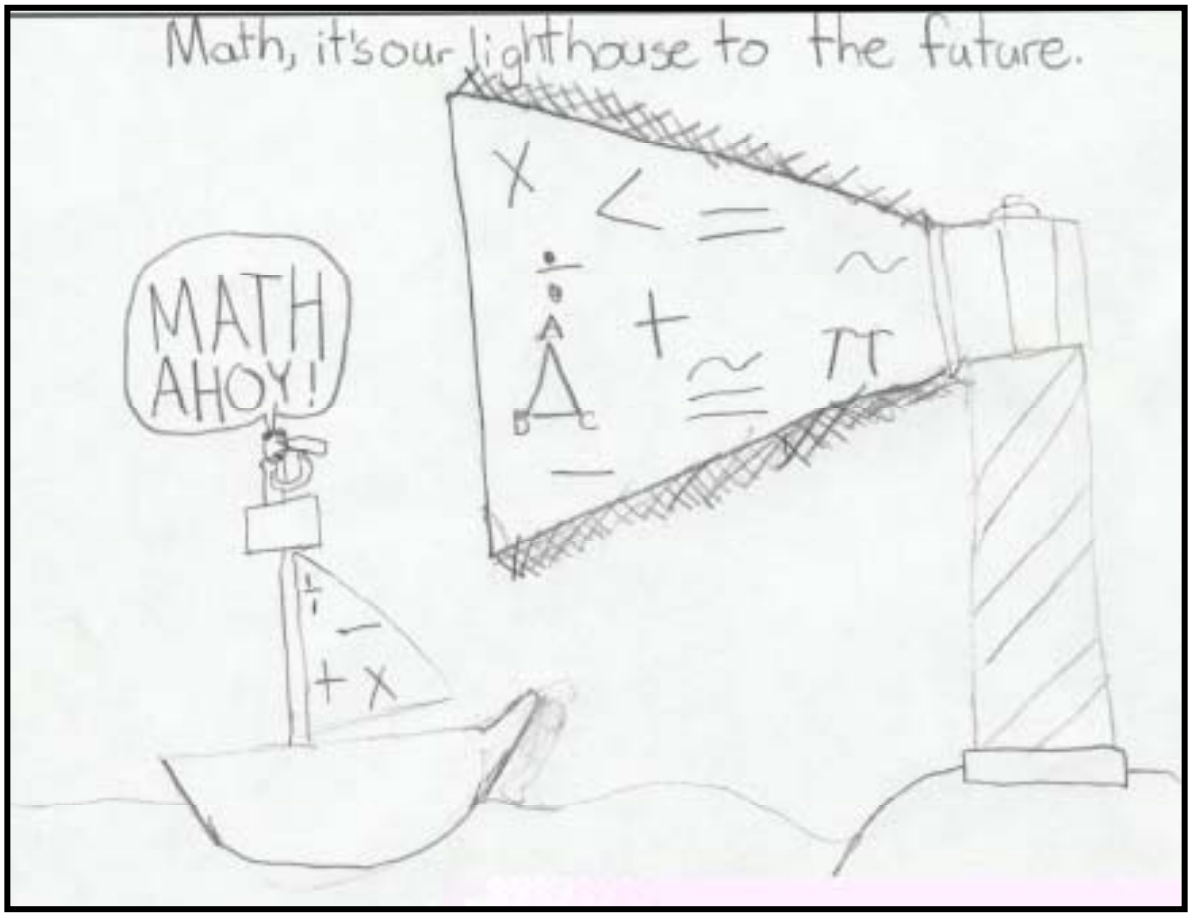
Sail into Summer with Math!



For Students Entering Math A

This summer math booklet was developed to provide students in kindergarten through the eighth grade an opportunity to review grade level math objectives and to improve math performance.

Summer 2001

Sail into Summer with Math!

One goal of the Northwest, Poolesville, Quince Orchard, and Seneca Valley clusters of schools is to promote increased math performance at all grade levels. Completing the summer math booklet allows each school, student, and parent within the clusters to work together to achieve this goal. Students who complete the summer math booklet will be able to:

- Increase retention of math concepts,
- Improve and raise the level of math CRT and MSPAP performance,
- Work toward closing the gap in student performance,
- Apply math concepts to performance tasks, and
- Successfully complete Algebra 1 by the end of ninth grade.

