

School-Home Letter

Dear Family,

Throughout the next few weeks, our math class will be learning about decimal division. We will also be learning how to estimate decimal quotients.

You can expect to see homework that involves division of decimals through hundredths.

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

Vocabulary

decimal A number with one or more digits to the right of the decimal point

dividend The number that is to be divided in a division problem

divisor The number that divides the dividend

quotient The number that results from dividing



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 the same power of 10.

$$3.2 \overline{)44.8}$$

STEP 3

Divide.

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

So, $44.8 \div 3.2 = 14$.

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

Use trips to grocery or department stores as opportunities to practice decimal division. For example, "Which is the better buy, the 10-ounce box of cereal for \$3.25 or the 15-ounce box for \$4.65?" Work together to write a division sentence to represent each situation. Help your child estimate the quotient and then find the exact answer.

Carta para la casa

Querida familia,

Durante las próximas semanas, en la clase de matemáticas aprenderemos la división decimal. También aprenderemos a estimar cocientes decimales.

Llevaré a casa tareas con actividades que incluyan división de decimales hasta las centésimas.

Este es un ejemplo de cómo vamos a dividir decimales.

Vocabulario

decimal Un número con uno o más dígitos a la derecha del punto decimal

dividendo El número que se va a dividir en un problema de división

divisor El número que divide al dividendo

cociente El número que se obtiene al resolver una división

MODELO Dividir decimales

Divide $44.8 \div 3.2$

PASO 1

Estima. $45 \div 3 = 15$

PASO 2

Convierte el divisor a un número entero multiplicando el divisor y el dividendo por la misma potencia de 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

Al estimar, puede resultar útil redondear los números del problema a números compatibles. Los números compatibles son pares de números que son fáciles de computar mentalmente.

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

Por lo tanto, $44.8 \div 3.2 = 14$.

Actividad

Use los paseos a las tiendas de alimentos o departamentales para practicar la división decimal. Por ejemplo, “¿Qué conviene comprar, la caja de cereales de 10 onzas por \$3.25 o la caja de 15 onzas por \$4.65?” Trabajen juntos para escribir el enunciado de división que represente cada situación. Ayude a su hijo o hija a estimar el cociente y luego hallen la respuesta exacta.

Name _____

Division Patterns with Decimals



COMMON CORE STANDARD—5.NBT.2
Understand the place value system.

Complete the pattern.

1. $78.3 \div 1 = \underline{78.3}$

$78.3 \div 10 = \underline{7.83}$

$78.3 \div 100 = \underline{0.783}$

2. $179 \div 10^0 = \underline{\hspace{2cm}}$

$179 \div 10^1 = \underline{\hspace{2cm}}$

$179 \div 10^2 = \underline{\hspace{2cm}}$

$179 \div 10^3 = \underline{\hspace{2cm}}$

3. $87.5 \div 10^0 = \underline{\hspace{2cm}}$

$87.5 \div 10^1 = \underline{\hspace{2cm}}$

$87.5 \div 10^2 = \underline{\hspace{2cm}}$

4. $124 \div 1 = \underline{\hspace{2cm}}$

$124 \div 10 = \underline{\hspace{2cm}}$

$124 \div 100 = \underline{\hspace{2cm}}$

$124 \div 1,000 = \underline{\hspace{2cm}}$

5. $18 \div 1 = \underline{\hspace{2cm}}$

$18 \div 10 = \underline{\hspace{2cm}}$

$18 \div 100 = \underline{\hspace{2cm}}$

$18 \div 1,000 = \underline{\hspace{2cm}}$

6. $23 \div 10^0 = \underline{\hspace{2cm}}$

$23 \div 10^1 = \underline{\hspace{2cm}}$

$23 \div 10^2 = \underline{\hspace{2cm}}$

$23 \div 10^3 = \underline{\hspace{2cm}}$

7. $51.8 \div 1 = \underline{\hspace{2cm}}$

$51.8 \div 10 = \underline{\hspace{2cm}}$

$51.8 \div 100 = \underline{\hspace{2cm}}$

8. $49.3 \div 10^0 = \underline{\hspace{2cm}}$

$49.3 \div 10^1 = \underline{\hspace{2cm}}$

$49.3 \div 10^2 = \underline{\hspace{2cm}}$

9. $32.4 \div 10^0 = \underline{\hspace{2cm}}$

$32.4 \div 10^1 = \underline{\hspace{2cm}}$

$32.4 \div 10^2 = \underline{\hspace{2cm}}$

Problem Solving



10. The local café uses 510 cups of mixed vegetables to make 1,000 quarts of beef barley soup. Each quart of soup contains the same amount of vegetables. How many cups of vegetables are in each quart of soup?

