

School-Home Letter

Dear Family,

Throughout the next few weeks, our math class will be learning about division, multiples, and factors. We will also be learning how to operate with decimals.

You can expect to see homework that involves addition, subtraction, multiplication, and division of decimals.

Here is a sample of how your child was taught to divide decimals.



MODEL Divide Decimals

Divide. $44.8 \div 3.2$

STEP 1

Estimate.

$$45 \div 3 = 15$$

STEP 2

Make the divisor a whole number by multiplying the divisor and dividend by 10.

$$3.2 \overline{)44.8}$$

STEP 3

Divide.

$$\begin{array}{r} 14 \\ 32 \overline{)448} \\ \underline{-32} \\ 128 \\ \underline{-128} \\ 0 \end{array}$$

Tips

Estimating with Decimals

When estimating, it may be helpful to round the numbers in the problem to compatible numbers. Compatible numbers are pairs of numbers that are easy to compute with mentally.

For example, to estimate $19.68 \div 4.1$, use the compatible numbers 20 and 4: $20 \div 4 = 5$.

Activity

A trip to the gas station is a perfect opportunity to practice decimal operations. For example, "We bought 8.2 gallons of gasoline that costs \$2.90 per gallon. What was the total cost?" Work together to write an operation with decimals that represents the situation. Then estimate before computing the answer.

Vocabulary

greatest common factor (GCF)

The greatest factor that two or more numbers have in common.

least common multiple (LCM)

The least number that is a common multiple of two or more whole numbers.

prime factorization A number written as a product of all its prime factors.

Carta para la casa

Querida familia,

Durante las próximas semanas, en la clase de matemáticas aprenderemos sobre división, múltiplos y factores. También aprenderemos a operar con decimales.

Llevaré a la casa tareas con actividades que incluyen suma, resta, multiplicación y división de decimales.

Este es un ejemplo de la manera como aprenderemos a dividir decimales.

Vocabulario

Máximo factor común (MCF)

El factor mayor que dos o más números tienen en común.

Mínimo común múltiplo (MCM)

El número menor que es un múltiplo común de dos o más números enteros

Factorización en primos Un número escrito como un producto de todos sus factores primos.



MODELO Dividir decimales

Divide. $44.8 \div 3.2$

PASO 1

Estima.

$$45 \div 3 = 15$$

PASO 2

Convierte el divisor en un número entero multiplicando el divisor y el dividendo por 10.

$$3.2 \overline{)44.8}$$

PASO 3

Divide.

$$\begin{array}{r} 14 \\ 32 \overline{)448} \\ \underline{-32} \\ 128 \\ \underline{-128} \\ 0 \end{array}$$

Pistas

Estimar con decimales

Para estimar, puede ser útil redondear los números del problema a números compatibles. Los números compatibles son pares de números que son fáciles de calcular mentalmente.

Por ejemplo, para estimar $19.68 \div 4.1$, usa los números compatibles 20 y 4: $20 \div 4 = 5$.

Actividad

Un viaje a la gasolinera es una gran oportunidad para practicar operaciones con decimales. Por ejemplo: "Compramos 8.2 galones de gasolina que cuesta \$2.90 por galón. ¿Cuál fue el costo total?" Trabajen juntos para escribir una operación con decimales que represente la situación. Luego estimen antes de computar la respuesta.

Name _____

Divide Multi-Digit Numbers



COMMON CORE STANDARD—6.NS.2
Compute fluently with multi-digit numbers and find common factors and multiples.