Student Responsibilities

Students will be able to improve their own math performance by:

- Completing the summer math booklet
- Reviewing math skills throughout the summer, and
- **Returning the math booklet to next year's math teacher.**

Student Signature	Grade	Date

Parent Responsibilities

Parents will be able to promote student success in math by:

- Supporting the math goal of the cluster of schools,
- Monitoring student completion of the summer math booklet,
- Encouraging student use of math concepts in summer activities, and
- **Insuring the return of the math booklet to school in the fall.**

Parent Signature	Date

The "Sail into Summer with Math!" booklets were developed by:
K – Susan Springer, 1 – Sharon Thorne, 2 – Lynne Todd, 3 – Aphy Lennon,
4 – Sandy Holmes, 5 – Jennifer Roy, 6 – Michelle Ronan and Linda Verde,
7 – Jody Baxley, 8 – Dottie Reitz, and Ed Nolan.

A special thanks to Don Kress (Community Superintendent) and Cynthia Rattley (Performance Director) for their help and support with this project.

The cover of the 2001 Math A summer math booklet was created by
Nick Jankowski, a Sixth Grade student at
John Poole Middle School.

Math A Summer Mathematics Packet

Table of Contents

Write Numbers in Words and Digits

Hints/Guide:

In order to read numbers correctly, we need to know the order of each place value. The order is the following:

1,000,000 is one million	100,000 is one hundred thousand
10,000 is ten thousand	1,000 is one thousand
100 is one hundred	10 is ten
1 is one	0.1 is one tenth
0.01 is one hundredth	0.001 is one thousandth

So, the number 354.67 is read as three hundred fifty four and sixty-seven hundredths and 3, 500,607.004 is read as three million, five hundred thousand, six hundred seven and four thousandths. Please remember that the word “and” indicates the location of the decimal point in mathematics and should not be used anywhere else (for example, it is inappropriate to read 350 as three hundred and fifty, because "and" means a decimal point). Also, the term "point" in mathematics is a geometry term and should not be used in naming numbers (for example, 3.5 is not three "point" five, but rather three and five tenths).

Exercises:

Write the number name:

1. 560.8 _____
2. 7.16 _____
3. 54.47 _____
4. 6,223 _____
5. 5,600.7 _____

Write the number the name represents:

6. One and forty-five thousandths _____
7. Seventeen and seven hundredths _____
8. Twenty-three thousand, twenty-nine and six tenths _____
9. Six hundred and five hundredths _____
10. Two hundred eight thousand, three hundred four _____

Add and Subtract Whole Numbers

Hints/Guide:

The key in adding and subtracting whole numbers is the idea of regrouping. If a column adds up to more than ten, then the tens digit of the sum needs to be included in the next column. Here is an example of the steps involved in adding:

$$\begin{array}{r} {\scriptstyle 1} \\ 346 \\ +\ 157 \\ \hline 3 \end{array} \quad \text{to} \quad \begin{array}{r} {\scriptstyle 1} \\ 346 \\ +\ 157 \\ \hline 03 \end{array} \quad \text{to} \quad \begin{array}{r} \\ 346 \\ +\ 157 \\ \hline 503 \end{array}$$

Because 6 + 7 = 13, the 3 is written in the ones digit in the solution and the 1 is regrouped to the tens digit. Then, 1 + 4 + 5 = 10, the 0 is written in the tens digit of the solution and the 1 is regrouped to the hundreds place of the problem. Finally, since 1 + 3 + 1 = 5, the solution is 503.

For subtraction, regrouping involves transferring an amount from a higher place value to lesser place value. For example:

$$\begin{array}{r} {\scriptstyle 3\ 1} \\ 3\not{4}6 \\ -\ 157 \\ \hline 9 \end{array} \quad \text{to} \quad \begin{array}{r} {\scriptstyle 2\ 13} \\ 3\not{4}6 \\ -\ 157 \\ \hline 89 \end{array} \quad \text{to} \quad \begin{array}{r} {\scriptstyle 2} \\ 3\not{4}6 \\ -\ 157 \\ \hline 189 \end{array}$$

Because 7 cannot be taken from 6 in the set of whole numbers, we must regroup 1 ten to create 16 - 7, which is 9. Then, since we have taken 1 ten, the 4 has become 3, and we must take 1 from the 3 to create 13, and 13 - 5 = 8. Finally, we have 2 hundreds remaining, and 2 - 1 = 1, so the solution is 189.

Exercises: Solve. No Calculators!

1. $\begin{array}{r} 6{,}496 \\ 4{,}111 \\ +\ 3{,}128 \\ \hline \end{array}$

2. 54,398 + 64,123 = _____

3. 3,254 + 754 + 906 = _____

4. $\begin{array}{r} 23{,}879 \\ +\ 7{,}123 \\ \hline \end{array}$

5. 98,455 - 9,770 = _____

6. 4,223 - 2,119 = _____

7. 38,904 - 16,344 = _____

8. 908 - 778 = _____

9. 4,998 - 653 = _____

10. 3,998 - 23 = _____

Multiply and Divide Whole Numbers I

Hints/Guide:

To multiply whole numbers, we must know the rules for multiplication and multiplication tables. We also need to regroup when multiplying a two-digit number by a single digit. For example:

$$\begin{array}{r} {\scriptstyle 4} \\ 37 \\ \times\ 7 \\ \hline 259 \end{array}$$

Since 7 x 7 = 49, we write down the 9 in the ones digit and regroup the 4.

