Rosa Parks Middle School

Student Name: ____

For Students Entering
Investigations to Math OR Math 7

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 2020

The Rosa Parks Math Department is requesting that students spend time over the summer reviewing math concepts. In addition to helping them retain their mathematical knowledge and gains made this year, this will also help prepare them for success upon their return to school in the fall. Students will need to complete a math packet for the course they are entering next year.

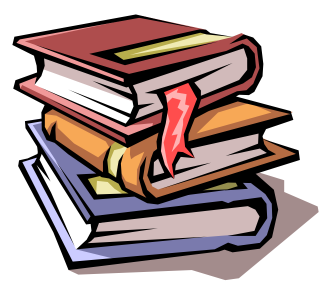
Students who complete the summer math booklet will be able to:

- Increase retention of math concepts,
- Work toward closing the gap in student performance,
- Apply math concepts to performance tasks, and

This packet is due on the first day we return from summer, August 31, with a deadline of the Friday, September 4.

There are many excellent summer programs and websites also available. In addition to the math packet, students will have access to a site that is designed to help all MCPS middle grade students maintain their math skills during the summer months. These online resources will provide students with multiple opportunities to review concepts from this past school year. As students access the website they will select the page the matches the mathematics course they will be enrolling in for the upcoming school year (2020-2021). The course page will then provide links to several different units of study. Each unit will contain multiple online resources, such as video tutorials, games, and many more challenging tasks. Please make sure that your child is signed onto their google account prior to logging into the website otherwise students may not be able to easily access some of the resources. The online tools can be found on the following website:

http://tinyurl.com/MCPSMathSummer



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.**

Parent Responsibilities

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

- Monitoring student completion of the summer math booklet,
- Encouraging student use of math concepts in summer activities, and
- **Ensuring the return of the math booklet to school at the beginning of next school year.**

If you have any questions, you may contact the math resource teacher, Aimee Conway at Aimee_R_Conway@mcpsmd.org

Thank you for your support and have a wonderful summer! We look forward to seeing you in September!

Investigations to Math & Math 7 Summer Mathematics Packet

Table of Contents

Do Not use a calculator! Show work that you are not able to fit on the page using additional sheets of paper and attach.

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 and 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. 560.08 ______________________________
2. 7.016 ______________________________
3. 24.47 ______________________________
4. 6,003 ______________________________
5. 3,005,600.07 ______________________________

Write the number the name represents:

6. Forty-five thousandths ______________
7. Seventeen and seven hundredths ______________
8. Five million, three hundred thousand,
   twenty-nine and six tenths ______________
9. Six million and five thousandths ______________
10. Two hundred eight thousand, four ______________

Rename Fractions, Percents, and Decimals

Hints/Guide:

To convert between fractions and percents, we must first convert fractions into decimals: We start with the fraction, such as $\frac{3}{5}$, and divide the numerator (the top number of a fraction) by the denominator (the bottom number of a fraction). So:

$$\begin{array}{r} 6 \\ 5\ |\ 3.0 \\ -\ 30 \\ 0 \end{array} \qquad \frac{3}{5} \text{ is equivalent to } 0.6 \qquad \text{OR} \qquad \begin{array}{r} 0.22\ldots \\ 9\ |\ 2.00 \end{array} \qquad \frac{2}{9} \text{ is equivalent to } 0.\overline{2}$$

To convert a decimal to a percent, we multiply the decimal by 100 (percent means a ratio of a number compared to 100). A short-cut is sometimes used of moving the decimal point two places to the right (which is equivalent to multiplying a decimal by 100, so

$$0.6 \times 100 = 60 \text{ and} \qquad \frac{3}{5} = 0.6 = 60\%$$

To convert a percent to a decimal, we divide the percent by 100,

$$60\% \div 100 = 0.6 \qquad \text{so} \qquad 60\% = 0.6$$

Exercises: No Calculators!