Estimate. Then find the quotient. Write the remainder, if any, with an r.

$$1. \begin{array}{r} 13 \\ 55 \overline{)715} \\ \underline{55} \\ 165 \\ \underline{165} \\ 0 \end{array}$$

$$2. 19 \overline{)800}$$

$$3. 68 \overline{)1,025}$$

Estimate:
 $700 \div 50 = 15$

Estimate. Then find the quotient. Write the remainder, if any, as a fraction.

$$4. 32 \overline{)1,504}$$

$$5. 20 \overline{)1,683}$$

$$6. 35 \overline{)955}$$

$$7. 1,034 \div 22$$

$$8. 14,124 \div 44$$

$$9. 11,629 \div 29$$

Find the least whole number that can replace \blacksquare to make the statement true.

$$10. \blacksquare \div 7 > 800$$

$$11. \blacksquare \div 21 > 13$$

$$12. 15 < \blacksquare \div 400$$

Problem Solving



13. A plane flew a total of 2,220 miles. Its average speed was 555 miles per hour. How many hours did the plane fly?

14. A van is carrying 486 pounds. There are 27 boxes in the van. What is the average weight of each box in the van?

Lesson Check (6.NS.2)

1. A caterer's fee is based on the number of meals she provides. How much is the price per meal if the total fee is \$1,088 for 64 meals?
2. Amelia needs 24 grams of beads to make a bracelet. She has 320 grams of beads. How many bracelets can she make?

Spiral Review (5.NBT.2, 5.NBT.3b, 5.NBT.7)

3. Hank bought 2.4 pounds of apples. Each pound cost \$1.95. How much did Hank spend on the apples?
4. Gavin bought 4 packages of cheese. Each package weighed 1.08 kilograms. How many kilograms of cheese did Gavin buy?

5. Mr. Thompson received a water bill for \$85.98. The bill covered three months of service. He used the same amount of water each month. How much does Mr. Thompson pay for water each month?
6. Layla used 0.482 gram of salt in her experiment. Maurice use 0.51 grams of salt. Who used the greater amount of salt?

Name _____

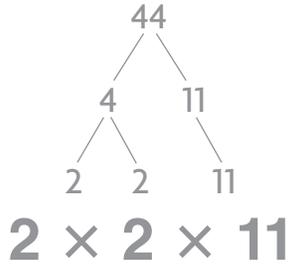
Prime Factorization



COMMON CORE STANDARD—6.NS.4
 Compute fluently with multi-digit numbers and find common factors and multiples.

Find the prime factorization.

1. 44



2. 90

3. 48

4. 204

5. 400

6. 112

Write the number whose prime factorization is given.

7. $3 \times 3 \times 11$

8. $2 \times 2 \times 7 \times 13$

9. $2 \times 3 \times 3 \times 3$

Problem Solving



10. A computer code is based on the prime factorization of 160. Find the prime factorization of 160.

11. The combination for a lock is a 3-digit number. The digits are the prime factors of 42 listed from least to greatest. What is the combination for the lock?

Lesson Check (6.NS.4)

1. Maritza remembers her PIN because it is the product of two consecutive prime numbers that is between 1000 and 1500. What is her PIN?
2. Brent knows that the 6-digit number he uses to open his computer is the prime factorization of 5005. If each digit of the code increases from left to right, what is his code?

Spiral Review (5.OA.2, 5.NBT.1, 5.NBT.6)

3. Piano lessons cost \$15. What expressions could be used to find the cost in dollars of 5 lessons?
4. A jet plane costs an airline \$69,500,000. What is the place value of the digit 5 in this number?

5. A museum has 13,486 butterflies, 1,856 ants, and 13,859 beetles. What is the order of the insects from least number to greatest number?
6. Juan is reading a 312-page book for school. He reads 12 pages each day. How long will it take him to finish the book?

Name _____

Least Common Multiple**COMMON CORE STANDARD—6.NS.4**

Compute fluently with multi-digit numbers and find common factors and multiples.

Find the LCM.

1. 2, 7

2. 4, 12

3. 10, 4

Multiples of 2: 2, 4, 6, 8, 10, 12, 14

Multiples of 7: 7, 14

LCM: 14

LCM: _____

LCM: _____

4. 6, 9

5. 5, 4

6. 8, 10

LCM: _____

LCM: _____

LCM: _____

7. 8, 20

8. 5, 8, 4

9. 12, 8, 24

LCM: _____

LCM: _____

LCM: _____

Write the unknown number for the \square .

