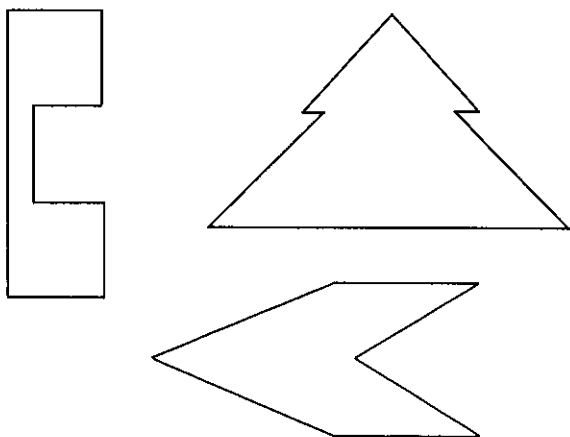
Setting Personal Goals

Problem solving is what you do when you don't know what to do. Being a good problem solver will help you be ready to live and work in our changing world. Computers can do computations but people must tell the computers what to do. Good problem solvers know how to make plans and use many different strategies in carrying out their plans. They use all of their past experiences to help them in new situations. We learn to swim by getting in the water; we learn to be good problem solvers by solving problems!

★★ 1. Mrs. Williams took a survey of favorite vacation spots in her class. The beach was chosen by eleven students, the mountains by four students and eight students chose the desert. How could Mrs. Williams organize this information in a graph?



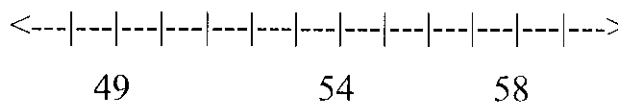
★ 2. Draw the line of symmetry for each of these shapes.



★★ 3. Complete this pattern:

- 1 ---> 2
- 2 ---> 4
- 3 ---> 6
- 4 ---> _____
- 5 ---> _____

★ 4. Here is part of a number line:



Which of the following numbers cannot fit on it?

- a. 60 b. 40 c. 51 d. 59

Strategy of the Month

*Your brain is an organizer. It organizes information as it stores that information. When a problem involves many pieces of information, your brain will have an easier time sorting through it if you make an organized list. A list helps you be sure you have thought of all of the possibilities without repeating any of them. Like drawing a picture or making a diagram, making an organized list helps your brain "see" the problem clearly and find a solution. Try **making an organized list** to solve this problem:*

You have three pennies, two nickels and a dime. How many different amounts of money can you make?

MathStars Home Hints

Sometimes the hardest part of solving a problem is just getting started. Having some steps to follow may help you.

- 1. Understand the information in the problem and what you are trying to find out.*
- 2. Try a strategy you think might help you solve the problem.*
- 3. Find the solution using that strategy or try another way until you solve the problem.*
- 4. Check back to make certain your answer makes sense.*

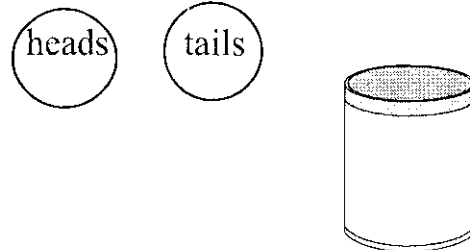
- ★★★ 5. Jill counted the number of petals on five flowers that are all alike. When she finished she had counted 20 petals. How many petals are on each flower?



- ★★★ 6. Put in + or - to make this statement true.

$$8 \square 4 \square 6 \square 7 = 11$$

- ★★ 7. Mr. Cutter put six pennies in a jar. He shook them up and poured them on his desk. He got two heads and four tails. If he does this experiment lots of times, what are the other combinations that he can get?



- ★★★ 8. Which is worth more: seven inches of dimes or nine inches of nickels?

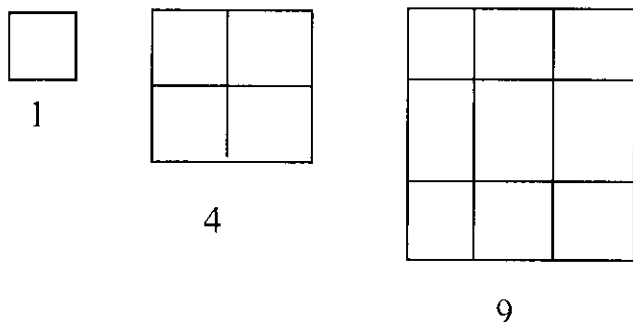
Setting Personal Goals

Being able to ask good questions will help you in many ways. Use these to solve problems:

- What information do I know?*
- What else do I need to find out?*
- What question am I trying to answer?*
- Have I missed anything?*
- Does my answer make sense?*

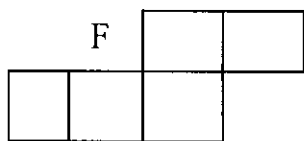
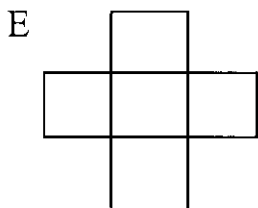
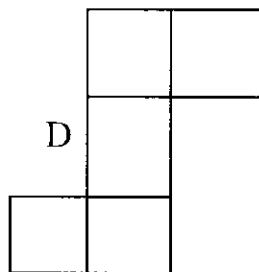
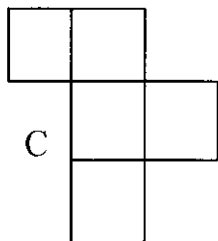
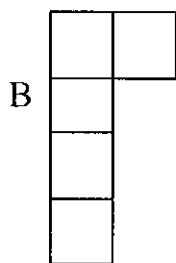
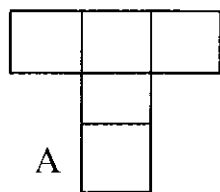
Set the goal of asking good questions!

★★★ 1. Latesha is building with tiles. Her design has a pattern like this:



What will her next design look like? How many tiles will she use?

★★ 2. Circle the symmetrical figures:



★★★★ 3. Flopsy and Mopsy are rabbits. Mopsy eats more than Flopsy. When Flopsy eats one bowl of food, Mopsy eats three bowls of food and when Flopsy eats two bowls of food, Mopsy eats six bowls of food. If Flopsy eats five bowls of food, how much will Mopsy eat?