11. The same café uses 18.5 cups of flour to make 100 servings of pancakes. How many cups of flour are in one serving of pancakes?

Lesson Check (5.NBT.2)

1. The Statue of Liberty is 305.5 feet tall from the foundation of its pedestal to the top of its torch. Isla is building a model of the statue. The model will be one-hundredth times as tall as the actual statue. How tall will the model be?
2. Sue's teacher asked her to find $42.6 \div 10^2$. How many places and in what direction should Sue move the decimal point to get the correct quotient?

Spiral Review (5.NBT.1, 5.NBT.6, 5.NBT.7)

3. In the number 956,783,529, how does the value of the digit 5 in the ten millions place compare to the digit 5 in the hundreds place?
4. Taylor has \$97.23 in her checking account. She uses her debit card to spend \$29.74 and then deposits \$118.08 into her account. What is Taylor's new balance?
5. At the bank, Brent exchanges \$50 in bills for 50 one-dollar coins. The total mass of the coins is 405 grams. Estimate the mass of 1 one-dollar coin.
6. A commercial jetliner has 245 passenger seats. The seats are arranged in 49 equal rows. How many seats are in each row?

Name _____

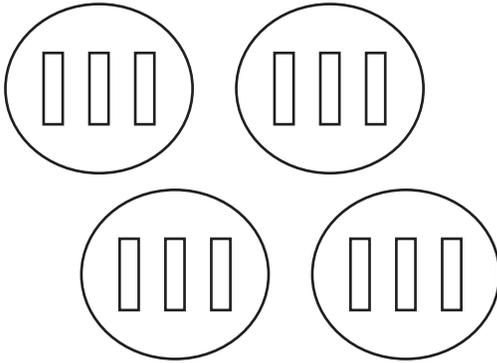
Divide Decimals by Whole Numbers



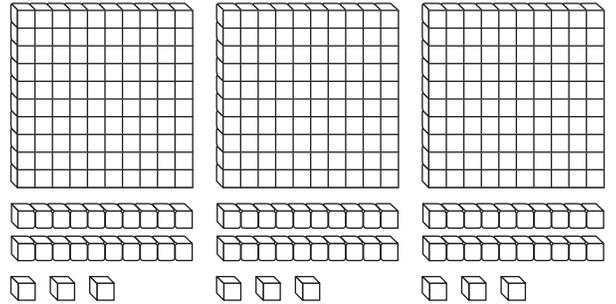
COMMON CORE STANDARD—5.NBT.7
 Perform operations with multi-digit whole numbers and with decimals to hundredths.

Use the model to complete the number sentence.

1. $1.2 \div 4 = \underline{0.3}$



2. $3.69 \div 3 = \underline{\hspace{2cm}}$



Divide. Use base-ten blocks.

3. $4.9 \div 7 = \underline{\hspace{2cm}}$

4. $3.6 \div 9 = \underline{\hspace{2cm}}$

5. $2.4 \div 8 = \underline{\hspace{2cm}}$

6. $6.48 \div 4 = \underline{\hspace{2cm}}$

7. $3.01 \div 7 = \underline{\hspace{2cm}}$

8. $4.26 \div 3 = \underline{\hspace{2cm}}$

Problem Solving

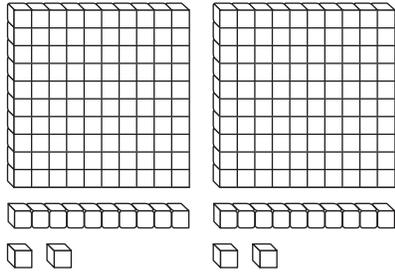


9. In PE class, Carl runs a distance of 1.17 miles in 9 minutes. At that rate, how far does Carl run in one minute?

10. Marianne spends \$9.45 on 5 greeting cards. Each card costs the same amount. What is the cost of one greeting card?

Lesson Check (5.NBT.7)

1. Write a division sentence that tells what the model represents.



2. A bunch of 4 bananas contains a total of 5.92 grams of protein. Suppose each banana contains the same amount of protein. How much protein is in one banana?

Spiral Review (5.NBT.3b, 5.NBT.5, 5.NBT.6, 5.NBT.7)

3. At the deli, one pound of turkey costs \$7.98. Mr. Epstein buys 3 pounds of turkey. How much will the turkey cost?
4. Mrs. Cho drives 45 miles in 1 hour. If her speed stays constant, how many hours will it take for her to drive 405 miles?