Rename each fraction as a decimal:

1. $\frac{1}{5} =$
2. $\frac{3}{4} =$
3. $\frac{1}{2} =$
4. $\frac{1}{3} =$
5. $\frac{8}{10} =$
6. $\frac{2}{3} =$

Rename each fraction as a percent:

7. $\frac{1}{5} =$
8. $\frac{3}{4} =$
9. $\frac{1}{2} =$
10. $\frac{1}{3} =$
11. $\frac{8}{10} =$
12. $\frac{2}{3} =$

Rename each percent as a decimal:

13. 8% =
14. 60% =
15. 11% =
16. 12% =
17. 40% =
18. 95% =

Order Decimals

Hints/Guide:

To compare decimals and list them from least to greatest, it is easier to compare decimals that are the same place value, so one process we can use to compare decimals is to include trailing zeros to make all of the decimals that same place value. For example, to put the following in order from least to greatest:

.3, 1.61, .006, .107 is easier to compare as:

0.300, 1.610, 0.006, 0.107

to achieve 0.006, 0.107, 0.300, 1.610

and then return to the original form: 0.006, 0.107, 0.3, 1.61

Exercises:

List each group of numbers in order from least to greatest:

1. 20, 4, 0.6, 0.08

 ____

2. 246.8, 248.6, 244.9, 246.5

 ____

3. 1.03, 2.4, 0.89, 0.987

 ____

4. 14.8, 2.68, 0.879, 8.47

 ____

5. 5.3, 5.12, 5.38, 5.29

 ____

6. 54.89, 56.3, 58.1, 52.98

 ____

7. 4, 0.006, 0.8, 0.07

 ____

8. 297, 3.456, 64.4, 7.24

 ____

9. 794, 793.8, 794.65, 794.7

 ____

10. 9, 6.7, 7.24, 14

 ____

11. 4.2, 4.19, 4.07, 4.3

 ____

12. 3.75, 6.7, 3.8, 0.45

 ____

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:

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

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:

$$\begin{array}{r} {}^{3\,1} \\ 3\cancel{4}6 \\ \underline{-\ 157} \\ 9 \end{array} \quad \text{to} \quad \begin{array}{r} {}^{2\,13} \\ \cancel{3}46 \\ \underline{-\ 157} \\ 89 \end{array} \quad \text{to} \quad \begin{array}{r} {}^{2} \\ \cancel{3}46 \\ \underline{-\ 157} \\ 189 \end{array}$$

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. $\begin{array}{r} 6{,}496 \\ 4{,}113 \\ \underline{+\ 3{,}608} \end{array}$

2. 54,398 + 64,508 =

3. $\begin{array}{r} 3{,}254 \\ 754 \\ \underline{+\ 690} \end{array}$

4. $\begin{array}{r} 54{,}678 \\ \underline{+\ 7{,}123} \end{array}$

5. $\begin{array}{r} 98{,}455 \\ \underline{-\ 9{,}770} \end{array}$

6. 14,789 - 908 =

7. $\begin{array}{r} 38{,}904 \\ \underline{-\ 9{,}878} \end{array}$

8. 908 - 774 =

9. $\begin{array}{r} 6{,}996 \\ \underline{-\ 456} \end{array}$

Multiply and Divide Whole Numbers

Hints/Guide:

To multiply whole numbers, we must multiply the first number by one digit of the second number. The key is that when multiplying by each digit we must remember the place value of the number we are multiplying by:

$$\begin{array}{r} 534 \\ \underline{\times \quad 46} \\ 3204 \\ \underline{21360} \\ 24562 \end{array}$$

So 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, or 40. Next, we multiply 534 x 4 to get 21360. Finally, we add the two products together to get 24,564.

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 (a review over the summer might not be a bad idea!). Since 3 x 4 is 12, then 12 ÷ 4 = 3 and 12 ÷ 3 = 4. Again, we deal with one digit at a time, so:

$$\begin{array}{r} 634 \\ 12 \mid 7608 \\ \underline{-72} \\ 40 \\ \underline{-36} \\ 48 \\ \underline{-48} \\ 0 \end{array}$$

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: Solve: No Calculators!