10. 3, \square LCM: 21

11. \square , 7 LCM: 63

12. 10, 5 LCM: \square

$\square = \underline{\hspace{2cm}}$

$\square = \underline{\hspace{2cm}}$

$\square = \underline{\hspace{2cm}}$

Problem Solving

13. Juanita is making necklaces to give as presents. She plans to put 15 beads on each necklace. Beads are sold in packages of 20. What is the least number of packages she can buy to make necklaces and have no beads left over?
- _____

14. Pencils are sold in packages of 10, and erasers are sold in packages of 6. What is the least number of pencils and erasers you can buy so that there is one pencil for each eraser with none left over?
- _____

Lesson Check (6.NS.4)

1. Martha is buying hot dogs and buns for the class barbecue. The hot dogs come in packages of 10. The buns come in packages of 12. What is the least number she can buy of each so that she has exactly the same number of hot dogs and buns? How many packages of each should she buy?
2. Kevin makes snack bags that each contain a box of raisins and a granola bar. Each package of raisins contains 9 boxes. The granola bars come 12 to a package. What is the least number he can buy of each so that he has exactly the same number of granola bars and boxes of raisins? How many packages of each should he buy?

Spiral Review (5.NBT.6, 5.NF.7c)

3. John has 2,456 pennies in his coin collection. He has the same number of pennies in each of 3 boxes. Estimate to the nearest hundred the number of pennies in each box.
4. What is the distance around a triangle that has sides measuring $2\frac{1}{8}$ feet, $3\frac{1}{2}$ feet, and $2\frac{1}{2}$ feet?
5. The 6th grade class collects \$1,575. The class wants to give the same amount of money to each of 35 charities. How much will each charity receive?
6. Jean needs $\frac{1}{3}$ cup of walnuts for each serving of salad she makes. She has 2 cups of walnuts. How many servings can she make?

Name _____

Greatest Common Factor**COMMON CORE STANDARD—6.NS.4***Compute fluently with multi-digit numbers and find common factors and multiples.***List the common factors. Circle the greatest common factor.**

1. 25 and 10

2. 36 and 90

3. 45 and 60

1, 5

Find the GCF.

4. 2, 8

5. 6, 15

6. 14, 18

7. 6, 48

8. 20, 50

9. 16, 100

Use the GCF and the Distributive Property to express the sum as a product.10. $20 + 35$ 11. $18 + 27$ 12. $64 + 40$ **Problem Solving**

13. Jerome is making prizes for a game at the school fair. He has two bags of different pins, one with 15 pins and one with 20 pins. Every prize will have one kind of pin and will have the greatest number of pins possible. How many pins should be in each prize?

14. There are 24 sixth graders and 40 seventh graders. Mr. Chan wants to divide both grades into groups of equal size, with the greatest possible number of students in each group. How many students should be in each group?

Lesson Check (6.NS.4)

1. There are 15 boys and 10 girls in Miss Li's class. She wants to group all the students so that each group has the same number of boys and girls as the other groups. What is the greatest number of groups she can have?
2. A pet shop manager wants the same number of birds in each cage. He wants to use as few cages as possible, but can only have one type of bird in each cage. If he has 42 parakeets and 18 canaries, how many birds will he put in each cage?

Spiral Review (5.NBT.5, 5.NBT.6, 5.NF.7c, 6.NS.2)

3. There are 147 people attending a dinner party. If each table can seat 7 people, how many tables are needed for the dinner party?
4. Sammy has 3 pancakes. He cuts each one in half. How many pancake halves are there?