★★★ 4. Use the digits 2, 4, 6, 7 to make this a true statement:

$$\begin{array}{r}
 \square \quad \square \\
 + \quad \square \quad \square \\
 \hline
 1 \quad 0 \quad 0
 \end{array}$$

Strategy of the Month

*Being a problem solver is something like being a detective! A detective has to solve crimes by guessing what happened and checking the guess to see if it fits the situation. For some problems, your best strategy may be to make a guess and then check to see if your answer fits the problem. If not, decide if your guess was too high or too low and then make a second "guesstimate." A good detective keeps records (usually some kind of chart) to help see any patterns and to narrow down the possibilities. You should do this too. The results of incorrect guesses can give you valuable clues to the correct solution. **Guess and then check** the solution to this problem:*

Billy has 42 marbles to put in boxes. Each box will hold five marbles. How many boxes will he need?

MathStars Home Hints

Memorizing number facts will save you time. Flash cards are one way to learn new facts, but you also might try these ideas:

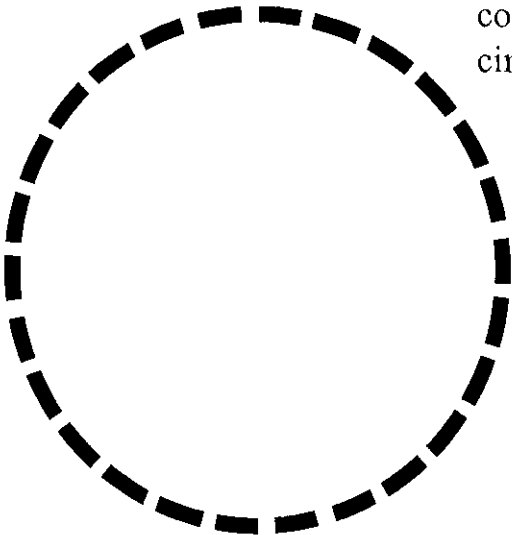
- play dice or card games in which you need to add, subtract, multiply, or divide.
- learn new facts using ones you already know ($7+7=14$ so $7+8=15$).
- learn facts that are related to each other ($7+6=13$, $6+7=13$, $13-6=7$, $13-7=6$).
- make a list of the facts you need to memorize and learn 5 new facts each week.
- Spend 5-10 minutes every day practicing facts.

★★★★ 5. Luke made flowerpots for his friends. He has 32 flowers. If he puts six flowers in each pot how many pots will he make?

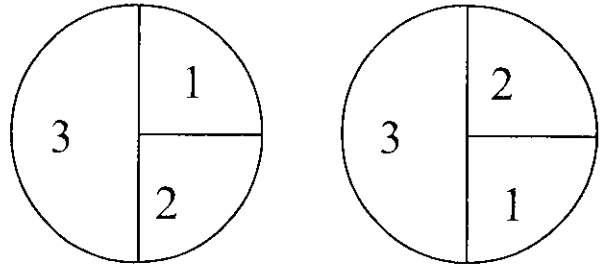
★★★ 6. Alyssa's class graphed their favorite colors. This is what they like:

Color	Number
Red	5
Blue	7
Green	6
Orange	3
Yellow	5

Help them complete the circle graph.



★★★ 7. Carlos has spinners like these:



If he spins each one and adds the results, what sums do you think he will get?

★★★★ 8. Farmer Jones has an orchard that will hold 12 trees. He will plant the same number of apple trees and pear trees. He will plant twice as many cherry trees as apple trees. How many of each will he plant?

_____ Apple trees

_____ Pear trees

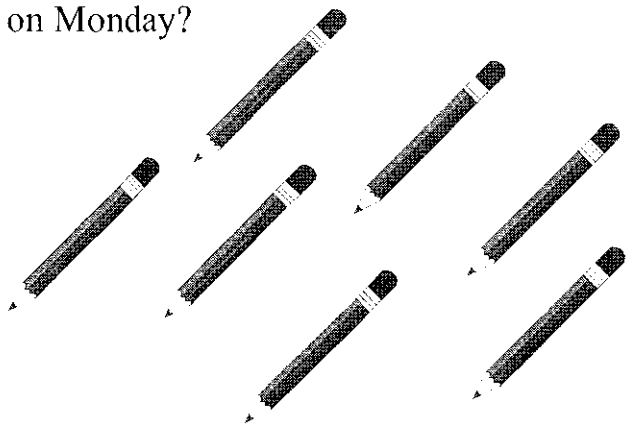
_____ Cherry trees

Setting Personal Goals

Communicating mathematically means that you are able to share your ideas and understandings with others orally and in writing. Because there is a strong link between language and the way we understand ideas, you should take part in discussions, ask questions when you do not understand, and think about how you would explain to someone else the steps you use in solving problems.

★ 1. Mrs. Hall planted 15 flowers in rows of five each. How many rows did she plant?

★ 2. On Monday, Tasha had a pocketful of pencils. On Wednesday she loaned four to her friends and had seven pencils left. How many pencils were in Tasha's pocket on Monday?



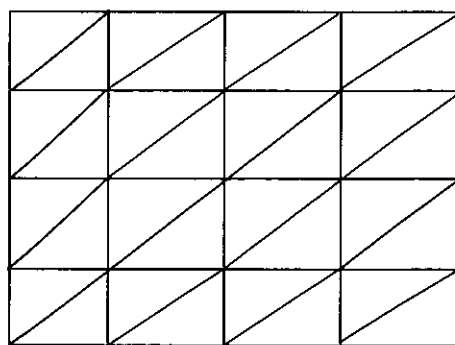
★★★★ 3. Mario got one dollar from the tooth fairy for his lost tooth. He bought one of these toys and got two coins in change.

Ball	52¢	Top	86¢
Whistle	69¢	Car	74¢

Which toy did he buy? _____

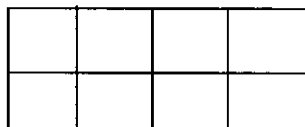
Which coins did he get in change?

★★ 4. Aunt Rose makes quilts. She is looking for new ideas for her patterns. She would like to use two colors and arrange them so that half the quilt is blue and the other half is green. Can you help her with a design?