1. $\begin{array}{r} 742 \\ \underline{\times \ 17} \end{array}$

2. $\begin{array}{r} 25 \\ \underline{\times \ 13} \end{array}$

3. $\begin{array}{r} 659 \\ \underline{\times \quad 7} \end{array}$

4. $\begin{array}{r} 407 \\ \underline{\times \ 29} \end{array}$

5. $\begin{array}{r} 81 \\ \underline{\times \quad 5} \end{array}$

6. $86\overline{)2{,}236}$

7. $57\overline{)13{,}338}$

8. $5\overline{)205}$

9. $7\overline{)1463}$

10. $16\overline{)3840}$

11. $11\overline{)2211}$

12. $9\overline{)3789}$

Add Mixed Numbers

Hints/Guide:

When adding mixed numbers, we add the whole numbers and the fractions separately, then simplify the answer. For example:

$$\begin{array}{r} 4\frac{1}{3} = 4\frac{8}{24} \\ +\,2\frac{6}{8} = 2\frac{18}{24} \\ \hline 6\frac{26}{24} = 6 + 1\frac{2}{24} = 7\frac{2}{24} = 7\frac{1}{12} \end{array}$$

First, we convert the fractions to have the same denominator, then add the fractions and add the whole numbers. If needed, we then simplify the answer.

Exercises: Solve in lowest terms: No Calculators!

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

1. $\begin{array}{r} 2\frac{1}{4} \\ +\,8\frac{1}{2} \\ \hline \end{array}$

2. $\begin{array}{r} 3\frac{8}{15} \\ +\,7\frac{1}{3} \\ \hline \end{array}$

3. $\begin{array}{r} 3\frac{3}{5} \\ +\,5\frac{1}{2} \\ \hline \end{array}$

4. $\begin{array}{r} 5\frac{3}{8} \\ +\,4\frac{1}{4} \\ \hline \end{array}$

5. $\begin{array}{r} 7\frac{3}{7} \\ +\,6\frac{1}{2} \\ \hline \end{array}$

6. $\begin{array}{r} 5\frac{5}{9} \\ +\,1\frac{1}{3} \\ \hline \end{array}$

7. $\begin{array}{r} 4\frac{1}{3} \\ +\,6\frac{1}{4} \\ \hline \end{array}$

8. $\begin{array}{r} 1\frac{2}{3} \\ +\,6\frac{1}{4} \\ \hline \end{array}$

9. $\begin{array}{r} 1\frac{2}{9} \\ +\,5\frac{2}{3} \\ \hline \end{array}$

Subtract Mixed Numbers

Hints/Guide:

When subtracting mixed numbers, we subtract the whole numbers and the fractions separately, then simplify the answer. For example:

$$\begin{array}{rl} 7\frac{3}{4} = & 7\frac{18}{24} \\ -\,2\frac{15}{24} = & 2\frac{15}{24} \\ \hline & 5\frac{3}{24} = 5\frac{1}{8} \end{array}$$

First, we convert the fractions to have the same denominator, then subtract the fractions and subtract the whole numbers. If needed, we then simplify the answer.

Exercises: Solve in lowest terms: No Calculators!

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

1. $\begin{array}{r} 4\frac{1}{3} \\ -\,2\frac{1}{4} \\ \hline \end{array}$

2. $\begin{array}{r} 6\frac{3}{4} \\ -\ \ \frac{2}{3} \\ \hline \end{array}$

3. $\begin{array}{r} 9\frac{2}{3} \\ -\,6\frac{1}{4} \\ \hline \end{array}$

4. $\begin{array}{r} 6\frac{3}{4} \\ -\,5\frac{1}{5} \\ \hline \end{array}$

5. $\begin{array}{r} 7\frac{1}{2} \\ -\,3\frac{1}{4} \\ \hline \end{array}$

6. $\begin{array}{r} 3\frac{1}{2} \\ -\,2\frac{3}{10} \\ \hline \end{array}$

7. $\begin{array}{r} 9\frac{7}{10} \\ -\,4\frac{1}{2} \\ \hline \end{array}$

8. $\begin{array}{r} 8\frac{5}{6} \\ -\,5\frac{1}{3} \\ \hline \end{array}$

9. $\begin{array}{r} 6\frac{3}{4} \\ -\,6\frac{5}{8} \\ \hline \end{array}$

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): No Calculators!

