Lesson 4.1 Skills Practice

NAME _____ DATE _____

Minty Fresh—Coins?
Introduction to Decimals

Vocabulary

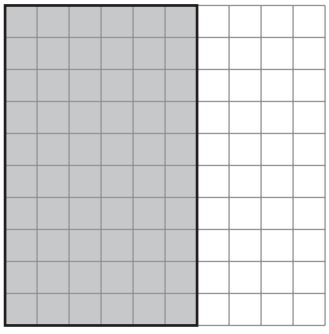
Write a definition for the term in your own words.

1. decimal

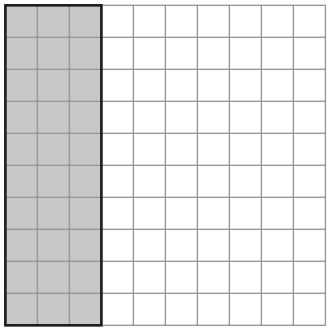
Problem Set

Write the decimal that is represented by the shaded portion of each grid.

1.



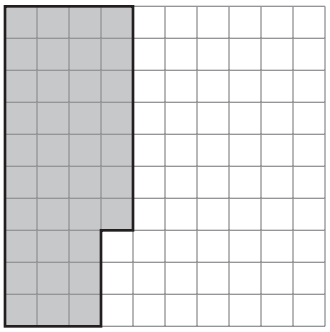
2.



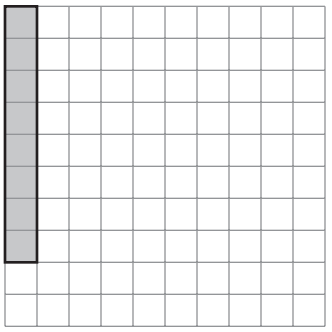
$\frac{60}{100} = \frac{6}{10}$
$= 0.6$

4

3.



4.



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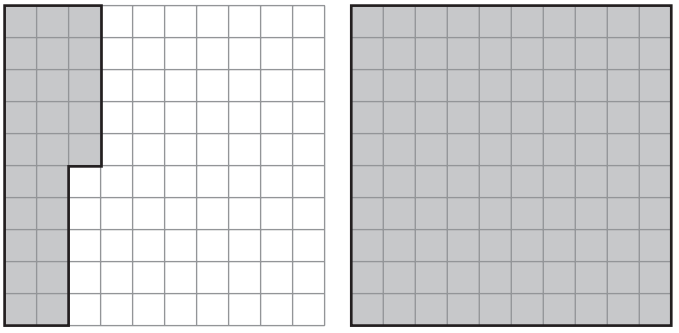
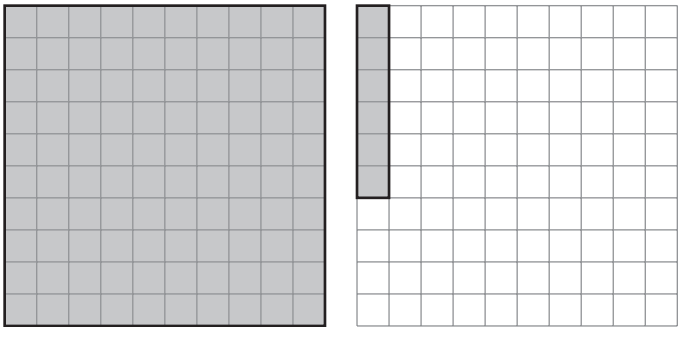


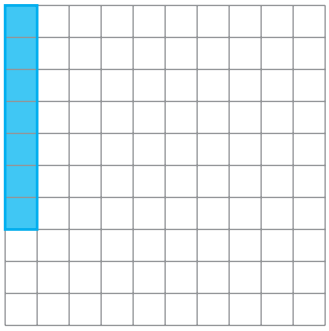
6.



NAME _____ DATE _____

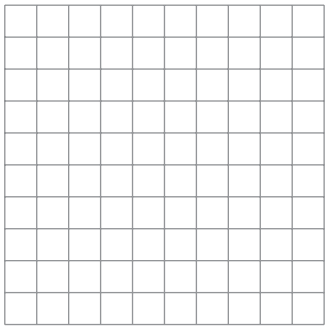
Shade each grid to represent the given decimal. Then write an equivalent fraction for the given decimal.