Strategy of the Month

*Noticing patterns helps people solve problems at home, at work, and especially in math class! Math has been called "the study of patterns," so it makes sense to look for a pattern when you are trying to solve a problem. Recognizing patterns helps you to see how things are organized and to make predictions. If you think you see a pattern, try several examples to see if using the pattern will fit the problem situation. Looking for patterns is helpful to use along with other strategies such as make a list or guess and check. How can **finding a pattern** help you solve this problem?*



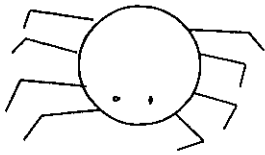
How many different rectangles can you find in the figure on the left?

MathStars Home Hints

Set aside a special time each day to study. This should be a time to do homework, to review, or to do extra reading. Be organized and have a special place in which to work. This place needs to have a good light and to be a place where you can concentrate. Some people like to study with quiet music; others like to sit at the kitchen table. You need to find what works for you!

Remember that when you are reviewing or working on solving problems it may help to study in a group.

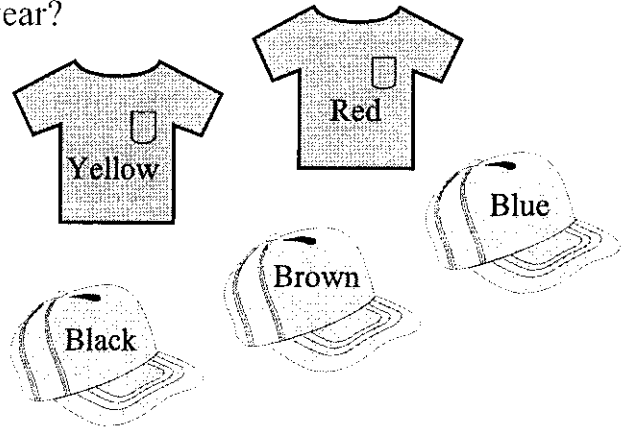
- ★★★ 5. Mike likes to collect spiders. Fill in the chart to show how many eyes and legs he sees on his spiders.



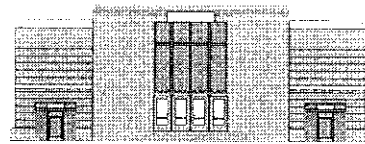
Spiders	Eyes	Legs
1		
2		
3		
4		

- ★★★ 6. Joe can walk eight blocks in ten minutes. How far can he walk in 30 minutes? _____

- ★★ 7. Mark has a red shirt and a yellow shirt. His hats are black, brown and blue. How many different outfits could Mark wear?



- ★ 8. If Sean takes 24 one dollar bills to the bank, how many ten dollar bills will the bank give her in return?

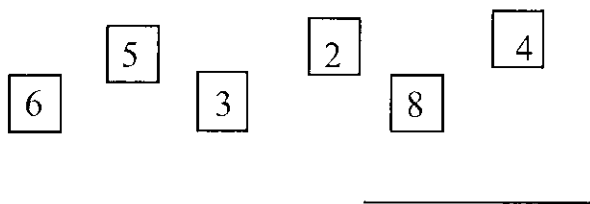


Setting Personal Goals

If your goal is to become a more responsible student, it means that you

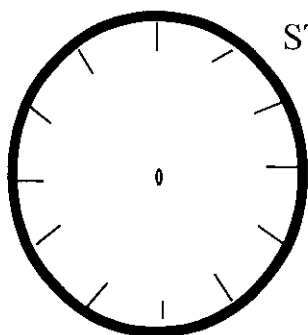
- *actively participate in class.*
- *complete your assignments.*
- *have everything you need in class.*
- *ask for help when you do not understand.*
- *be willing to investigate new ideas.*

★ 1. What is the largest three-digit number Anna can make using these number tiles?

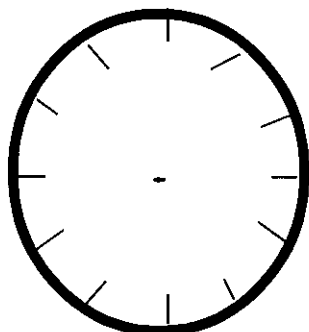


What is the smallest three-digit number she can make?

★★ 2. Ray and Kim started raking leaves at noon. They finished in three and a half hours. Draw hands on the clocks to show when they started and when they finished.



START



FINISH

James is putting his baseball cards in an album that holds 500 cards. He has 180 rookie cards and 234 player cards.

★★ 3. How many more cards does he need to fill his album?

★★ 4. How many more player cards does he have than rookie cards?

★★★★ 5. When James decides to buy more cards to fill his album, he wants to buy an equal number of player cards and rookie cards. How many of each will he buy?

Strategy of the Month

*Sometimes mathematical ideas are hard to think about without something to look at or to move around. Drawing a picture or using objects or models helps your brain "see" the details, organize the information, and carry out the action in the problem. Beans, pennies, toothpicks, pebbles, or cubes are good manipulatives to help you model a problem. You can use objects as you guess and check or look for patterns. Try **using objects** to help you solve this problem:*

A factory has wheels for carts and scooters. If they have 18 wheels, how many of each can they make? Is there more than one answer?

MathStars Home Hints

Remember when you had "Show and Tell" in kindergarten? Now you have a great deal to share in mathematics. Talk to the folks at home about what you are learning. Show them your papers and tell them about what is happening in your math class. Let them see that you are doing problems in class similar to these. Each week choose an assignment that you are proud of and display it somewhere in your house.

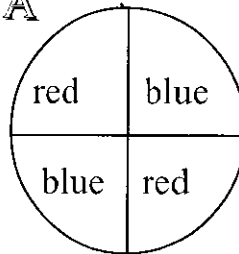
★★★ 6. Jeff likes to stack his pennies into two piles that are the same height. He knows that if he has an **even** number of pennies he can make two equal piles. If the piles are not even then he knows he has an **odd** number of pennies.

Use Jeff's method and tell if the pennies are even or odd:

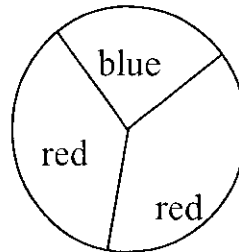
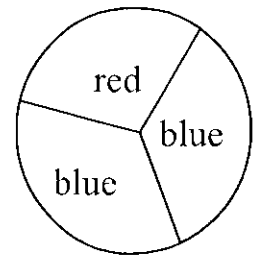
Number of Pennies	Even or Odd
17	_____
18	_____
23	_____
30	_____
36	_____

★★★★ 7. Mary is playing a game at the school fair. She will win a prize if the spinner lands on red. She may choose which spinner to play. Which spinner should she choose to win?