To divide whole numbers, we must know basic division rules are the opposite of multiplying rules. So if we know our times tables, we know how to divide. Since 3 x 4 is 12, then 12 ÷ 4 = 3 and 12 ÷ 3 = 4. For example:

$$\begin{array}{r} 63 \\ 9\overline{)567} \\ -54 \\ \hline 27 \\ -27 \\ \hline 0 \end{array}$$

First, since 9 does not go into 5, we determine how many times 9 goes into 56, which is 6. We place the 6 above the number 56 and subtract 54 (9 x 6) from 56 and get the number 2 as the difference. Next, we bring down the 7 to join with the 2 and determine the number of times 9 divides into 27. This is three. Hence, we get the quotient (answer to a division problem) of 63.

Exercises: Solve: No Calculators!

SHOW ALL WORK. Use a separate sheet of paper (if necessary) and staple to this page.

1. 9 x 7 =
2. 6 x 5 =
3. 7 x 8 =
4. 11 x 9 =
5. 6 x 9 =
6. 8 x 6 =
7. $\begin{array}{r} 42 \\ \times\ 7 \\ \hline \end{array}$
8. $\begin{array}{r} 25 \\ \times\ 3 \\ \hline \end{array}$
9. $\begin{array}{r} 659 \\ \times\ 7 \\ \hline \end{array}$
10. $\begin{array}{r} 47 \\ \times\ 2 \\ \hline \end{array}$
11. $\begin{array}{r} 81 \\ \times\ 5 \\ \hline \end{array}$
12. 64 ÷ 8 =
13. 65 ÷ 5 =
14. 51 ÷ 3 =
15. 56 ÷ 8 =
16. 32 ÷ 2 =
17. $8\overline{)2216}$
18. $9\overline{)3789}$

Multiply and Divide Whole Numbers II

On this page, we will demonstrate ability to solve multiplication and division problems within a given time.

Multiplication Exercises (You have exactly 2 minutes to complete!):

5 x 8 =		7 x 9 =		6 x 7 =		5 x 0 =
6	9	7	7	9	4	7
x 6	x 6	x 8	x 6	x 3	x 7	x 7
8 x 6 =		4 x 7 =		3 x 4 =		8 x 7 =
7	8	3	4	6		
x 3	x 7	x 3	x 5	x 9		

Division Exercises (You have exactly 2 minutes to complete!):

24 ÷ 8 =	24 ÷ 6 =	54 ÷ 6 =	49 ÷ 7 =
27 ÷ 3 =	48 ÷ 6 =	28 ÷ 4 =	36 ÷ 9 =
18 ÷ 3 =	7 ÷ 7 =	63 ÷ 9 =	32 ÷ 8 =
56 ÷ 8 =	72 ÷ 8 =	35 ÷ 7 =	16 ÷ 8 =
15 ÷ 3 =	21 ÷ 3 =	40 ÷ 8 =	0 ÷ 8 =

Multiplication II

Hints/Guide:

To multiply a whole number by a two-digit number, we must multiply first by the ones digit of the second number. The key is to multiply by each digit, remembering the place value of the number we are multiplying by:

```
  534
x  46
 3204
21360
24562
```

We first multiply 534 by 6 to get 3204 (This is done by regrouping digits similar to adding, so 6 x 4 = 24, the 4 is written down and the 2 is added to the next product). Next, a zero is placed in the ones digit because when multiplying by the 4 in 46, we are multiplying by the tens digit. Next, we multiply 534 x 4 to get 21360. Finally, we add the two products together to get 24,564.

Exercises: Solve each problem: No Calculators!

SHOW ALL WORK. Use a separate sheet of paper (if necessary) and staple to this page.

1. 45 x 31 =
2. 30 x 19 =
3. 14 x 17 =
4. 17 x 21 =
5. 26 x 38 =
6. 38 x 23 =

7.
```
  45
x 19
```

8.
```
  16
x 84
```

9.
```
  48
x 56
```

10.
```
  30
x 63
```

11.
```
  81
x 40
```

12.
```
  64
x 33
```

Multiply Fractions and Solve Proportions

Hints/Guide:

To solve problems involving multiplying fractions and whole numbers, we must first place a one under the whole number, then multiply the numerators together and the denominators together. Then we simplify the answer:

$$\frac{6}{7} \bullet 4 = \frac{6}{7} \bullet \frac{4}{1} = \frac{24}{7} = 3\frac{3}{7}$$

To solve proportions, one method is to determine the multiplying factor of the two equal ratios. For example:

$\frac{4}{9} = \frac{24}{x}$ since 4 is multiplied by 6 to get 24, we multiply 9 by 6, so $\frac{4}{9} = \frac{24}{54}$.