7. 0.07

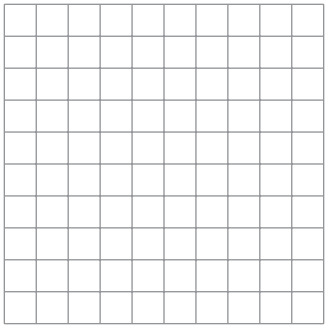


$\frac{7}{100}$

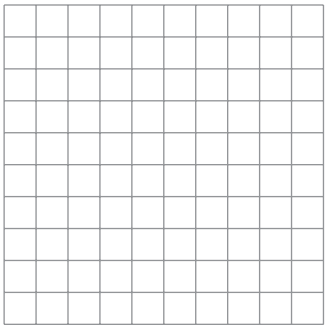
8. 0.85



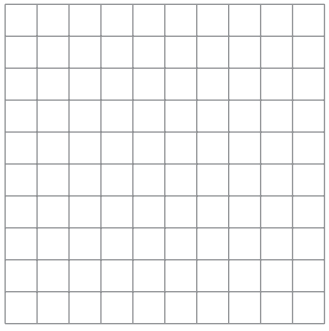
9. 0.9



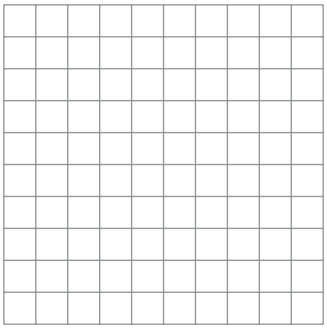
10. 0.48



11. 0.03



12. 0.27



4

Fill in the missing number to show an equivalent decimal and fraction in each.

13. $0.02 = \frac{\quad}{100}$

$0.02 = \frac{2}{100}$

14. $0.5 = \frac{\quad}{10}$

15. $= \frac{6}{100}$

16. $= \frac{93}{100}$

17. $0.8 = \frac{\quad}{10}$

18. $= \frac{76}{100}$

4

Write each decimal.

19. nine hundredths

nine hundredths $= \frac{9}{100}$

$= 0.09$

20. two tenths

21. four and one tenth

22. seven and three hundredths

23. four thousandths

24. twenty and eight hundredths

NAME _____ DATE _____

Write each decimal in words.

25. 0.7

$0.7 = \frac{7}{10}$

= seven tenths

26. 0.04

27. 5.9

28. 8.05

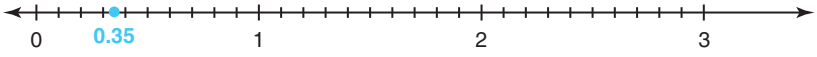
29. 35.4

30. 0.003

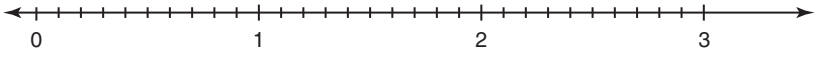
4

Plot a point on the number line to represent each decimal.

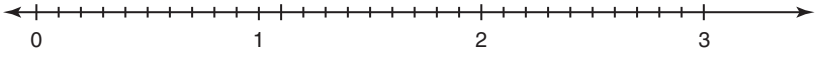
31. 0.35



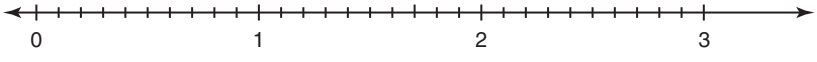
32. 0.85



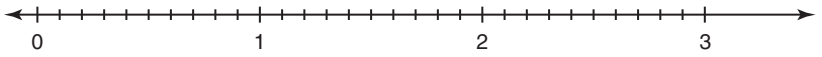
33. 1.1



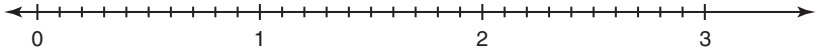
34. 1.7



35. 2.65



36. 2.3



Write four decimals that are between each pair of decimals.

37. Write four decimals between 0.5 and 0.6.

Sample answer: 0.51, 0.52, 0.58, 0.59

38. Write four decimals between 0.7 and 0.8.

39. Write four decimals between 0.33 and 0.34.

40. Write four decimals between 0.24 and 0.25.

41. Write four decimals between 0.5 and 1.5.

42. Write four decimals between 8.5 and 9.0.

Lesson 4.2 Skills Practice

NAME _____ DATE _____

You Be the Judge
Comparing, Ordering, Estimating, and Rounding Decimals

Vocabulary

Match each definition to its corresponding term.