A



B



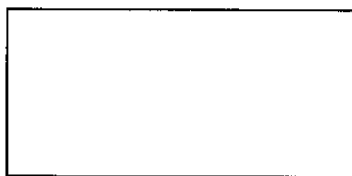
C

★ 8. Debbi is collecting nickels in a jar. She has 65 cents so far. How many more nickels does she need to make one dollar?

Setting Personal Goals

Mathematics is all around us. We use it every day in personal living and in all of our school work. When we read graphs in social studies, gather and use data in science investigations, or count in music or physical education, we are using mathematics. We make connections in our math classes also; for example, measurement skills help us in solving many geometry problems and classification skills help us in organizing data. We use computation in many different situations. You will become a stonger mathematics student by making connections.

★★★ 1. Ashley, Bob, Tawana and Zack have ordered a large pizza. Show two different ways that the pizza could be cut for each person to have equal shares.



★★★★★ 2. Tyler is a second grader who plays soccer on Wednesdays and takes Karate lessons on Tuesdays and Saturdays. Look at the calendar to help him plan his month.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	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			

How many soccer matches will he play this month? _____

How many Karate lessons will he have? _____

His birthday is on the third Friday. What is the date of his birthday? _____

★★★ 3. At the math center students were estimating how much they could hold in one hand. Use the words in the box to complete the sentences below:

a single	a lot of
a couple	zero

I can hold _____ pennies in my hand.

I can hold _____ goldfish in my hand.

I can hold _____ walnuts in my hand.

I can hold _____ bikes in my hand.

Strategy of the Month

When a problem involves data with more than one characteristic, **making a table, chart, or graph** is a very good way to organize the information. It helps your brain to identify patterns and to discover any missing data.

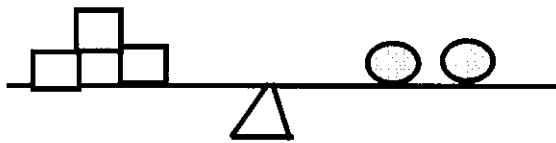
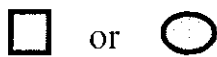
Tables help you record data without repeating yourself. Making a table or chart is especially useful for certain problems about probability and for some logic problems. Sometimes tables and charts are included in your information and you need to read through them carefully to understand the data you need to solve your problem. Creating a graph is also a good way to organize and visualize information. **Make a table** to solve this problem: Loni has red, blue, green and yellow markers. She is coloring the 2 stripes on the new soccer team flag. How many different flags can she color?



MathStars Home Hints

Everyone learns from sharing, and you can continue to learn by teaching others about the new mathematics ideas you are learning. Become a teacher and help a younger student. Explain what you have learned and what else you want to know. Good teachers set goals and evaluate the progress made toward reaching these goals. You will continue to be a learner whenever you become a teacher.

★★ 4. Which weighs more?



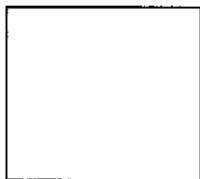
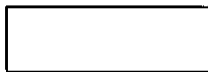
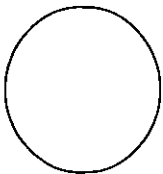
★ 5. The Ace Wheel Company has 30 wheels ready for the factory.

How many bicycles can they make? _____

How many tricycles can they make? _____

How many wagons can they make? _____

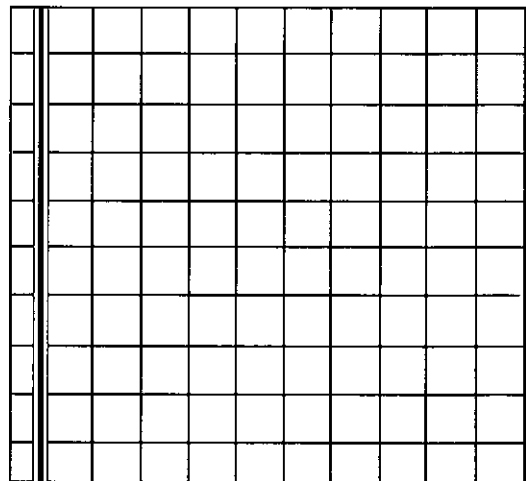
★ 6. Draw a line of symmetry for each picture:



★★ 7. Milk costs 30 cents in the lunchroom. How much milk money does Linda need for a school week? _____

★★ 8. Students in Ms. Cutler's class recorded the daily weather for two weeks. Make a bar graph to show their data.

rainy, cloudy, sunny, sunny, sunny, cloudy, sunny, sunny, rainy, sunny



Setting Personal Goals

Perseverance means that you do not give up easily. Good problem solvers try different strategies when they are stumped and are not discouraged when they cannot find an answer quickly. They stick to the task, using all of their previous experiences to make connections with what they know and the problem they are trying to solve. If something does not work, they discard the unsuccessful idea and try again using a different strategy.

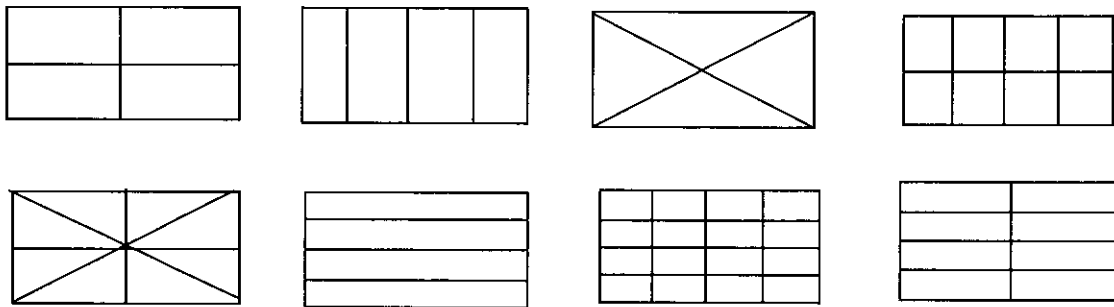
About these newsletters...

The purpose of the MathStars Newsletters is to challenge students beyond the classroom setting. Good problems can inspire curiosity about number relationships and geometric properties. It is hoped that in accepting the challenge of mathematical problem solving, students, their parents, and their teachers will be led to explore new mathematical horizons.