Since the numerator of the fraction on the right must be multiplied by 6 to get the numerator on the left, then we must multiply the denominator of 9 by 6 to get the missing denominator, which must be 54.

Exercises: Solve (For problems 8 - 15, solve for N):

SHOW ALL WORK. Use a separate sheet of paper (if necessary) and staple to this page.

1. $3 \bullet \frac{1}{3} =$
2. $5 \bullet \frac{1}{4} =$
3. $\frac{1}{7} \bullet 7 =$
4. $\frac{1}{8} \bullet 6 =$
5. $5 \bullet \frac{2}{7} =$
6. $\frac{2}{9} \bullet 3 =$
7. $3 \bullet \frac{3}{4} =$
8. $\frac{3}{4} = \frac{n}{20}$
9. $\frac{n}{15} = \frac{6}{30}$
10. $\frac{9}{15} = \frac{n}{5}$
11. $\frac{n}{3} = \frac{9}{27}$
12. $\frac{1}{4} = \frac{n}{16}$
13. $\frac{7}{n} = \frac{21}{27}$
14. $\frac{1}{5} = \frac{6}{n}$
15. $\frac{4}{n} = \frac{8}{24}$

Division II

Hints/Guide:

To divide whole numbers by a two digit number, we use the same rules previously described and deal with one digit at a time, so:

```
    634
12 | 7608
   - 72
     40
   - 36
      48
   -  48
       0
```

First, we notice that 12 does not divide into 7, so we determine how many times 12 goes into 76. This is 6. Next, multiply 6 x 12 and place the answer, 72, under the 76 you have used. Now, subtract 76 - 72 and place the 4 underneath the 72. Bring down the next digit from the number being divided, which is 0, and determine how many times 12 goes into 40. The answer is 3 and 3 x 12 = 36, so place 36 under the 40. Now, subtract 40 - 36 and place the 4 under 36 and bring down the 8. 12 goes into 48 four times evenly, so there is no remainder in this problem.

Exercises: No Calculators!

SHOW ALL WORK. Use a separate sheet of paper (if necessary) and staple to this page.

1. $13\overline{)325}$
2. $21\overline{)1365}$
3. $42\overline{)1302}$
4. $13\overline{)247}$
5. $41\overline{)1148}$
6. $17\overline{)459}$
7. $12\overline{)372}$
8. $13\overline{)2665}$
9. $17\overline{)306}$

Find Percent of a Number

Hints/Guide:

To determine the percent of a number, we must first convert the percent into a decimal by dividing by 100 (which can be short-cut as moving the decimal point in the percentage two places to the left), then multiplying the decimal by the number. For example:

45% of 240 = 45% x 240 = 0.45 x 240 = 108

Exercises: Solve for n: No Calculators!

SHOW ALL WORK. Use a separate sheet of paper (if necessary) and staple to this page.

1. 30% of 450 = n
2. 70% of 40 = n
3. 10% of 32 = n
4. 15% of 50 = n
5. 60% of 320 = n
6. 80% of 60 = n
7. 90% of 58 = n
8. 15% of 30 = n
9. 25% of 300 = n
10. 80% of 48 = n
11. 90% of 750 = n
12. 60% of 42 = n
13. 60% of 78 = n
14. 45% of 40 = n
15. 10% of 435 = n
16. 20% of 54 = n

Reading Scales and Finding Area and Perimeter

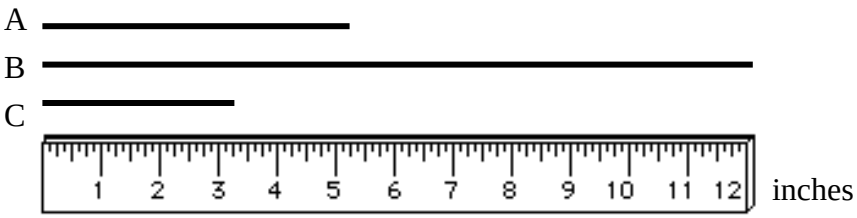
Hints/Guide:

To determine the correct answer when reading scales, the important thing to remember is to determine the increments (the amount of each mark) of the given scale.

