#  <br>  <br> Ko kinow coing <br>  <br>  <br> Summer Math Booklet 

## How Many Combinations?

Sarah has 68ф. What different combinations of dimes and pennies could she have to equal $68 \phi$ ? Try to find all the possible combinations. Write an equation for each one.

| Dimes | Pennies | Equation |
| :---: | :---: | :---: |
| 6 | 8 | $60+8=68$ |

## Addition Combinations

Practice your addition facts. For an extra challenge, set a time for yourself - for example, one or two minutes. Then see if you can complete the worksheet correctly in that amount of time.

| $8+5=$ | $4+7=$ | $9+7=$ |
| :---: | :---: | :---: |
| $8+8=$ | $8+4=$ | $9+6=$ |
| $3+7=$ | $7+8=$ | $10+4=$ |
| $8+9=$ | $7+7=$ | $5+8=$ |
| $8+8=$ | $3+7=$ | $9+4=$ |
| $5+5=$ | $9+8=$ | $6+5=$ |
| $4+3=$ | $7+6=$ | $10+10=$ |
| $8+7=$ | $4+5=$ | $7+4=$ |
| $4+9=$ | $3+6=$ | $5+7=$ |
| $9+9=$ | $6+10=$ | $5+3=$ |

## Collecting and Interpreting Data

Take a survey of friends and family. Ask each person, "What is your favorite game?" Record their responses below. Then create a bar graph for the data you collected. Don't forget to put in the numbers, the labels and the key!

Responses:
Games People Like to Play

Bar Graph

|  |  |  |  |  |  |  |  |  |  |
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## Word Problem

Marion's mother bought her a jar of pretzels. She decided to share them with her friends and family. She gave 10 to her friend, Sarah, 10 to her friend, Gionna, 15 to her brother, Jeremy, 20 to her dad, 15 to her neighbor, Mrs. Bighey, and 20 to her mother. If there were 120 pretzels in the jar, how many did Marion have left?

Show all of your work. Label your answer clearly.

## Perimeter

12 inches


36 cm

Perimeter - the distance around a shape.
Perimeter of the square $\qquad$
Perimeter of the rectangle $\qquad$

Draw a triangle and a rectangle of your own. Use a ruler to measure their sides. Show how you calculated their perimeter. Shapes
A.
B.

## Perimeter of Shape A.

Perimeter of Shape B.

## Things That Come in Groups

Look around your house, outside in nature, or just plain anywhere you can find things that come in groups. Fill out the chart below and be sure to write a multiplication equation that fits each group.

| Number of <br> Groups | Number in <br> Each Group | Product | Multiplication <br> Equation |
| :---: | :---: | :---: | :---: |
| 3 boxes of <br> Crayons | 8 in each box | 24 Crayons | $3 \times 8=24$ |
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## Arranging Chairs

Imagine you are having a birthday party for you and 11 of your friends. You decide to play musical chairs. Below, draw how many different ways you can arrange 12 chairs for the game.
Use a small $\square$ for each chair.
Arrange your chairs in arrays (rows \& columns).

## Arrays:

Write a multiplication equation for each of the different ways to make arrays for the number 12.

## Finding Odd Perimeters

Find the perimeter of the figure below. Tell in your own words what you did to get your solution.

15 cm


Perimeter $\qquad$

Show and explain your solution.

## Subtraction Facts

Practice your subtraction facts. For an extra challenge, set a time for yourself - for example, one or two minutes. Then see if you can complete the worksheet correctly in that amount of time.

| $11-2=$ | $17-8=$ | $13-4=$ |
| :---: | :---: | :---: |
| $15-9=$ | $7-3=$ | $10-8=$ |
| $11-6=$ | $16-9=$ | $14-6=$ |
| $13-5=$ | $8-4=$ | $9-3=$ |
| $12-7=$ | $5-3=$ | $6-4=$ |
| $9-5=$ | $18-9=$ | $14-5=$ |
| $12-7=$ | $15-8=$ | $3-2=$ |
| $4-1=$ | $5-4=$ | 11-7 = |
| $14-8=$ | $17-9=$ | $8-6=$ |
| $10-6=$ | $7-4=$ | $15-7=$ |