As with all good problems, the solutions and strategies suggested are merely a sample of what you and your students may discover. Enjoy!!

Discussion of problems.....

1. Students should see equal amounts as four, eight, twelve or any parts that are multiples of four. Manipulative experiences with folding, cutting, or sharing are helpful. The teachers need to ask, "How did you arrive at your answer?" for variant solutions or rationales.



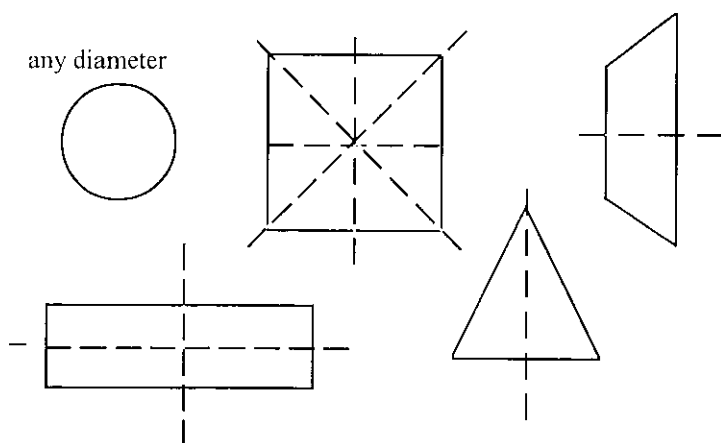
2. **(five soccer matches; nine Karate lessons; the 19th of the month)** Students need to be familiar with the layout and organization of the calendar, the weekly arrangements and be able to locate or describe specific dates. Daily class calendar activities can be used to reinforce these concepts.

3. **(a lot of pennies; a single goldfish, a couple walnuts, zero bikes)** Students need many experiences with estimation and subsequent confirmation by doing. Holding objects in their hands, weighing, and measuring them rather than merely counting them - all these activities help children form concepts based on reality rather than conjecture.

4. **(the ball)** Students also need experiences using the balance to determine the relative weight or mass of common objects. As they compare various objects on the balance, their understanding of more and less expands and develops.

5. **(15 bicycles; ten tricycles; seven wagons and two wheels left over)** Students can draw pictures, group manipulatives, do repeated subtraction, or skip count to solve this problem.

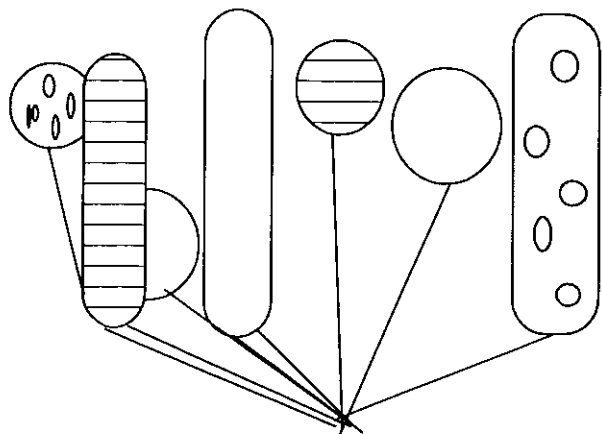
6. Discussions of symmetry should include folding, mirror images or equal parts. Some figures will have more than one line of symmetry.



7. **(\$1.50)** Students will need to remember that a school week is five days long. Repeated addition, the calculator, modeling with coins (and trading), skip counting or drawing a picture - all of these strategies will help students successfully solve this problem.

8. Students need to use tallies in collecting and interpreting data. Their organization of the information, decision to make a horizontal or vertical graph, the labeling of the axes and writing of a title - all of these activities reinforce the notion of conveying information via a graph. Students should be encouraged to share their graphs and discuss the features that make some graphs easier to read and understand than others.

★ 1. Mr. Bobo, the balloon man, had this bunch of balloons at the carnival.



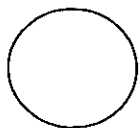
Fill in the blanks to describe his balloons:
 _____ out of _____ balloons are round.

_____ out of _____ balloons are long.

_____ out of _____ balloons have dots.

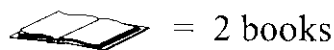
_____ out of _____ balloons are plain.

★★★ 2. Juan had 79 marbles in his box. Mark had 124 marbles in a can and Tom had 98 marbles in a sack. How many marbles did the three boys have?



★★★★ 3. It usually takes Mr. Gordon two hours of mowing to cut his lawn. On a very hot summer day, Mr. Gordon mows for 30 minutes and then rests for 30 minutes. If he started at 10:00 a.m., at what time did he finish?

★★★★ 4. The students in Mrs. Alvarez's class made a pictograph to record the books they read at home.



Kelsey 

Jamie 

Brad 

How many books has Jamie read? _____

How many more books has Kelsey read than Brad? _____

Strategy of the Month

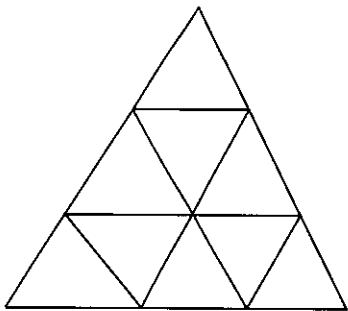
*Some problems are difficult to "see" even if you draw a picture. For these problems, it can be helpful to actually **act out the problem**. When you role play with friends or people at home, you may discover the solution as you act out the problem. Or you may recognize another strategy that will help you find the answer. Sometimes "acting out" a problem can be done with manipulative materials. To find the solution to the problem below, become the director and choose your cast to act this out:*

Freddy Frog is at the bottom of the stairs. He can move up three steps each time he hops. The pool is at the top of the stairs. If Freddy Frog hops five times before he is in the pool, how many stairs to the pool?

MathStars Home Hints

Calculators are important tools. They do not replace mathematical thinking; you must tell the calculator what numbers and operations to use. Calculators allow students to focus their energies on solving problems and to easily try alternative solutions. They also allow students to solve problems that were too difficult for pencil and paper. Number sense and good estimation skills are important when students use technology to carry out computations. Explore some "what if" situations with the calculator. "What if the cost of gas goes up 4¢... What if we build the patio 2 feet wider..."

★★★★ 5. How many triangles can you find in this figure? Watch for all sizes!!