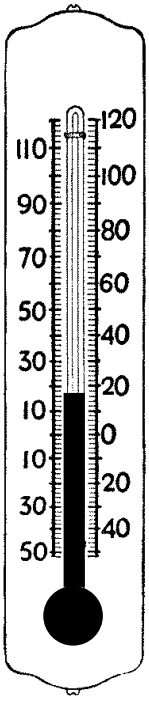
To find the perimeter of a rectangle or square, we must add the lengths of all of the sides together. To find the area of a square or a rectangle, we must multiply the length by the width.

Exercises:

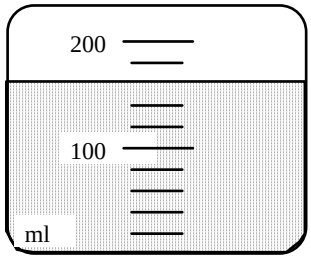
1. Find the length of each line to the nearest inch:



2. Find the temperature in Celsius

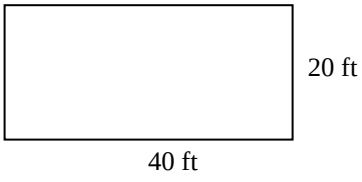


3. Determine the amount of liquid in ml.

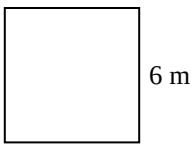


4. Find each area and perimeter:

a.



b.



c.

Bar Graphs

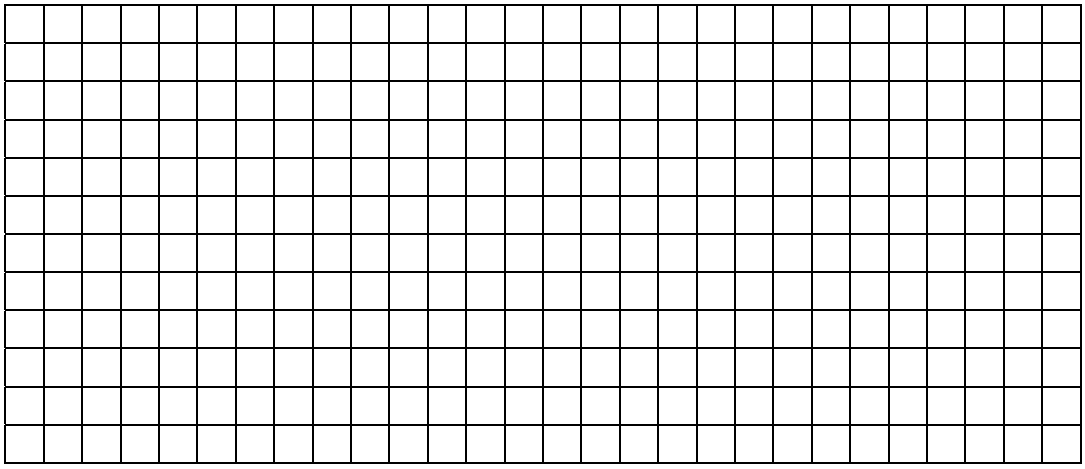
Hints/Guide:

In order to make bar graphs that are understandable, we need to follow certain guidelines. First, we need to make sure that the axes (scale lines that list information) are well labeled and that we title the graph and title the information on the axes. In order to make a bar graph, we normally list the items being considered along the horizontal axis and the numbers along the vertical axis (there is an example of a bar graph on page 13 of this packet). The height of the bars indicates the amount for each item.

Exercises: Make a bar graph of the given information:

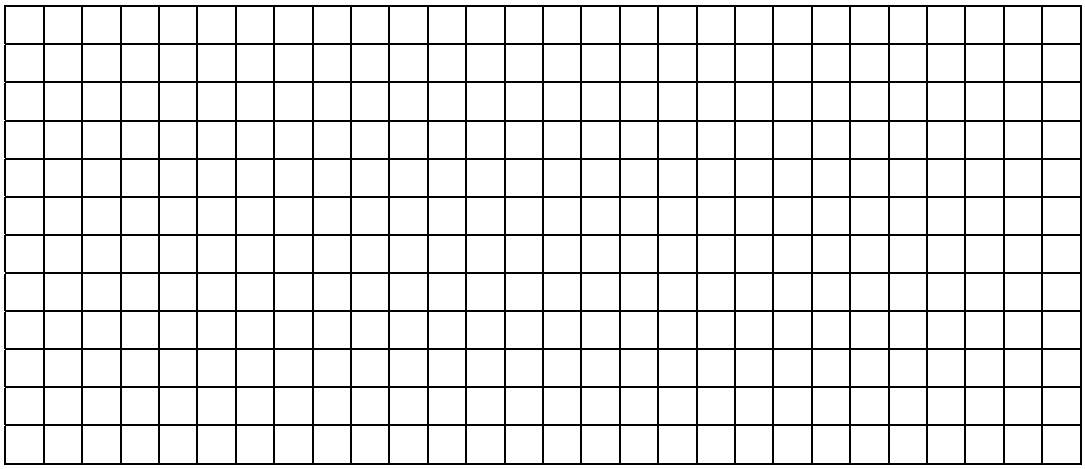
1. Temperatures:

January - 38	February - 38	March - 45
April - 55	May - 66	June - 70
July - 77	August - 78	September - 69
October - 59	November - 48	December - 37



2. Income:

1990 - $4 million	1991 - $5 million	1992 - $3 million
1993 - $7 million	1994 - $6 million	1995 - $5 million



The Number Line

Hints/Guide:

On a number line, it is important to remember that the numbers should all listed in numerical order from smallest to largest and that intervals on the number line should represent the same difference. For example:

It would be **<u>inappropriate</u>** for the number line to be represented this way:

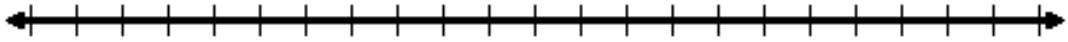
This is not correct because the intervals on the number line do not represent the same difference (for example, 4 -3 does not equal 11 - 7).

Exercises: On the following number lines, label the scales and place dots where the numbers should go:

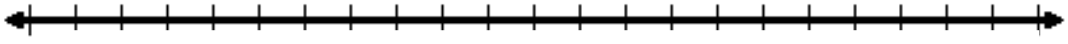
1. 3, 5, 7, 12, 23, 24

2. 4, 7, 8, 2, 17, 12, 11

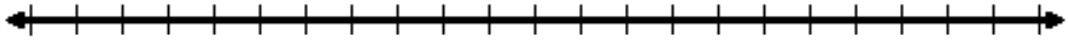
3. 3.5, 1, 0, 2.5, 6, 8, 7.5, 3.75



4. 15, 35, 50, 65, 80, 5, 25



5. 700, 900, 1200, 300, 450, 800, 1800



Choose an Appropriate Unit of Measure

Hints/Guide:

The important part of this lesson is knowing how different units of measure relate to each other as well as the ability to compare known units of measure to new items. Some items and their measurement to use for the exercises:

Area of a sheet of notebook paper is about 93 square inches in standard units and about 550 square centimeters in metric units, so we would say that notebook paper is measured in square inches or square centimeters.

The length of a pencil is about 7 inches in standard units or about 17 centimeters in metric units, so pencil length would be measured in inches or centimeters.

For reference:
1 square foot is equal to about 0.1 square meters
1 mile is about 1.6 kilometers
100 pounds is about 0.45 kilograms
1 quart is about 0.95 liters

Exercises: Select the most appropriate unit to measure these items:

Example:	**Standard**	**Metric**
1. Volume of a milk jug		
2. Area of a coin		
3. Length of a classroom wall		
4. Capacity of a water glass		
5. Height of an adult		
6. Volume of a gift box		
7. Length of a binder		
8. Volume of a television		
9. Weight of a cat		
10. Area of a placemat		
11. Weight of an orange		

Find Elapsed Time

Hints/Guide:

The key to understanding time problems is to think about time revolving around on a clock. If a problem starts in the morning (a.m.) and ends in the afternoon (p.m.), then count the amount of time it takes to get to 12 noon, then count the amount of time it takes until the end. For example:

> Joanne is cooking a large turkey and puts it in the oven at 10:15 in the morning. Dinner is planned for 4:30 in the evening and this is when Joanne will take the turkey out of the oven. How long will the turkey cook?
>
> From 10:15 to 12:00 noon is 1 hour 45 minutes. From 12:00 noon to 4:30 p.m. which is 4 hours 30 minutes. To add the times together:
>
> $$\begin{array}{rr} & 1\text{ h }45\text{ m} \\ + & \underline{4\text{ h }30\text{ m}} \\ & 5\text{ h }75\text{ m} = 5\text{ h} + 1\text{ h }15\text{ m} = 6\text{ h }15\text{ m} \end{array}$$
>
> The turkey will cook for 6 hours and 15 minutes.

Exercises:

1. The school day begins at 7:55 a.m. and ends at 2:40 p.m. How long are you in school?

2. If you go to sleep at 8:30 p.m. and wake up at 6:30 a.m. the next morning, how long did you sleep?

3. If you want to cook a chicken that takes 6 hours and 30 minutes to completely cook and you are planning dinner for 6:00 p.m., what time do you need to start cooking the chicken?

4. If you ride your bike for 1 hour and 45 minutes and you started riding at 1:30 p.m., at what time will you finish your riding?