## Shopping List

Use the following information to solve the problems. Show your work.
Allyson earned $\$ 15.00$ by walking her neighbor's dog. She decided she wanted to go shopping at the Mall. She bought the following items:

Paperback book
Drawing tablet
Crayons
\$2.98
$\$ 3.89$
\$1.57

Pencil case ?
Bottled Water ?
Total \$12.84

1. How much did Allyson spend of the first three items she bought (book, tablet, \& crayons)?
2. Allyson spent $\$ 12.84$ altogether. Figure out what the prices of the pencil case and bottled water could be. Explain your thinking.
3. Allyson had a $\$ 10$ bill and a $\$ 5$ bill. How much money did she have left after her shopping trip? Explain your thinking.

## How Many Ways?

Find the solutions to each of these addition and subtraction problems in more than one way. Show all of your thinking.
A. Solve: $\mathbf{4 2 7}+\mathbf{2 8 3}$
B. Solve: 528-379

## Close to 100

A. Noah is playing Close to 100. These are his DIGIT Cards:


Show a combination of four cards that Noah can use to get to 100 .

B. Explain how you decided which cards to use.

Look at the shape below.


What is the area of this shape? Show how you know.

## Missing Measures

Draw to finish each figure to create a rectangle. Label each line that you make with the appropriate measurement. Then give the perimeter for each. Show your work. (Hint: labels)
1.

2.
115 ft.


Perimeter: $\qquad$ Perimeter: $\qquad$
3.


Perimeter: $\qquad$

## Brownies



If 12 people had to share 4 brownies equally, how much would each person get?

Show how you figured this out.


## Cubes and Boxes

1. The dark squares make the bottom of a rectangular box that contains exactly 18 cubes. The box has no top. Draw the sides to finish the pattern for the box.

|  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

2. Tell how many cubes there are in each of the boxes below. They are shown with dotted lines. The boxes have no tops.


Box A
Box B $\qquad$

Box C $\qquad$
Box D $\qquad$


## Angles

Look at the shape below. For each angle (A-D), write whether it is 90 degrees, less than 90 degrees, or greater than 90 degrees.

A. $\qquad$ D. $\qquad$
B. $\qquad$ E. $\qquad$
C. $\qquad$ F. $\qquad$

## What's My Name?

Solve each of the following number riddles. There can be more than one answer that fits each riddle. Show your thinking.
A. I am a two-digit number. My ones place digit is twice my tens place digit. What numbers can I be?
B. I am a three-digit number. My hundreds place digit is $1 / 2$ of my tens place digit. My ones place digit is odd. What numbers can I be?
C. I am a two-digit number. Both of my digits are multiples of three. What numbers can I be?
D. I am a three-digit number. All of my digits are even. My tens place digit is twice my ones place digit. My hundreds place digit is $1 / 2$ of my tens digit. What numbers can I be?

## Mastering Multiplication



Practice your multiplication facts. For an extra challenge, set a time for yourself - for example, one or two minutes. Then see if you can complete the worksheet correctly in that amount of time.

| $5 \times 3=$ | $6 \times 2=$ | $3 \times 3=$ |
| :---: | :---: | :---: |
| $4 \times 3=$ | $4 \times 10=$ | $8 \times 5=$ |
| $10 \times 3=$ | $5 \times 6=$ | $2 \times 9=$ |
| $2 \times 5=$ | $6 \times 3=$ | $5 \times 5=$ |
| $8 \times 2=$ | $5 \times 4=$ | $7 \times 2=$ |
| $3 \times 7=$ | $9 \times 10=$ | $7 \times 5=$ |
| $8 \times 3=$ | $5 \times 9=$ | $2 \times 4=$ |
| $5 \times 10=$ | $4 \times 4=$ | $5 \times 8=$ |
| $3 \times 2=$ | $2 \times 10=$ | $5 \times 7=$ |
| $3 \times 4=$ | $2 \times 2=$ | $10 \times 10=$ |

## FAMILY CONNECTION

## Building Your Child's Math Skills Together



Please sign each activity that you and your child complete.