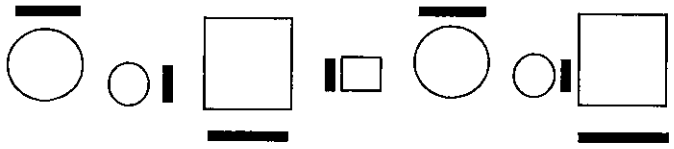


_____ triangles

★★ 6. Toby emptied his bank and found that he had saved three quarters, two dimes, two nickels, and four pennies.

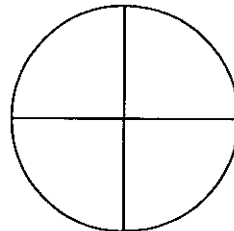
How much money had he saved? _____

★ 7. Study this pattern:

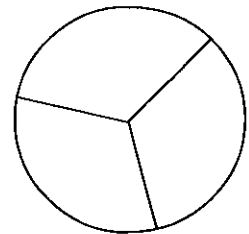


Draw the next shape here: _____

★★★ 8. Barry likes all kinds of pizza. He is very hungry. His mother cut the pepperoni pizza into four pieces and the sausage pizza into three pieces. She said he could have only one slice of pizza before supper. Which kind of pizza do you think he chose? _____
Why? _____



pepperoni



sausage

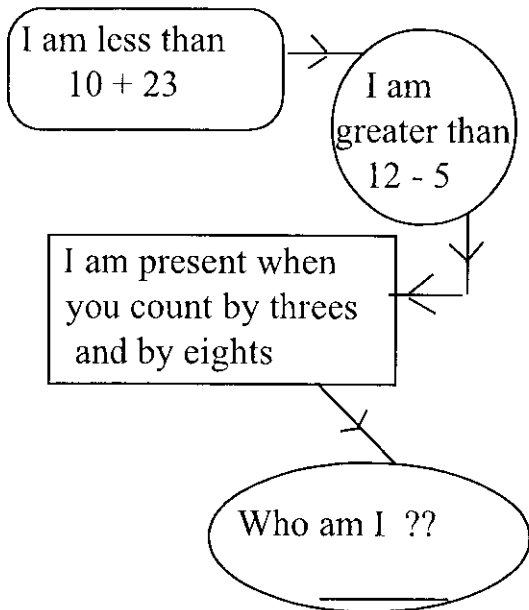
Setting Personal Goals

Accuracy is very important to everyone. Pharmacists must always measure accurately when preparing prescriptions and carpenters must cut supporting boards precisely to fit. Careless mistakes may be avoided in the classroom by computing carefully, checking back over work, and writing numbers clearly and neatly. Remember: If work is worth doing, it is worth doing well.

★ 1. Billy has collected 46 baseball cards. How many more does he need to have a collection of 100 cards?

★★ 2. Coach Long can ride his bike about two miles in 15 minutes. About how far could he ride in an hour?

★★ 3. Follow the clues to find the mystery number:

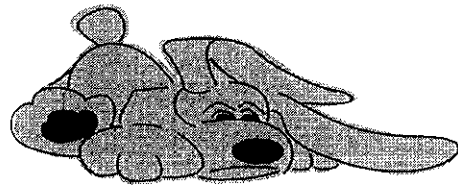


★ 4. Students lined up their dogs by weight at the Community's Annual Dog Show.

Bo was 76 pounds, Spot was 48 pounds, Lucky was 67 pounds and Blacky was 58 pounds.

Write the dogs' names in their proper places.

_____ first _____ second _____ third _____ fourth



Strategy of the Month

*What do you do if you have a problem that seems to be very complicated? It may have a lots of large numbers, too much information, or multiple conditions. One approach is to create a simpler problem like the one you need to solve. As you solve the easier problem, you may see the way to solve the more difficult one. Or you may discover a different process that will work with the harder problem. The trick is to be sure that your simpler problem is enough like the original one that the patterns or process you use will help you with the harder situation. **Make a simpler problem first** as you solve this: Six soccer players will shake hands before the game begins. How many handshakes will there be? {Suppose there are only three players; four players.}*

MathStars Home Hints

Math skills develop as you apply concepts learned in school to real life situations.

Which product is the best buy? How many tiles will it take to cover the kitchen floor?

What time should we start baking the turkey so that we can have dinner at 7 p.m.? What do the statistics tell us about the two baseball players?

★★★ 5. Complete the chart to show different ways to have 20 cents.

Pennies	Nickels	Dimes
20	0	0
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

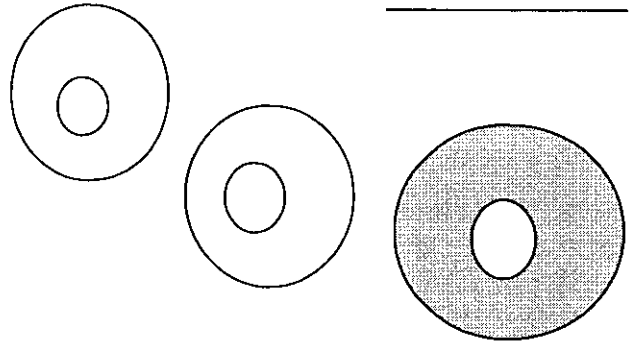
★★ 6. Mrs. Hill shopped at the grocery store. She bought milk for \$2.39 and bread for 99 cents. Her tax was 14 cents. How much change should she receive if she gave the clerk a five-dollar bill?

★★★ 7. The 192 second grade students at Greene Elementary School are planning a trip to the History Museum. If each bus hold 52 passengers, how many buses should they order?



★★★★ 8. The chess team served refreshments at their last meeting. There were two dozen doughnuts for the two teams. When all the doughnuts were eaten, it was discovered that the winning team had eaten twice as many doughnuts as the losing team.