5. The Cramer Company had a profit of \$8,046,890 and the Coyle Company had a profit of \$8,700,340 last year. Which company had the greater profit?
6. There are 111 guests attending a party. There are 15 servers. Each server has the same number of guests to serve. Jess will serve any extra guests. How many guests will Jess be serving?

Name _____

Problem Solving • Apply the Greatest Common Factor



COMMON CORE STANDARD—6.NS.4
Compute fluently with multi-digit numbers and find common factors and multiples.

Read the problem and solve.

1. Ashley is bagging 32 pumpkin muffins and 28 banana muffins for some friends. Each bag will hold only one type of muffin. Each bag will hold the same number of muffins. What is the greatest number of muffins she can put in each bag? How many bags of each type of muffin will there be?

GCF: 4

$$32 = 4 \times 8$$

$$28 = 4 \times 7$$

$$32 + 28 = 4 \times (8 + 7)$$

So, there will be 8 bags of pumpkin muffins and 7 bags of banana muffins, with 4 muffins in each bag.

2. Patricia is separating 16 soccer cards and 22 baseball cards into groups. Each group will have the same number of cards, and each group will have only one kind of sports card. What is the greatest number of cards she can put in each group? How many groups of each type will there be?

3. Bryan is setting chairs in rows for a graduation ceremony. He has 50 black chairs and 60 white chairs. Each row will have the same number of chairs, and each row will have the same color chair. What is the greatest number of chairs that he can fit in each row? How many rows of each color chair will there be?

4. A store clerk is bagging spices. He has 18 teaspoons of cinnamon and 30 teaspoons of nutmeg. Each bag needs to contain the same number of teaspoons, and each bag can contain only one spice. How many teaspoons of spice should the clerk put in each bag? How many bags of each spice will there be?

5. A teacher is placing counters in bags for students. There are 24 blue counters and 56 yellow counters. Each bag needs to have the same number of counters, and each bag can only contain one color. How many counters should the teacher place in each bag, and how many bags of each color will there be?

Lesson Check (6.NS.4)

1. Fred has 36 strawberries and 42 blueberries. He wants to use them to garnish desserts so that each dessert has the same number of berries, but only one type of berry. He wants as much fruit as possible on each dessert. How many berries will he put on each dessert? How many desserts with each type of fruit will he have?
2. Dolores is arranging coffee mugs on shelves in her shop. She wants each shelf to have the same number of mugs. She only wants one color of mug on each shelf. If she has 49 blue mugs and 56 red mugs, what is the greatest number she can put on each shelf? How many shelves does she need for each color?

Spiral Review (5.NF.1, 5.NF.2, 6.NS.4)

3. A rectangle is $3\frac{1}{3}$ feet long and $2\frac{1}{3}$ feet wide. What is the distance around the rectangle?
4. Lowell bought $4\frac{1}{4}$ pounds of apples and $3\frac{3}{5}$ pounds of oranges. How many pounds of fruit did Lowell buy?

5. How much heavier is a $9\frac{1}{8}$ pound box than a $2\frac{5}{6}$ pound box?
6. The combination of Clay's locker is the prime factors of 102 in order from least to greatest. What is the combination of Clay's locker?

Name _____

Add and Subtract Decimals**COMMON CORE STANDARD—6.NS.3**
*Compute fluently with multi-digit numbers and find common factors and multiples.***Estimate. Then find the sum or difference.**

1. $43.53 + 27.67$

2. $17 + 3.6 + 4.049$

3. $3.49 - 2.75$

$40 + 30 = 70$

$$\begin{array}{r} 43.53 \\ + 27.67 \\ \hline 71.20 \end{array}$$

4. $5.07 - 2.148$

5. $3.92 + 16 + 0.085$

6. $41.98 + 13.5 + 27.338$

Evaluate using the order of operations.

7. $8.4 + (13.1 - 0.6)$

8. $34.7 - (12.07 + 4.9)$

9. $(24.3 - 1.12) + 5.18$

10. $(32.45 - 4.8) - 2.06$

Problem Solving

11. The average annual rainfall in Clearview is 38 inches. This year, 29.777 inches fell. How much less rain fell this year than falls in an average year?