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

1. $4 \bullet \frac{3}{4} =$
2. $\frac{1}{5} \bullet 7 =$
3. $8 \bullet \frac{1}{5} =$
4. $6 \bullet \frac{3}{7} =$
5. $\frac{4}{5} \bullet 4 =$
6. $\frac{2}{3} \bullet 6 =$
7. $7 \bullet \frac{1}{4} =$
8. $\frac{1}{5} = \frac{n}{20}$
9. $\frac{3}{n} = \frac{12}{28}$
10. $\frac{1}{n} = \frac{5}{25}$
11. $\frac{n}{4} = \frac{3}{12}$
12. $\frac{3}{7} = \frac{12}{n}$
13. $\frac{n}{9} = \frac{12}{27}$
14. $\frac{2}{3} = \frac{18}{n}$
15. $\frac{2}{7} = \frac{n}{21}$

Add and Subtract Decimals

Hints/Guide:

When adding and subtracting decimals, the key is to line up the decimals above each other, add zeros to have all of the numbers have the same place value length, then use the same rules as adding and subtracting whole numbers, with the answer having a decimal point in line with the problem. For example:

$$34.5 + 6.72 + 9.045 = \begin{array}{r} 34.5 \\ 6.72 \\ \underline{+\ 9.045} \end{array} = \begin{array}{r} 34.500 \\ 6.720 \\ \underline{+\ 9.045} \\ 50.265 \end{array} \qquad \text{AND} \qquad 5 - 3.25 = \begin{array}{r} 5.00 \\ \underline{-\ 3.25} \\ 1.75 \end{array}$$

Exercises: Solve: No Calculators!

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

1. 15.7 + 2.34 + 5.06 =
2. 64.038 + 164.8 + 15.7 =
3. 2.6 + 64.89 + 4.007 =
4. 12.9 + 2.008 + 75.9 =
5. $\begin{array}{r} 543.8 \\ 27.64 \\ \underline{+\ 6.9} \end{array}$
6. 2.6 + 4.75 =
7. 43.31 + 7.406 =
8. $\begin{array}{r} 64.9 \\ 343.6 \\ \underline{+\ 6.007} \end{array}$
9. 6.45 + 54.9 =
10. 3.8 + .76 + .008 =
11. 87.4 - 56.09 =
12. 5.908 - 4.72 =
13. 68.9 - 24.74 =
14. 955.3 - 242.7 =
15. $\begin{array}{r} 695.42 \\ \underline{-\ 44.79} \end{array}$
16. 432.97 - 287.32 =
17. 43.905 - 9.08 =
18. $\begin{array}{r} 78.9 \\ \underline{-\ 54.7} \end{array}$
19. 200 - 14.96 =
20. 15 - 2.43 =

Multiply and Divide Decimals

Hints/Guide:

To multiply decimals, the rules are the same as with multiplying whole numbers, until the product is determined and the decimal point must be located. The decimal point is placed the same number of digits in from the right of the product as the number of decimal place values in the numbers being multiplied. For example:

8.54 x 17.2, since 854 x 172 = 146888, then we count the number of decimal places in the numbers being multiplied, which is three, so the final product is 146.888 (the decimal point comes three places in from the right).

To divide decimals by a whole number, the process of division is the same, but the decimal point is brought straight up from the dividend into the quotient. For example:

$$3\overset{\displaystyle 17.02}{\overline{)51.06}}$$

The decimal point moves straight up from the dividend to the quotient.

Exercises: Solve: No Calculators!