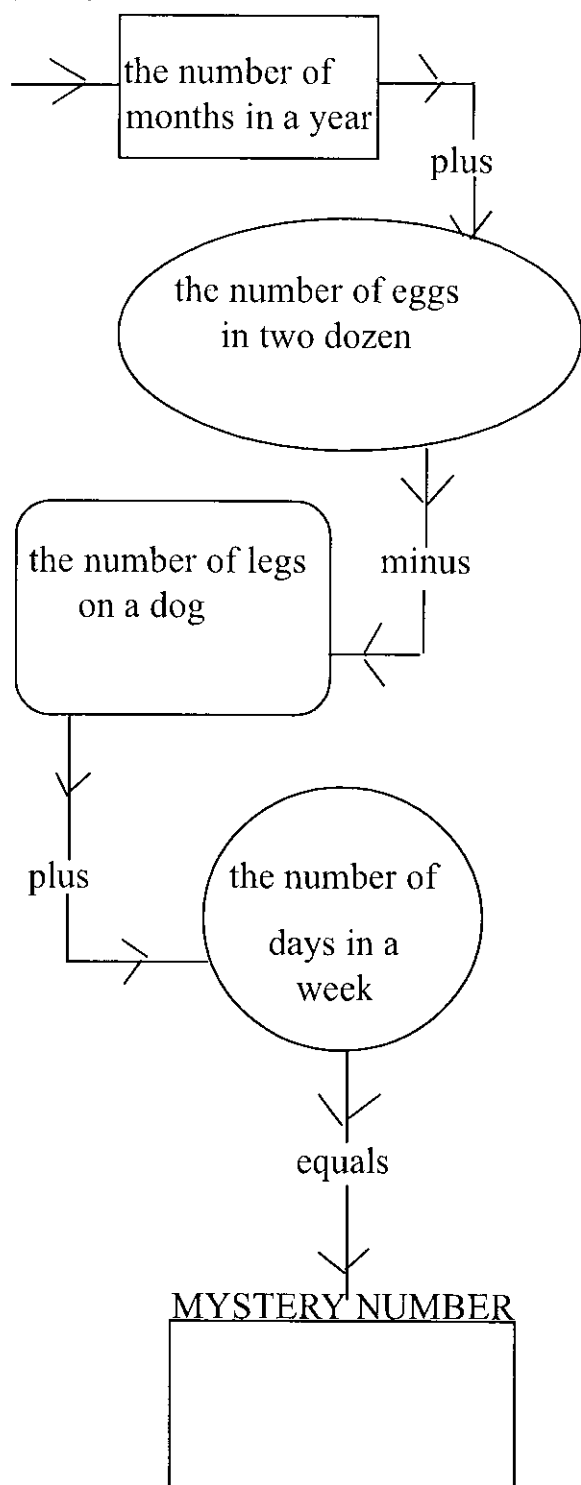
How many doughnuts did the winning team eat?



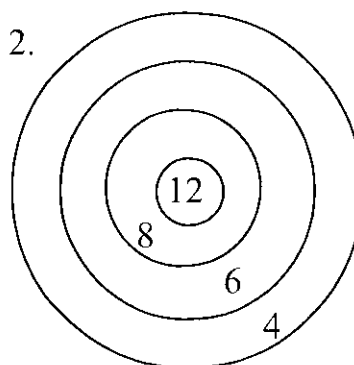
Setting Personal Goals

Confidence means that you believe in yourself. You can become a more confident problem solver by learning to use a variety of strategies. If your first idea does not work, don't give up; just try another way! Working with a buddy also helps. You need to remember that there is usually more than one way to solve a problem and that practice always helps us learn.

★★★ 1. Follow the flowchart to the mystery number:



★★★ 2.



Allen and Joe each threw three darts at the target.

Allen's score was 18; Joe's score was 14.

Allen landed on ____, ____, and ____.

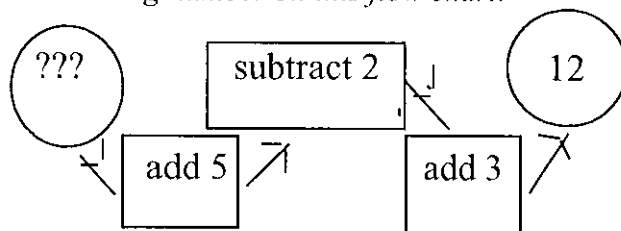
Joe landed on ____, ____, and ____.

Did Joe or Allen hit the bull's eye? _____

How do you know? _____

Strategy of the Month

*What if you know the result of a situation, but you don't know the beginning? For example, you might know that you end up with thirteen baseball cards after doing a certain number of trades and you want to figure out how many cards you had before the trading started. In that case you need to work backwards; you have to think about your actions in reverse order. This strategy works for any sequence of actions when you know the end result rather than the starting place. Try **working backwards** to find the starting number on this flow chart:*



MathStars Home Hints

Mathematics can make life easier for you when you become a good estimator. Spatial estimation helps you plan how you will rearrange your furniture or how far to jump to cross a puddle of water. Using estimation helps you know whether you have enough money for your purchases before you get to the check-out line. We become good estimators by practicing. Use your number sense and spatial sense to think about what the answers to problems will be before you start to solve them.

★★★ 3. Brad has 45¢ in his pocket. He counted eight coins. What coins did he have?

★★ 4. Pete is at the end of the ice cream line. Katie is between Ron and Jane. Ron is behind Paul. Write the names of the students in the ice cream line.



first second third fourth fifth

★★★★ 5. Tommy Turtle and Robby Rabbit are training for the big race. Tommy can go four feet in three minutes. How far can he go in a 15 minute race?

Robby can go seven feet in five minutes. How far can he go in a 15 minute race?

Who will win the race? _____

★ 6. Nora looked at a spider web with her magnifying glass. She counted 24 spider legs. How many spiders were on the web?

★ 7. Sally surveyed her friends about their pets. Here are the results:

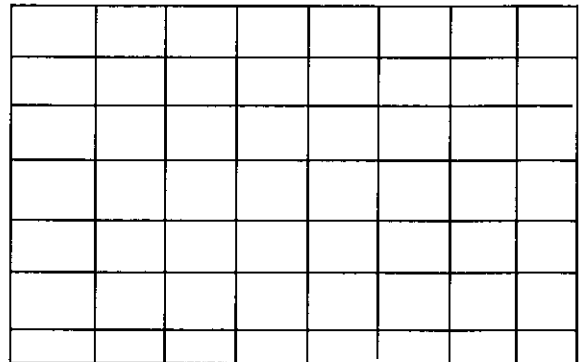
dogs 4

cats 1

fish 2

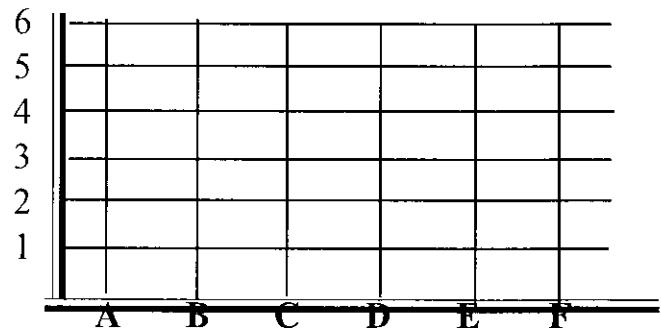
birds 3

Make a bar graph of the results.