12. At the theater, the Worth family spent \$18.00 on adult tickets, \$16.50 on children's tickets, and \$11.75 on refreshments. How much did they spend in all?

Lesson Check (6.NS.3)

1. Alden fills his backpack with 0.45 kg of apples, 0.18 kg of cheese, and a water bottle that weighs 1.4 kg. How heavy are the contents of his backpack?
2. Gabby plans to hike 6.3 kilometers to see a waterfall. She stops to rest after hiking 4.75 kilometers. How far does she have left to hike?

Spiral Review (5.NBT.5, 5.NBT.6, 6.NS.4)

3. A 6-car monorail train can carry 78 people. If one train makes 99 trips during the day, what is the greatest number of people the train can carry in one day?
4. An airport parking lot has 2,800 spaces. If each row has 25 spaces, how many rows are there?

5. Evan brought 6 batteries that cost \$10 each and 6 batteries that cost \$4 each. The total cost was the same as he would have spent buying 6 batteries that cost \$14 each. So, $(6 \times 10) + (6 \times 4)$. What property does the equation illustrate?
6. Cups come in packages of 12 and lids come in packages of 15. What is the least number of cups and lids that Corrine can buy if she wants to have the same number of cups and lids?

Name _____

Multiply Decimals**COMMON CORE STANDARD—6.NS.3***Compute fluently with multi-digit numbers and find common factors and multiples.***Estimate. Then find the product.**

1. 5.69×7.8

$6 \times 8 = 48$

$$\begin{array}{r}
 5.69 \\
 \times 7.8 \\
 \hline
 4552 \\
 39830 \\
 \hline
 44.382
 \end{array}$$

2. 4.8×1.7

3. 3.92×0.051

4. 2.365×12.4

5. 305.08×1.5

6. 61.8×1.7

7. 35.80×5.6

8. 1.9×8.43

Evaluate the expression using the order of operations.

9. $(13.1 \times 3) + 5.21$

10. $4 \times (15 - 4.55)$

11. $20.5 - (2 \times 8.1)$

Problem Solving

12. Blaine exchanges \$100 for yen before going to Japan. If each U.S. dollar is worth 88.353 yen, how many yen should Blaine receive?

13. A camera costs 115 Canadian dollars. If each Canadian dollar is worth 0.952 U.S. dollars, how much will the camera cost in U.S. dollars?

Lesson Check (6.NS.3)

Estimate each product. Then find the exact product for each question.

1. A gallon of water at room temperature weighs about 8.35 pounds. Lena puts 4.5 gallons in a bucket. How much does the water weigh?
2. Shawn's mobile home is 7.2 meters wide and 19.5 meters long. What is its area?

Spiral Review (5.NBT.6, 5.OA.1, 6.NS.4)

3. Last week, a store sold laptops worth a total of \$10,885. Each laptop cost \$1,555. How many laptops did the store sell last week?
4. Kyle drives his truck 429 miles on 33 gallons of gas. How many miles can Kyle drive on 1 gallon of gas?

5. Seven busloads each carrying 35 students arrived at the game, joining 23 students who were already there. Evaluate the expression $23 + 7 \times 35$ to find the total number of students at the game.
6. A store is giving away a \$10 coupon to every 7th person to enter the store and a \$25 coupon to every 18th person to enter the store. Which person will be the first to get both coupons?

Name _____

Divide Decimals by Whole Numbers**COMMON CORE STANDARD—6.NS.3**
*Compute fluently with multi-digit numbers and find common factors and multiples.***Estimate. Then find the quotient.**

1. $1.284 \div 12$

2. $24.012 \div 6$

3. $9 \overline{)2.43}$

4. $4 \overline{)1.52}$

$1.2 \div 12 = 0.1$

$$\begin{array}{r}
 0.107 \\
 12 \overline{)1.284} \\
 \underline{-12} \\
 -8 \\
 \underline{0} \\
 84 \\
 \underline{-84} \\
 0
 \end{array}$$

5. $6.51 \div 3$

6. $25.65 \div 15$

7. $12 \overline{)2.436}$

8. $11 \overline{)46.2}$

Evaluate using the order of operations.