5. If you go to a basketball game at the MCI Center to see the Washington Wizards, and the game begins at 7:05 p.m. and ends at 9:35 p.m., how long was the game?

Use Information from Tables and Graphs

Hints/Guide:

To use information from tables and graphs, we must locate the information in the correct section of the table or graph, then be sure that we are answering the correct question.

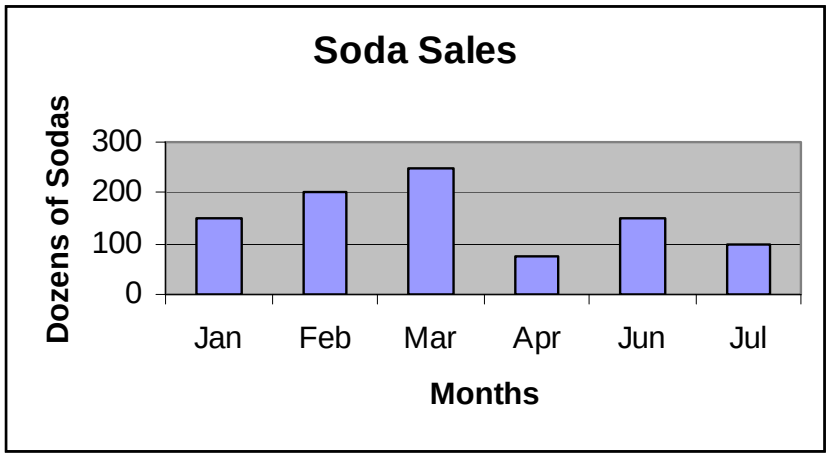
Exercises:

Approximate Distance in Kilometers				
City	Annapolis	Baltimore	Richmond	New York
Annapolis	-	40	175	300
Baltimore	40	-	210	280
Richmond	175	210	-	460
New York	300	280	460	-

1. What is the distance from Annapolis to Richmond?

2. Which is greater: the distance from New York to Baltimore or the distance from Richmond to Baltimore?

3. Which two cities on the chart are the closest?



4. What is the difference in sales between May and June?

5. Which month appears to have the greatest sales?

Find the Average of a Set of Numbers

Hints/Guide:

To find the average of a set of numbers, we add together all of the numbers and then divide by how many numbers are in the data set. For example:

If the tests scores are 73, 87, 94, 84, 92, and 95, then we add the scores together: 73 + 87 + 94 + 84 + 92 + 95 = 525, and since there are 6 numbers in the data set, we divide 527 by 6 and get the quotient of 87.5.

Exercises: No Calculators!

SHOW ALL WORK. Use a separate sheet of paper (if necessary) and staple to this page.

1. If George has test scores of 85, 88, 92, and 87, what is his average score?

2. If Tina's bowling scores were 120, 150, 145, 165, and 135, what was her average score?

3. The Wilsons' phone bills for the last six months were $42, $35, $51, $46, $53, and $43. What was their average bill?

4. The weekly sales of cellular phones purchased at "Phones R Us" over the last month were 24, 45, 51, and 36. What were the average weekly sales?

5. The population of Whoville over the last five years was 543, 621, 700, 809, and 932. What is the average population over the last five years?

6. Randi's quiz scores were 24, 29, 30, 20, 30, and 29. What was her average?

Solve Money Problems

Hints/Guide:

Solving money problems is merely applying the rules of decimals in a real life setting. When reading the problems, we need to determine whether we add (such as depositing money or determining a total bill), subtract (checks, withdraws, and the difference in pricing), multiply (purchasing multiple quantities of an item), or divide (distributing money evenly, loan payments). Once we have determined which operation to use, we apply the rules for decimal operations and solve the problem and label our answer appropriately.

Exercises: No Calculators!

SHOW ALL WORK. Use a separate sheet of paper (if necessary) and staple to this page.

1. Frank works at Apartment Depot and earns $8.00 per hour. Last week, he worked 24 hours. What was his total pay?

2. Harry went to Rent-a-Center and rented a pneumatic nailer for $45.00, a power sander for $40.00, and a radial arm saw for $58.00. What was his total bill?

3. Joe is planning a trip to Houston and has estimated $450.00 for lodging, $100.00 for food, and $125.00 for gasoline. How much will his trip cost?

4. Susan has $350 in her checking account. She writes checks for $47.00 for flowers, $78.00 for books, and $46.00 for CD's. How much money is left in her checking account?

5. In order to pay off the car she bought, Lauri had to make 30 more payments of $145.00. How much does she still owe?

6. Jared earns $450.00 per week as manager of the Save-Mart. What will be his income over 12 weeks?

7. The Jennings family paid $384.00 for the year for their cable service. If their payments were the same each month, how much was their monthly bill?