1. to rewrite a number as a simpler form that is close to the original number but is not exact

2. a standard decimal by which other decimals can be measured

a. benchmark decimal

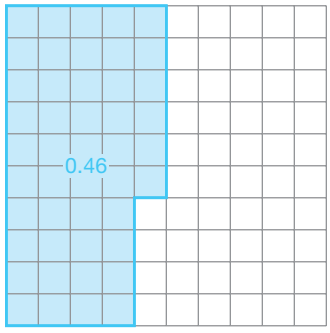
b. round

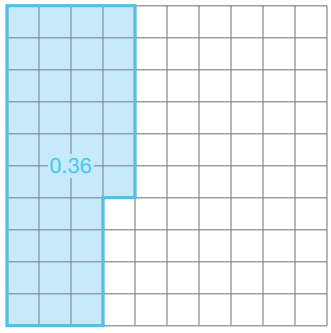
4

Problem Set

Shade the hundredths grid for each decimal. Then write $<$, $=$, or $>$ in the space provided to compare the decimals.

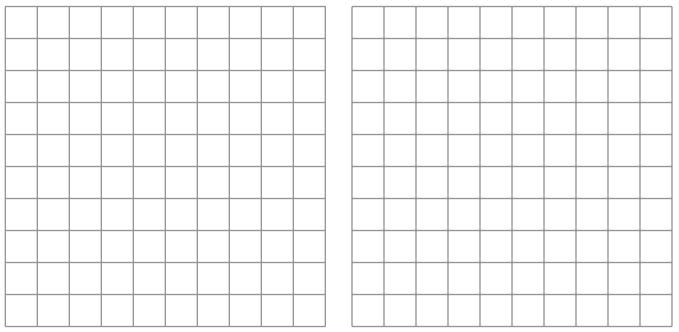
1.





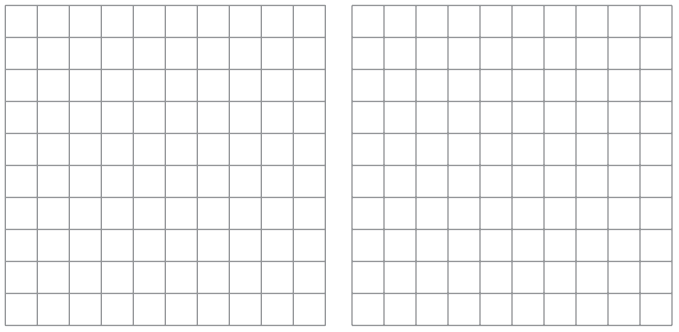
0.46 $>$ 0.36

2.



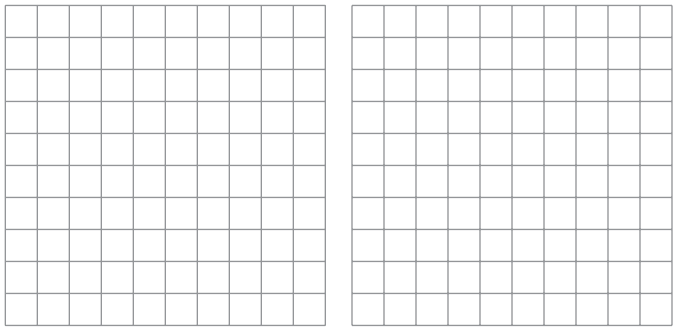
0.4 ___ 0.7

3.



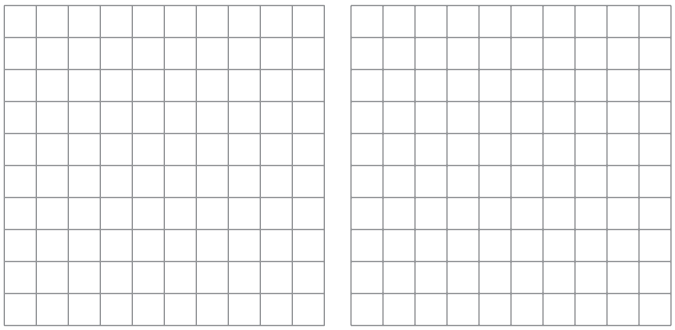
0.6 ___ 0.60

4.