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

1. $\begin{array}{r} 63 \\ \underline{\times\ .14} \end{array}$
2. $\begin{array}{r} .87 \\ \underline{\times\ 2.3} \end{array}$
3. $\begin{array}{r} 8.94 \\ \underline{\times\ 2.1} \end{array}$
4. $\begin{array}{r} 4.2 \\ \underline{\times\ .62} \end{array}$
5. $\begin{array}{r} 34.5 \\ \underline{\times\ 4.7} \end{array}$
6. $\begin{array}{r} 32.1 \\ \underline{\times\ .45} \end{array}$
7. $\begin{array}{r} 91.4 \\ \underline{\times\ 47} \end{array}$
8. $\begin{array}{r} 3.9 \\ \underline{\times\ 11} \end{array}$
9. $35\overline{)70.35}$
10. $7\overline{)25.83}$
11. $14\overline{)45.584}$

Reading Scales and Finding Area and Perimeter

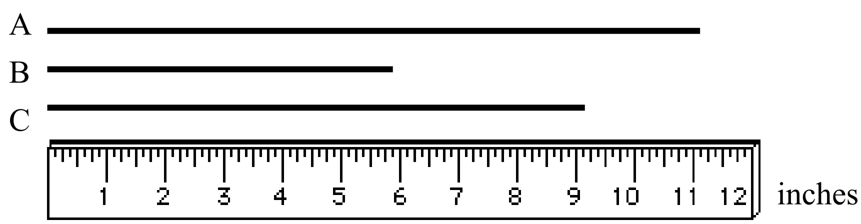
Hints/Guide:

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.

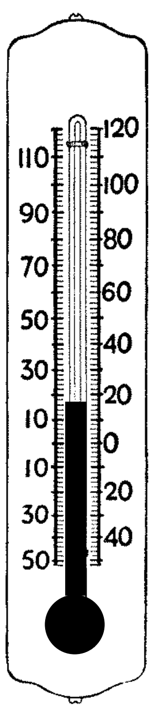
To find the perimeter of a rectangle or square, we must add the lengths of all of the sides together. To find the area of a square or a rectangle, we must multiply the length by the width.

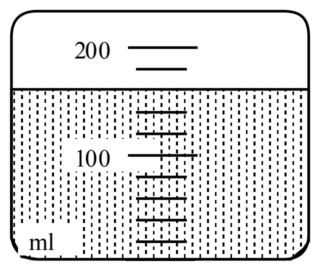
Exercises:

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



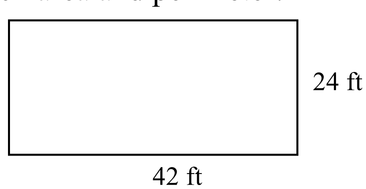
2. Find the temperature in Celsius
3. Determine the amount of liquid in ml.





4. Find each area and perimeter:

a.



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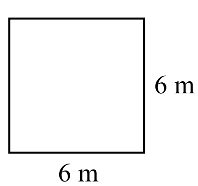

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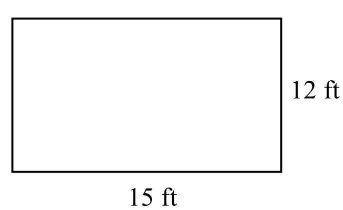


Choose an Appropriate Unit of Measure

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 gasoline can		
2. Area of a postage stamp		
3. Length of a bedroom wall		
4. Capacity of a can of soda		
5. Height of an door		
6. Volume of a cereal box		
7. Length of a sneaker		
8. Volume of an oven		
9. Weight of a dog		
10. Area of a textbook cover		
11. Weight of an apple		

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.

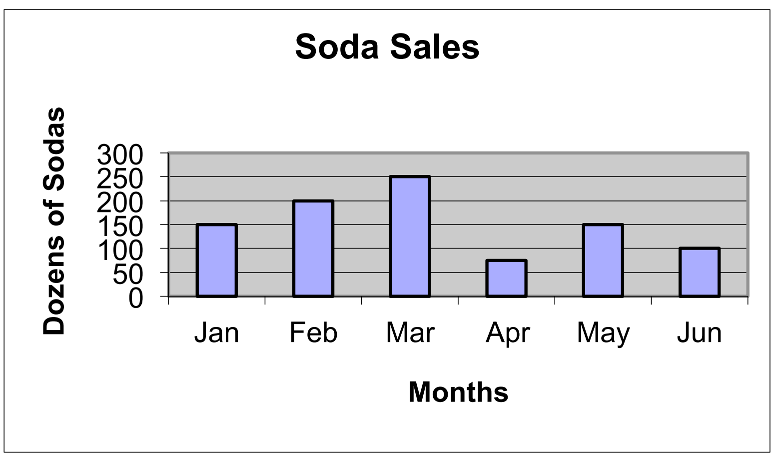
Exercises:

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 New York to Annapolis?