SHOPPING MATH


On a shopping trip, have your child help you compare prices. For example, if one pair of shoes costs $\$ 49$ and another costs $\$ 35$, ask him or her to use mental math to figure out how much would be saved by buying the less expensive pair.
(\$49-\$35: Think 40-30=10, plus 9-5 = 4; the difference is $\$ 14$, so you would save \$14.)

We completed this family activity.
$\qquad$

## AT HOME WITH METRICS

Remind your child that a centimeter is about the width of a finger and that a meter is about the length of a baseball bat. In the chart below, have your child make a list of items in your home the she or he thinks are about 1 centimeter, 10 centimeters ( 1 decimeter), or 1 meter long.

| About 1 centimeter | About 10 centimeters | About 1 meter |
| :--- | :--- | :--- |
|  |  |  |
|  |  |  |
|  |  |  |

Discuss the list with your child. If possible, have your child use a metric ruler or a meter stick to compare the estimates to actual measurements.


We completed this family activity.
Adult signature $\qquad$


MENTAL MATH ON THE MOVE


Take a walk and spend some time practicing mental math skills as you go. You and your child each say a two-digit number. Then add the two numbers mentally. Compare answers.

Variation: Try this while in the car. Have your child use paper and pencil or a calculator to check the answers.

We completed this family activity.
Adult signature $\qquad$

## SOLID FIGURE SEARCH

Ask your child to name each of these solid figures. Then have your child find an example of each at home or in your neighborhood.


We completed this family activity.
Adult signature $\qquad$

## WHAT TIME IS IT?



Using an analog clock, not a digital, ask your child what time it is right now. Repeat throughout the day.

Vary the question by asking what time it will be in:

- 15 minutes
- 30 minutes
- 45 minutes

Also try asking them what time it was:

- 15 minutes earlier
- 30 minutes earlier
- 45 minutes earlier

We completed this family activity.
Adult signature $\qquad$

## TABULATING TOWELS

Materials: graph paper
Step 1: Work with your child to survey the kinds of towels in your home.

Step 2: Record the data you collect in the chart below. Make a tally mark for each item. Count the marks and enter this total in the "number" column. (This is called a "frequency table.")

| Type of Towel | Tally | Number |
| :--- | :--- | :--- |
| Wash cloth |  |  |
| Hand towel |  |  |
| Bath towel |  |  |

Step 3: Make a bar graph on the graph paper to show the results of your count. Color one grid square for each item. Have your child label the graph and give it a title.


We completed this family activity.
Adult signature $\qquad$

## MULTIPLICATION AND DIVISION PATTERNS



Step 1: Write a multiplication sentence using one-digit numbers.


Step 2: Take turns writing sentences, each time multiplying either of the factors by 10 . Continue the pattern until one factor is in the thousands.

$$
\begin{array}{ll}
4 \times 50=200 & 40 \times 5=200 \\
4 \times 500=2,000 & 400 \times 5=2,000 \\
4 \times 5,000=20,000 & 4,000 \times 5=20,000
\end{array}
$$

Step 3: Ask your child to talk about any patterns he or she sees.
Step 4: Write a division sentence using one-digit numbers.
For example:


Step 5: Take turns writing sentences, each time multiplying the dividend by 10. Continue until the dividend is in the thousands.

$$
\begin{aligned}
& 60 \div 2=30 \\
& 600 \div 2=300 \\
& 6,000 \div 2=3,000
\end{aligned}
$$

Step 6: Again, ask your child to talk about any patterns he or she sees.
We completed this family activity.
$\qquad$

## PENNY PATTERNS

Materials: cards with multiplication problems, 50 pennies for each player

Step 1: Mix the cards and place them face down.
Step 2: Player 1 turns over a card without Player 2 seeing it. Player 1 then uses pennies to show the multiplication problem. For example, if the problem is $4 \times 3$, Player 1 places the pennies in 4 groups of 3 pennies each.


Step 3: Player 2 looks at the penny pattern and says what multiplication problem is on the card and gives the product. In the example above, the order of the factors is correct with either factor first ( $4 \times 3$ or $3 \times 4$ ).

Step 4: Reverse roles, with Player 2 drawing the card and modeling the problem. Continue until all cards have been drawn.

We completed this family activity.
Adult signature $\qquad$