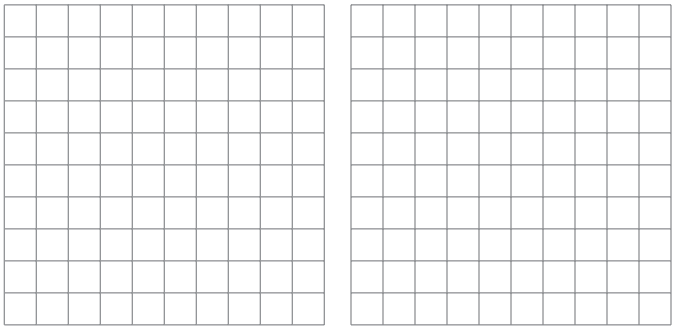


0.5 ___ 0.2

NAME _____ DATE _____

5. 

0.35 ___ 0.84

6. 

0.9 ___ 0.09

Order the decimals in each set from least to greatest.

7. 15.4, 14.65, 15.04, 14.3, 15.47, 14.27

14.27, 14.3, 14.65, 15.04, 15.4, 15.47

8. 4.512, 4.5, 4.601, 4.526, 4.51, 4.52

9. 7.35, 9.45, 7.2, 7.94, 9.04, 9.72

10. 0.553, 0.53, 0.053, 0.35, 0.55, 0.035

11. 6.43, 7.895, 6.03, 7.97, 6.34, 7.985

12. 2.13, 2.561, 2.098, 2.56, 2.375, 2.36

NAME _____ DATE _____

Write the closest benchmark decimal for each decimal.

13. 0.0034

The closest benchmark decimal is 0.

14. 0.972

15. 0.4992

16. 0.000982

17. 0.89962

18. 0.513

Estimate each sum or difference using benchmark decimals.

19. 0.47 + 0.53

0.47 ≈ 0.5

0.53 ≈ 0.5

Because 0.5 + 0.5 = 1, I know

0.47 + 0.53 ≈ 1.

20. 0.915 − 0.482

21. 0.58 − 0.572

22. 0.0082 + 0.993

23. 0.896 + 0.526

24. 0.904 − 0.00017

Round each decimal to the given place value.

25. Round 45.6792 to the nearest tenth.

The digit in the tenths place is 6.

45.6792

The digit to the right of the tenths place is 7. Because 7 is 5 or greater, round up.

So, 45.6792 rounded to the tenths place is 45.7.

26. Round 136.89632 to the nearest thousandth.

27. Round 89.72673 to the nearest hundredth.

28. Round 27.9478 to the nearest thousandth.

4

29. Round 37.8239 to the nearest hundredth.

30. Round 724.6201 to the nearest tenth.

Lesson 4.3 Skills Practice

NAME _____ DATE _____

The Ancient Spaniards Didn't Count the Thumbs!
Fraction-Decimal Equivalents

Vocabulary

Write a definition for each in your own words.

1. repeating decimal

2. terminating decimal

Problem Set

Write each fraction as a decimal.

1. $\frac{6}{10}$
   0.6

2. $\frac{8}{100}$

3. $\frac{3}{1000}$

4. $\frac{9}{10}$

5. $\frac{59}{100}$

6. $\frac{296}{1000}$

7. $\frac{581}{10{,}000}$

8. $\frac{47}{1000}$

Write each fraction as an equivalent fraction with a power of 10 in the denominator. Then write the fraction as a decimal.

9. $\frac{3}{5}$

$\frac{3 \times 2}{5 \times 2} = \frac{6}{10}$

$= 0.6$

10. $\frac{68}{125}$

11. $\frac{47}{50}$

12. $\frac{134}{250}$

13. $\frac{13}{25}$

14. $\frac{1}{2}$

15. $\frac{7}{20}$

16. $\frac{5}{8}$

4

Write each decimal as a fraction or mixed number. Then simplify.

17. 0.072

$0.072 = \frac{72}{1000}$

$= \frac{9}{125}$

18. 0.34

19. 3.8

20. 0.0049

21. 0.502

22. 7.04

23. 6.0024

24. 8.091

NAME _____ DATE _____

Write each fraction as a decimal using long division. If necessary, round to the nearest thousandth or use bar notation to show a repeating decimal.

25. $\frac{3}{7}$

$$
\begin{array}{r}
0.4285 \\
7\overline{)\,3.0000} \\
-28 \\
\hline
20 \\
-14 \\
\hline
60 \\
-56 \\
\hline
40 \\
-35 \\
\hline
5
\end{array}
$$

$\frac{3}{7} \approx 0.429$

26. $\frac{1}{3}$

27. $\frac{7}{8}$

28. $\frac{5}{6}$

29. $\frac{5}{14}$

30. $\frac{7}{12}$

4

4

NAME _____ DATE _____

When Less Is Better
Adding and Subtracting Decimals

Problem Set

Estimate each sum or difference to the nearest whole number.