5. Write the following numbers in order from least to greatest.
1.23; 1.2; 2.31; 3.2
6. Over the weekend, Aiden spent 15 minutes on his math homework. He spent three times as much time on his science homework. How much time did Aiden spend on his science homework?

Name _____

Estimate Quotients**COMMON CORE STANDARD—5.NBT.7***Perform operations with multi-digit whole numbers and with decimals to hundredths.***Use compatible numbers to estimate the quotient.**

1. $19.7 \div 3$

$18 \div 3 = 6$

2. $394.6 \div 9$

3. $308.3 \div 15$

Estimate the quotient.

4. $63.5 \div 5$

5. $57.8 \div 81$

6. $172.6 \div 39$

7. $43.6 \div 8$

8. $2.8 \div 6$

9. $467.6 \div 8$

10. $209.3 \div 48$

11. $737.5 \div 9$

12. $256.1 \div 82$

Problem Solving

13. Taylor uses 645.6 gallons of water in 7 days. Suppose he uses the same amount of water each day. About how much water does Taylor use each day?

14. On a road trip, Sandy drives 368.7 miles. Her car uses a total of 18 gallons of gas. About how many miles per gallon does Sandy's car get?

Lesson Check (5.NBT.7)

1. Terry bicycled 64.8 miles in 7 hours. What is the best estimate of the average number of miles she bicycled each hour?
2. What is the best estimate for the following quotient?

$$891.3 \div 28$$

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

3. An object that weighs 1 pound on Earth weighs 1.19 pounds on Neptune. Suppose a dog weighs 9 pounds on Earth. How much would the same dog weigh on Neptune?
4. A bookstore orders 200 books. The books are packaged in boxes that hold 24 books each. All the boxes the bookstore receives are full, except one. How many boxes does the bookstore receive?

5. Tara has \$2,000 in her savings account. David has one-tenth as much as Tara in his savings account. How much does David have in his savings account?
6. Which symbol makes the statement true? Write $>$, $<$, or $=$.

$$7.63 \bigcirc 7.629$$

Name _____

Division of Decimals by Whole Numbers**COMMON CORE STANDARDS—5.NBT.7***Perform operations with multi-digit whole numbers and with decimals to hundredths.***Divide.**

$$\begin{array}{r}
 1.32 \\
 7 \overline{)9.24} \\
 \underline{-7} \\
 22 \\
 \underline{-21} \\
 14 \\
 \underline{-14} \\
 0
 \end{array}$$

2. $6 \overline{)5.04}$

3. $23 \overline{)85.1}$

4. $36 \overline{)86.4}$

5. $6 \overline{)\$6.48}$

6. $8 \overline{)59.2}$

7. $5 \overline{)2.35}$

8. $41 \overline{)278.8}$

9. $19 \overline{)\$70.49}$

10. $4 \overline{)\$9.48}$

11. $18 \overline{)82.8}$

12. $37 \overline{)32.93}$

Problem Solving

- 13.** On Saturday, 12 friends go ice skating. Altogether, they pay \$83.40 for admission. They share the cost equally. How much does each person pay?

- 14.** A team of 4 people participates in a 400-yard relay race. Each team member runs the same distance. The team completes the race in a total of 53.2 seconds. What is the average running time for each person?

Lesson Check (5.NBT.2, 5.NBT.7)

1. Theresa pays \$9.56 for 4 pounds of tomatoes. What is the cost of 1 pound of tomatoes?
2. Robert wrote the division problem below. What is the quotient?

$$13 \overline{)83.2}$$

Spiral Review (5.OA.1, 5.NBT.2, 5.NBT.6, 5.NBT.7)

3. What is the value of the following expression?
 $2 \times \{6 + [12 \div (3 + 1)]\} - 1$
4. Last month, Dory biked 11 times as many miles as Karly. Together they biked a total of 156 miles. How many miles did Dory bike last month?

5. Jin ran 15.2 miles over the weekend. He ran 6.75 miles on Saturday. How many miles did he run on Sunday?
6. A bakery used 475 pounds of apples to make 1,000 apple tarts. Each tart contains the same amount of apples. How many pounds of apples are used in each tart?

Name _____

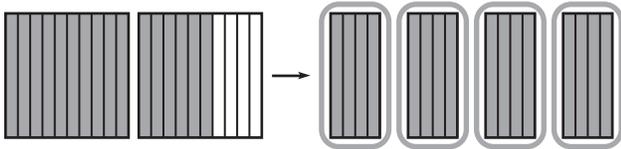
Decimal Division



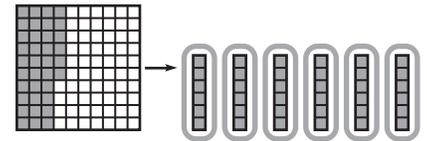
COMMON CORE STANDARD—5.NBT.7
Perform operations with multi-digit whole numbers and with decimals to hundredths.