9. $(8 - 2.96) \div 3$

10. $(7.772 - 2.38) \div 8$

11. $(53.2 + 35.7) \div 7$

Problem Solving

12. Jake earned \$10.44 interest on his savings account for an 18-month period. What was the average amount of interest Jake earned on his savings account per month?

13. Gloria worked for 6 hours a day for 2 days at the bank and earned \$114.24. How much did she earn per hour?

Lesson Check (6.NS.3)

Estimate each quotient. Then find the exact quotient for each question.

1. Ron divided 67.6 fluid ounces of orange juice evenly among 16 glasses. How much did he pour into each glass?
2. The cost of a \$12.95 pizza was shared evenly by 5 friends. How much did each person pay?

Spiral Review (5.NBT.1, 5.NBT.6, 6.NS.2, 6.NS.4)

3. What is the value of the digit 6 in 968,743,220?
4. The Tama, Japan, monorail carries 92,700 riders each day. If the monorail usually carries 5,150 riders per hour, how many hours does the monorail run each day?

5. Ray paid \$812 to rent music equipment that costs \$28 per hour. How many hours did he have the equipment?
6. Jan has 35 teaspoons of chocolate cocoa mix and 45 teaspoons of french vanilla cocoa mix. She wants to put the same amount of mix into each jar, and she only wants one flavor of mix in each jar. She wants to fill as many jars as possible. How many jars of french vanilla cocoa mix will Jan fill?

Name _____

Divide with Decimals



COMMON CORE STANDARD—6.NS.3
Compute fluently with multi-digit numbers and find common factors and multiples.

Estimate. Then find the quotient.

1. $43.18 \div 3.4$

2. $4.185 \div 0.93$

3. $6.3 \overline{)25.83}$

4. $0.8 \overline{)1.008}$

$$\begin{array}{r}
 44 \div 4 = 11 \\
 \underline{12.7} \\
 34 \overline{)431.8} \\
 \underline{-34} \\
 91 \\
 \underline{-68} \\
 238 \\
 \underline{-238} \\
 0
 \end{array}$$

Find the quotient.

5. $9.12 \div 0.4$

6. $0.143 \div 0.55$

7. $0.6 \overline{)3.558}$

8. $0.24 \overline{)1.8}$

Evaluate using the order of operations.

9. $4.92 \div (0.8 - 0.12 \div 0.3)$

10. $0.86 \div 5 - 0.3 \times 0.5$

11. $17.28 \div (1.32 - 0.24) \times 0.6$

Problem Solving



12. If Amanda walks at an average speed of 2.72 miles per hour, how long will it take her to walk 6.8 miles?

13. Chad cycled 62.3 miles in 3.5 hours. If he cycled at a constant speed, how far did he cycle in 1 hour?

Lesson Check (6.NS.3)

1. Elliot drove 202.8 miles and used 6.5 gallons of gasoline. How many miles did he travel per gallon of gasoline?
2. A package of crackers weighing 8.2 ounces costs \$2.87. What is the cost per ounce of crackers?

Spiral Review (5.NBT.5, 5.NF.3)

3. Four bags of pretzels were divided equally among 5 people. How much of a bag did each person get?
4. A zebra ran at a speed of 20 feet per second. What operation should you use to find the distance the zebra ran in 10 seconds?

5. Nira has \$13.50. She receives a paycheck for \$55. She spends \$29.40. How much money does she have now?
6. A piece of cardboard is 24 centimeters long and 15 centimeters wide. What is its area?