1. 4.78 + 67.13 + 3.83

4.78 + 67.13 + 3.83 ≈ 5 + 67 + 4 = 76

2. 5.8 + 7.009 + 45.2

3. 56.02 − 3.76 − 15.27

4. 25.91 − 12.72 − 0.97

5. 1.28 + 90.43 + 6.85

6. 55.09 − 7.14 − 0.82

7. 68.2 − 31.04 − 14.85

8. 0.1 + 3.89 + 7.61

9. 28.75 − 5.19 + 8.02

10. 11.83 + 4.92 − 7.27

Calculate each sum or difference.

11. 34.87 + 12.01 + 25.92

$$\begin{array}{r} 34.87 \\ 12.01 \\ +25.92 \\ \hline 72.80 \end{array}$$

12. 16.09 + 15.28 + 35.91

13. 12.678 + 3.7 + 2.89

14. 4.0842 + 13.87 + 6.371

15. 47.15 − 10.09

16. 25.72 − 16.93

17. 135.826 − 57.12

18. 25.8 − 14.083

19. 12.89 + 7.45 − 3.005

20. 68.52 − 12.708 + 3.92

Estimate each sum or difference to the nearest whole number.
Then calculate each sum or difference.

21. Cristina wants to purchase four items at the sporting goods store. The items she wants to buy are soccer cleats for $24.99, shin guards for $12.99, soccer socks for $4.49, and a soccer ball for $19.95. How much will the four items cost?

Estimate: $24.99 + 12.99 + 4.49 + 19.95 \approx 25 + 13 + 4 + 20 = 62$

Actual Cost:

$$\begin{array}{r} 24.99 \\ 12.99 \\ 4.49 \\ +19.95 \\ \hline 62.42 \end{array}$$

The items Cristina wants to buy will cost $62.42.

NAME _____ DATE _____

22. Cisco wants to purchase three items at the sporting goods store. The items he wants to buy are football pants for $21.99, football pads for $25.49, and football cleats for $27.95. How much will the three items cost?

23. Jada and Tonya ran a 400-meter race. Jada ran the race in 75.2 seconds. Tonya ran the race in 69.07 seconds. How much faster did Tonya run the race?

24. Kata wants to purchase three items at a department store. The items she wants to buy are jeans for $24.99, a T-shirt for $14.99 and a pair of earrings for $7.49. If Kata gives the cashier $50, how much change will she get?

25. Deon, Jerome, Lamar, and Terell are practicing for the meter relay race. The school record for the race is 49.6 seconds. The fastest time that each boy ran a 100-meter sprint in practice is shown in the table. If each of the boys can run their best 100-meter sprint during the race, can they beat the school record?

Boy	Time (seconds)
Deon	11.9
Jerome	12.6
Lamar	12.52
Terell	11.95

NAME _____ DATE _____

26. Eva, Sofia, and Maria are practicing for the 50-yard freestyle swimming race. The school record for the race is 28.93 seconds. The fastest time that each girl swam the 50-yard race in practice is shown in the table. How much faster must each girl swim to tie the school record?

Girl	Time in Seconds	Difference (seconds)
Eva	29.76	
Sofia	31.3	
Maria	30.02	

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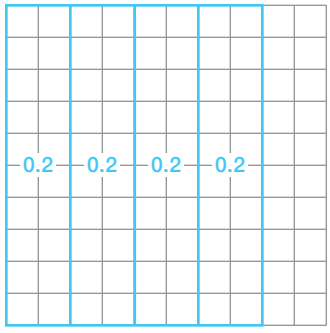
NAME _____ DATE _____

I Just Spent One Week Going to Work!
Multiplying Decimals

Problem Set

Model each expression using the hundredths grid. Then calculate the product.