Use the model to complete the number sentence.

1. $1.6 \div 0.4 = \underline{\quad 4 \quad}$



2. $0.36 \div 0.06 = \underline{\hspace{2cm}}$



Divide. Use decimal models.

3. $2.8 \div 0.7 = \underline{\hspace{2cm}}$

4. $0.40 \div 0.05 = \underline{\hspace{2cm}}$

5. $0.45 \div 0.05 = \underline{\hspace{2cm}}$

6. $1.62 \div 0.27 = \underline{\hspace{2cm}}$

7. $0.56 \div 0.08 = \underline{\hspace{2cm}}$

8. $1.8 \div 0.9 = \underline{\hspace{2cm}}$

Problem Solving

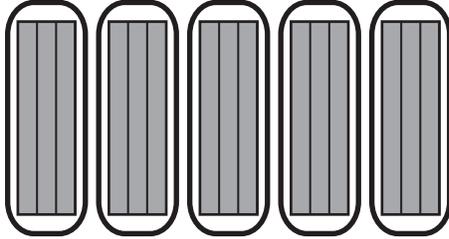


9. Keisha buys 2.4 kilograms of rice. She separates the rice into packages that contain 0.4 kilogram of rice each. How many packages of rice can Keisha make?

10. Leighton is making cloth headbands. She has 4.2 yards of cloth. She uses 0.2 yard of cloth for each headband. How many headbands can Leighton make from the length of cloth she has?

Lesson Check (5.NBT.7)

1. Write a number sentence that tells what the model represents.



2. Morris has 1.25 pounds of strawberries. He uses 0.25 pound of strawberries to make one serving. How many servings can Morris make?

Spiral Review (5.NBT.5, 5.NBT.6, 5.NBT.7, 5.NF.3)

3. What property does the following equation show?

$$5 + 7 + 9 = 7 + 5 + 9$$

4. An auditorium has 25 rows with 45 seats in each row. How many seats are there in all?

5. Volunteers at an animal shelter divided 132 pounds of dry dog food equally into 16 bags. How many pounds of dog food did they put in each bag?

6. At the movies, Aaron buys popcorn for \$5.25 and a bottle of water for \$2.50. He pays with a \$10 bill. How much change should Aaron receive?

Name _____

Divide Decimals**COMMON CORE STANDARDS—5.NBT.7***Perform operations with multi-digit whole numbers and with decimals to hundredths.***Divide.**

1. $0.4 \overline{)8.4}$

Multiply both
0.4 and 8.4 by
10 to make the
divisor a whole
number. Then
divide.

$$\begin{array}{r} 21 \\ 4 \overline{)84} \\ \underline{-8} \\ 04 \\ \underline{-4} \\ 0 \end{array}$$

2. $0.2 \overline{)0.4}$

3. $0.07 \overline{)1.68}$

4. $0.37 \overline{)5.18}$

5. $0.4 \overline{)10.4}$

6. $6.3 \div 0.7$

7. $1.52 \div 1.9$

8. $12.24 \div 0.34$

9. $10.81 \div 2.3$

Problem Solving

10. At the market, grapes cost \$0.85 per pound. Clarissa buys grapes and pays a total of \$2.55. How many pounds of grapes does she buy?

11. Damon kayaks on a river near his home. He plans to kayak a total of 6.4 miles. Damon kayaks at an average speed of 1.6 miles per hour. How many hours will it take Damon to kayak the 6.4 miles?

Lesson Check (5.NBT.2, 5.NBT.7)

1. Lee walked a total of 4.48 miles. He walks 1.4 miles each hour. How long did Lee walk?
2. Janelle has 3.6 yards of wire, which she wants to use to make bracelets. She needs 0.3 yard for each bracelet. Altogether, how many bracelets can Janelle make?

