

School-Home Letter

Dear Family,

During the next few weeks, our math class will be learning how to model division, and use the division algorithm to divide up to three-digit dividends by 1-digit divisors. The class will learn different methods to divide, including using models, repeated subtraction, and the standard division algorithm. We will also learn to divide with remainders.

You can expect to see homework that provides practice modeling division and using the division algorithm.

Here is a sample of how your child will be taught to model division using the Distributive Property.

Vocabulary

Distributive Property The property that states that dividing a sum by a number is the same as dividing each addend by the number and then adding the quotients

multiple A number that is the product of a given number and a counting number

remainder The amount left over when a number cannot be divided evenly



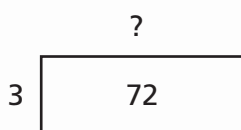
MODEL Use the Distributive Property to Divide

This is how we will divide using the Distributive Property.

Find $72 \div 3$.

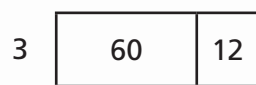
STEP 1

Draw a rectangle to model $72 \div 3$.



STEP 2

Think of 72 as $60 + 12$. Break apart the model into two rectangles to show $(60 + 12) \div 3$.



STEP 3

Each rectangle models a division.

$$\begin{aligned}
 72 \div 3 &= (60 \div 3) + (12 \div 3) \\
 &= 20 + 4 \\
 &= 24 \\
 \text{So, } 72 \div 3 &= 24.
 \end{aligned}$$

Tips

Whenever possible, try to use division facts and multiples of ten when breaking your rectangle into smaller rectangles. In the problem at the left, $60 \div 3$ is easy to find mentally.

Name _____

Estimate Quotients Using Multiples

COMMON CORE STANDARD—4.NBT.6
Use place value understanding and properties of operations to perform multi-digit arithmetic.

Find two numbers the quotient is between. Then estimate the quotient.

1. $175 \div 6$

**between 20 and
30 about 30**

Think: $6 \times 20 = 120$ and $6 \times 30 = 180$.

So, $175 \div 6$ is between 20 and 30. Since 175 is closer to 180 than to 120, the quotient is about 30.

2. $53 \div 3$

3. $75 \div 4$

4. $215 \div 9$

5. $284 \div 5$

6. $191 \div 3$

7. $100 \div 7$

8. $438 \div 7$

9. $103 \div 8$

10. $255 \div 9$

Problem Solving

11. Joy collected 287 aluminum cans in 6 hours. About how many cans did she collect per hour?

12. Paul sold 162 cups of lemonade in 5 hours. About how many cups of lemonade did he sell each hour?

Name _____

Remainders



COMMON CORE STANDARD—4.NBT.6
Use place value understanding and properties of operations to perform multi-digit arithmetic.

Use counters to find the quotient and remainder.

1. $13 \div 4$

3 r1

2. $24 \div 7$

3. $39 \div 5$

4. $36 \div 8$

5. $6 \overline{)27}$

6. $25 \div 9$

7. $3 \overline{)17}$

8. $26 \div 4$

Divide. Draw a quick picture to help.

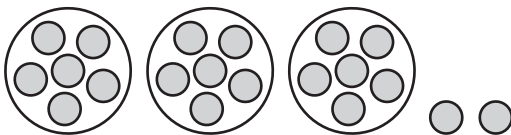
9. $14 \div 3$

10. $5 \overline{)29}$

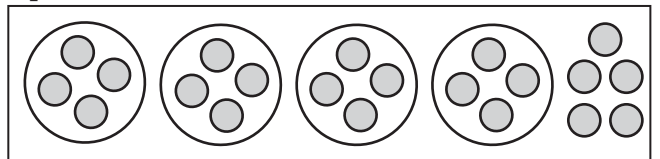
Problem Solving



11. What is the quotient and remainder in the division problem modeled below?



12. Mark drew the following model and said it represented the problem $21 \div 4$. Is Mark's model correct? If so, what is the quotient and remainder? If not, what is the correct quotient and remainder?



Name _____

Interpret the Remainder**COMMON CORE STANDARD—4.OA.3***Use the four operations with whole numbers to solve problems.***Interpret the remainder to solve.**

1. Hakeem has 100 tomato plants. He wants to plant them in rows of 8. How many full rows will he have?

Think: $100 \div 8$ is 12 with a remainder of 4. The question asks “how many full rows,” so use only the quotient.

12 full rows

2. A teacher has 27 students in her class. She asks the students to form as many groups of 4 as possible. How many students will not be in a group?

3. A sporting goods company can ship 6 footballs in each carton. How many cartons are needed to ship 75 footballs?

4. A carpenter has a board that is 10 feet long. He wants to make 6 table legs that are all the same length. What is the longest each leg can be?

5. Allie wants to arrange her flower garden in 8 equal rows. She buys 60 plants. What is the greatest number of plants she can put in each row?

Problem Solving

6. Joanna has 70 beads. She uses 8 beads for each bracelet. She makes as many bracelets as possible. How many beads will Joanna have left over?

7. A teacher wants to give 3 markers to each of her 25 students. Markers come in packages of 8. How many packages of markers will the teacher need?