★★★★ 8. Anna designed a secret picture. She listed clues to help solve the mystery. Can you connect the points and discover her secret picture?

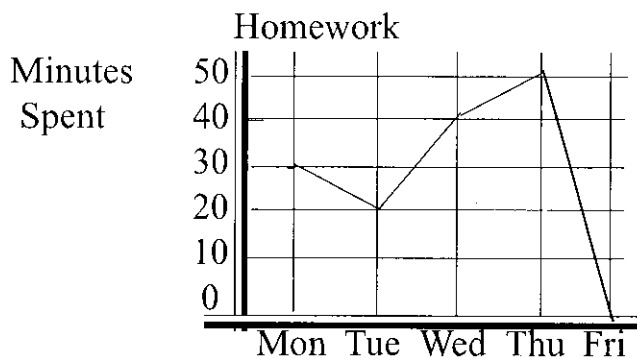
A,2 -> C,5 -> E,2 -> A,4 -> E,4 -> A,2



Setting Personal Goals

When you encounter a new situation, you use all of your previous experiences to figure out the current problem. Reasoning mathematically means using your brain power to think logically and sequentially, to put prior knowledge with new information. Set the goal of developing mathematical power and use your thinking power to achieve the goal!

★★ 1. Robert made a broken line graph to show how much time he spent on homework last week.

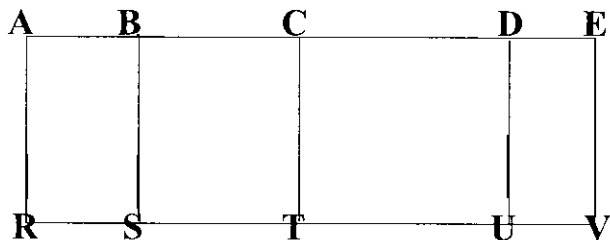


Which night did Robert spend the longest on his homework? _____

Which night did Robert spend the least time on homework? _____

How much time did Robert spend on homework during the week? _____

★★★ 2. How many different rectangles can you find in this shape? _____



Can you name them? _____

★★★★ 3. Lee and his five friends are hungry for a snack. Circle the number of cookies his Mom needs to bake for all the children to have an equal number of cookies.

10 14 16 18 20

★★ 4. Mrs. Hill dumped a load of clean socks on the table and sorted them into piles. She had four brown socks, three green socks, five black socks, and five blue socks.

How many pairs of socks can she put in the dresser? _____

Which socks were lost? _____

Strategy of the Month

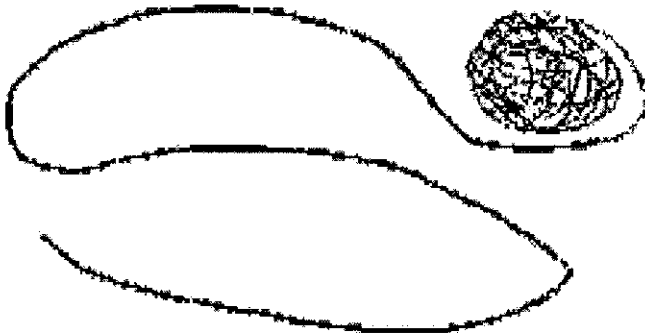
*You have tried many ways to solve problems this year. Already you know that when one strategy does not lead you to a solution, you back up and try something else. Sometimes you can find a smaller problem inside the larger one that must be solve first. Sometimes you need to think about the information that is missing rather than what is there. Sometimes you need to read the problem again and look for a different point of view. Sometimes you need to tell your brain to try to think about the problem in an entirely different way - perhaps a way you have never used before. Looking for different ways to solves problems is like brainstorming. Try to solve this problem. You may need to **change your point of view**.*

Mrs. Gomez is planning a party. She needs seating for 26 people. She can use hexagon tables for six guests and square tables for four guests. She would like to use more hexagon tables than square tables. How many of each does she need?

MathStars Home Hints

Identifying the mathematics that is all around you can be lots of fun. Think about the geometry and spatial visualization you use in playing video games or when you play golf or basketball. When your parents parallel park, they are using their spatial skills too. When you track a hurricane, you use coordinates. When you check the stock market or read the latest sports statistics, you are using mathematics. With your family or friends go on a math scavenger hunt. Who can identify mathematics in the most unusual places?

★★ 5. Terry's kitten was playing with a ball of yarn. How many centimeters long is the piece of yarn unrolled from the ball?



★★ 6. What are the 21st, 22nd, and 23rd shapes in this pattern?



★★★ 7. Riders and horses are in the field. There are 32 legs in the field. The number of riders is one more than the number of horses. How many horses and riders are in the field?

horses _____ riders _____

★★★★ 8. Six rabbits had a race. Peter and another rabbit tied for second place. Pokey came in last. Flopsy was ahead of Cottontail. Cottontail beat Hopper. Mopsy was beaten by only one other rabbit.

Who won the race?

Show the order in which they crossed the finish line:

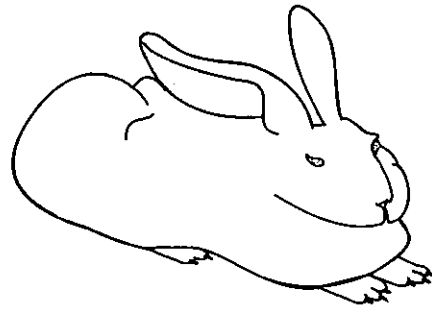
First: _____

Second: _____ and _____

Third: _____

Fourth: _____

Fifth: _____



Setting Personal Goals

Students who recognize the value of mathematics are well on their way to becoming mathematically powerful citizens. Valuing mathematics means that we appreciate the richness, power, and usefulness of mathematics. Without math there would be no roads or bridges, computers or movies, banks or fast food restaurants. How can you become mathematically powerful?