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

3. Susie's teacher asks her to complete the multiplication problem below. What is the product?
4. At an Internet store, a laptop computer costs \$724.99. At a local store, the same computer costs \$879.95. What is the difference in prices?

$$\begin{array}{r} 0.3 \\ \times 3.7 \\ \hline \end{array}$$

5. Continue the pattern below. What is the quotient $75.8 \div 10^2$?
6. Which symbol will make the following statement true? Write $>$, $<$, or $=$.

$$75.8 \div 10^0 = 75.8$$

$$75.8 \div 10^1 = 7.58$$

$$75.8 \div 10^2 = \underline{\hspace{2cm}}$$

$$58.827 \bigcirc 58.91$$

Name _____

Write Zeros in the Dividend**COMMON CORE STANDARD—5.NBT.7***Perform operations with multi-digit whole numbers and with decimals to hundredths.***Divide.**

$$\begin{array}{r}
 3.95 \\
 6 \overline{)23.70} \\
 \underline{-18} \\
 57 \\
 \underline{-54} \\
 30 \\
 \underline{-30} \\
 0
 \end{array}$$

2. $25 \overline{)405}$

3. $0.6 \overline{)12.9}$

4. $0.8 \overline{)30}$

5. $4 \overline{)36.2}$

6. $35 \overline{)97.3}$

7. $7.8 \div 15$

8. $49 \div 14$

9. $52.2 \div 12$

10. $1.14 \div 0.76$

11. $20.2 \div 4$

12. $138.4 \div 16$

Problem Solving

13. Mark has a board that is 12 feet long. He cuts the board into 8 pieces that are the same length. How long is each piece?

14. Josh pays \$7.59 for 2.2 pounds of ground turkey. What is the price per pound of the ground turkey?

Lesson Check (5.NBT.7)

1. Tina divides 21.4 ounces of trail mix equally into 5 bags. How many ounces of trail mix are in each bag?
2. A slug crawls 5.62 meters in 0.4 hours. What is the slug's speed in meters per hour?

Spiral Review (5.NBT.2, 5.NBT.6, 5.NBT.7)

3. Suzy buys 35 pounds of rice. She divides it equally into 100 bags. How many pounds of rice does Suzy put in each bag?
4. Juliette spends \$6.12 at the store. Morgan spends 3 times as much as Juliette. Jonah spends \$4.29 more than Morgan. How much money does Jonah spend?

5. A concert sold out for 12 performances. Altogether, 8,208 tickets were sold. How many tickets were sold for each performance?
6. Jared has two dogs, Spot and Rover. Spot weighs 75.25 pounds. Rover weighs 48.8 pounds more than Spot. How much does Rover weigh?

Name _____

Problem Solving • Decimal Operations



COMMON CORE STANDARD—5.NBT.7

Perform operations with multi-digit whole numbers and with decimals to hundredths.

1. Lily spent \$30.00 on a T-shirt, a sandwich, and 2 books. The T-shirt cost \$8.95, and the sandwich cost \$7.25. The books each cost the same amount. How much did each book cost?

$$(2 \times \text{cost of each book}) + \$8.95 + \$7.25 = \$30.00$$

$$\$30.00 - \$8.95 - \$7.25 = (2 \times \text{cost of each book})$$

$$(2 \times \text{cost of each book}) = \$13.80$$

$$\$13.80 \div 2 = \$6.90$$

\$6.90

2. Meryl spends a total of \$68.82 for 2 pairs of sneakers with the same cost. The sales tax is \$5.32. Meryl also uses a coupon for \$3.00 off her purchase. How much does each pair of sneakers cost?

3. A 6-pack of undershirts costs \$13.98. This is \$3.96 less than the cost of buying 6 individual shirts. If each undershirt costs the same amount, how much does each undershirt cost when purchased individually?

4. Mason spent \$15.85 for 3 notebooks and 2 boxes of markers. The boxes of markers cost \$3.95 each, and the sales tax was \$1.23. Mason also used a coupon for \$0.75 off his purchase. If each notebook had the same cost, how much did each notebook cost?

Lesson Check (5.NBT.7)

1. Joe spends \$8 on lunch and \$6.50 on dry cleaning. He also buys 2 shirts that each cost the same amount. Joe spends a total of \$52. What is the cost of each shirt?

2. Tina uses a \$50 gift certificate to buy a pair of pajamas for \$17.97, a necklace for \$25.49, and 3 pairs of socks that each cost the same amount. Tina has to pay \$0.33 because the gift certificate does not cover the total cost of all the items. How much does each pair of socks cost?

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

3. List the following numbers in order from least to greatest.
2.31, 2.13, 0.123, 3.12

4. Stephen wrote the problem $46.8 \div 0.5$. What is the correct quotient?

5. Sarah, Juan, and Larry are on the track team. Last week, Sarah ran 8.25 miles, Juan ran 11.8 miles, and Larry ran 9.3 miles. How many miles did they run altogether?

6. On a fishing trip, Lucy and Ed caught one fish each. Ed's fish weighed 6.45 pounds. Lucy's fish weighed 1.6 times as much as Ed's fish. How much did Lucy's fish weigh?