Solve Problems using Percent

Hints/Guide:

When solving percent problems, we apply the rules for finding percent of a number in realistic situations. For example, to find the amount of sales tax on a $450.00 item if the tax rate is 5%, we find 5% of 450 (.05 x 450 = 22.5), and then label our answer in dollars, getting $22.50.

Exercises: No Calculators!

SHOW ALL WORK. Use a separate sheet of paper (if necessary) and staple to this page.

1. Susie has just bought a pair of jeans for $45.00, a sweater for $24.00, and a jacket for $85.00. She then gets a discount of 10%. How much money did she save?

2. Jack bought a set of golf clubs for $200.00 and received a rebate of 20%. How much was the rebate?

3. A construction manager calculates it will cost $3,000 for materials for her next project. She must add in 10% for scrap and extras. What will be the total cost of the materials?

4. The regular price for a video game system is $165.00 but is on sale for 30% off. What is the amount of the discount?

   What is the sale price?

5. Cindy earns a 15% commission on all sales. On Saturday, she sold $800 worth of merchandise. What was the amount of commission she earned on Saturday?

6. The band had a fundraiser and sold $25,000 worth of candy. They received 40% of this amount for their trip to Florida. How much did they receive?

Make Change

Hints/Guide:

To solve making change problems, the key is to first determine the amount of change received, then determine which combination of dollar bills and coins will create that amount of change. For example, if we pay for a $13.78 lunch bill with a $20.00, then the amount of change received is $6.22 ($20.00 - $13.78). To get this amount, we will need 1 $5 dollar bill, 1 $1 dollar bill, 2 dimes, and 2 pennies. Be sure that all answers list the number and type of bills and coins received.

Exercises: No Calculators!

SHOW ALL WORK. Use a separate sheet of paper (if necessary) and staple to this page.

1. Kathy bought a soft pretzel and a diet coke for $2.25. If she handed the clerk a twenty dollar bill, how much change should she receive?

2. Linda bought groceries for a total of $29.15. If she handed the cashier two twenty dollar bills, how much change will she receive?

3. Jorge purchased a new pair of jeans for $43.50 and paid with a fifty dollar bill. How much change will he receive?

4. If you use a twenty dollar bill to purchase food totaling $15.75, how much change should you get?

5. Sherman bought a soda for $.95 and paid with a five dollar bill, how much change should he receive?

6. Bob buys two shirts for a total of $34.65, including tax. How much change will he receive from two twenty dollar bills?

Problem Solving I

Hints/Guide:

There are many different ways to solve problems, and usually different ways to solve one problem. Some of the most popular methods are

- act out a problem
- draw a picture
- make a table of information
- make a list
- guess and check
- look for a pattern
- work backwards
- use logic
- make it simpler
- brainstorm.

To solve problems, first read the problem carefully and determine **what** you are looking for, or what you are trying to solve. Next, **select** the methods you will use to solve the problem. Third, **solve** the problem using your method. Then, **check** your work to see if the answer makes sense.

Exercises: Solve the following problems using any of the above methods.
SHOW ALL WORK. Use a separate sheet of paper (if necessary) and staple to this page.

1. George and Martha like to practice their swimming together, but their schedules make this difficult to do. Today, they swam together. George swims every five days and Martha swims every three days. How many days until they swim together again?

2. How many possible combinations are there for having 36 cents, using pennies, nickels, dimes, and quarters?

3. If you get a penny a day from your uncle, and each day he doubles the amount he gave you on the previous day, how much would he give you on the twentieth day?

Problem Solving II

Exercises: Solve the following problems using any of the methods on page 19.
SHOW ALL WORK. Use a separate sheet of paper (if necessary) and staple to this page.

1. You deliver for the United Shipping People. You start on the ground floor and go up four flights of stairs to deliver package A (the elevator does not work!). From there, you go up twelve flights to deliver package B. Next, you go down six flights and deliver package C. Finally, you go up seven flights and deliver package D. What floor did you deliver each package to?

   Explain how you determined your answer. _____

   _____

   _____

2. Three friends - Larry, Moe, and Curly - were all going to Pizza Tent. It took Moe 15 minutes longer than Curly to get there, and it took Larry twice as long as Curly. It took 75 minutes total for the three of them to travel to Pizza Tent. How long did it take each of them to get there?

   Explain how you determined your answer. _____

   _____

   _____

3. Kara makes bagels. She was half asleep when she started this morning and burned the first three dozen she tried to make. Half of what was left she returned to the freezer because she did not need as many as she thought. Half of what was still remaining she made and sold half of those. If Kara sold twenty bagels, how many did she start the morning with?

   Explain how you determined your answer. _____

   _____

   _____