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

3. Which two cities on the chart are the farthest apart?



4. What is the difference in sales between March and April?

5. Which two months appear to have identical 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.

For problem 1, use the following chart

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1	65	68	72	74	68
2	68	75	80	68	75
3	75	74	69	79	80
4	80	82	76	67	79

1. Find the average (mean) temperature for:

   Monday ___________ Tuesday ___________ Wednesday _________

   Thursday __________ Friday _____________

2. If George has test scores of 85, 88, 92, and 87, what is his average (mean) score?

   Challenge: Using the same test scores for George, what would his fifth test score need to be to have an average (mean) grade of 90?

3. If Tina’s bowling scores were 120, 155, 145, 162, and 138, what was her average (mean) score?

   Challenge: What would Tina's score need to be in the sixth game if she wanted an average over those six games of 145?

Use Simple Formulas and Choose Reasonable Answers

Hints/Guide:

When using formulas, the key is to substitute the values into the given equation correctly. We need to be sure that numbers are substituted correctly and that the order of operations is correctly followed.

When choosing a reasonable answer for a problem, we need to look at the numbers in the given problem and determine whether the given answer makes sense for the given situation.

Exercises: No Calculators!

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

1. Cab drivers base their fares partially on each ride and partially on the distance of the trip. The charge is as follows:

   c = 0.50 + 1.25 m, where c = the charge and m = number of miles traveled.

   What is the charge for a 5 mile trip and for a 12 mile trip?

   Is $45 a reasonable charge for a 20 mile trip?

2. Profit is determined by subtracting the cost of an item from the sale price of the item. This formula is

   p = s - c, where p = profit, s = the sale price, and c = the cost of the item.

   What is the profit of a winter coat that a store sells for $150.00 that cost the store $85.00?

   Is a $9,000 profit possible for a $16,000.00 car? How is it possible?

3. In order to determine the typing speed of someone applying for a job, a three minute test would be given and the speed of the applicant determined. The formula is:

   $S = \frac{w-e}{3}$, where S = typing speed, w = words typed, and e = the number of errors in the test.

   What is the typing speed of someone who types 167 words in three minutes with 12 errors?

   Is it possible for someone to type 1,000 words per minute? Justify your answer.

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, withdrawals, 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.

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1. Frank works at Apartment Depot and earns $8.50 per hour. Last week, he worked 36 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 $39.95, and a radial arm saw for $57.90. What was his total bill, excluding tax?

3. Joe is planning a trip to Houston and has calculated $450.95 for lodging, $98.00 for food, and $114.50 for gasoline. How much will his trip cost?

4. Susan has $350 in her checking account. She writes checks for $45.70 for flowers, $78.53 for books, and $46.98 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 34 more payments of $145.98. How much does she still owe?

6. Jared earns $455.00 per week as manager of the Save-Mart. What will be his income over 12 weeks?

7. The Jennings family paid $371.40 for the year for their cable service. If their payments were the same each month, how much was their monthly bill?

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.

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1. Kathy bought a soft pretzel and a diet coke for $2.37. If she handed the clerk a twenty dollar bill, how much change should she receive?

2. Linda bought groceries for a total of $29.35. If she handed the cashier two twenty dollar bills, how much change will she receive?

3. Jorge purchased a new pair of jeans for $43.28 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 $15.67, how much change should you get?

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

6. Bob buys two shirts for a total of $34.63, including tax. How much change will he receive from two twenty dollar bills?