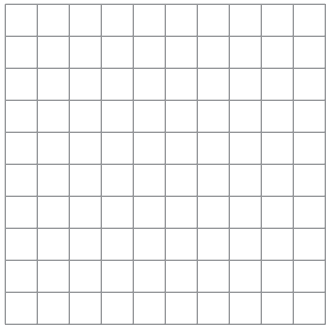
1. 4×0.2



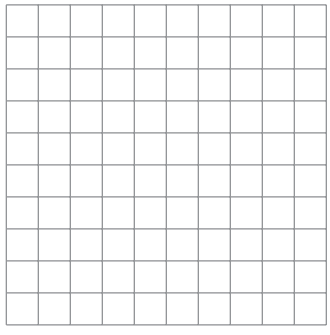
$4 \times 0.2 = 0.2 + 0.2 + 0.2 + 0.2$

$= 0.8$

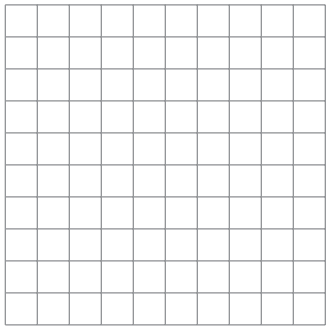
2. 3×0.25



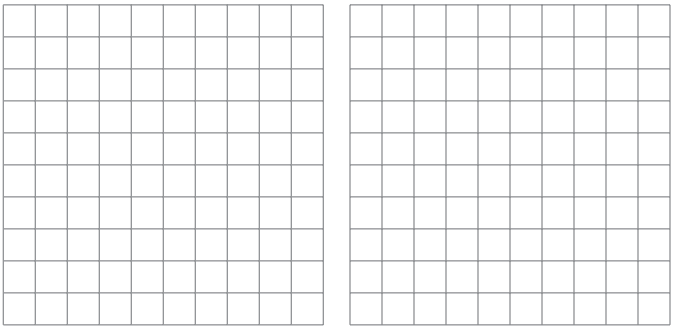
3. 5×0.1



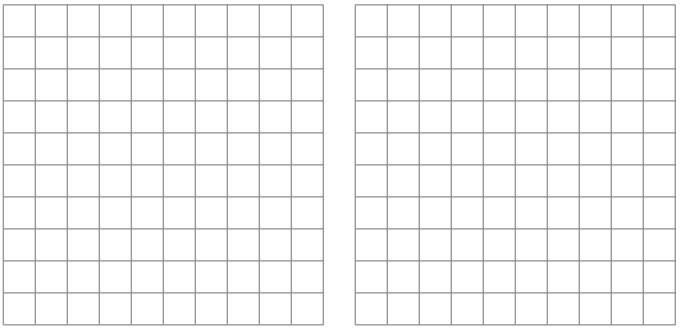
4. 2×0.4



5. 3×0.5



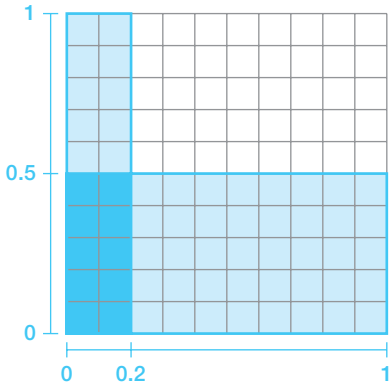
6. 2×0.6



NAME _____ DATE _____

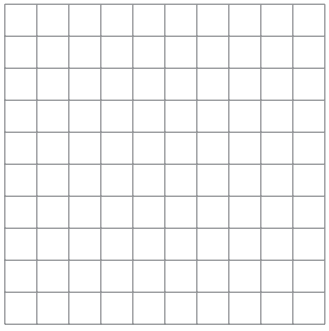
Model each expression using the hundredths grid. Then calculate the product.

7. 0.5×0.2

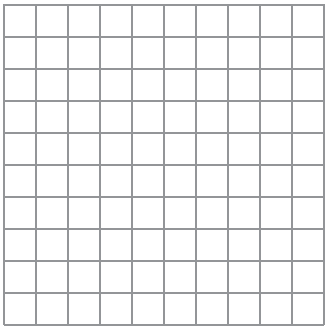


$0.5 \times 0.2 = 0.1$

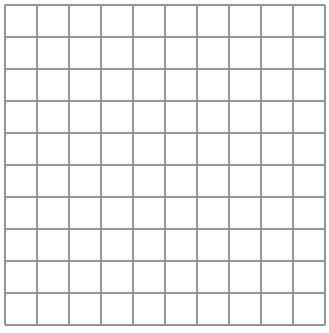
8. 0.3×0.7



9. 0.8×0.4

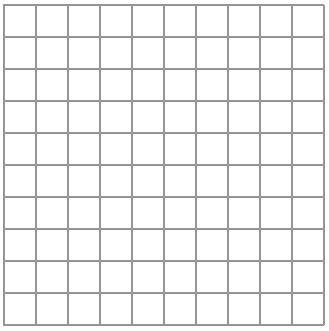


10. 0.3×0.5

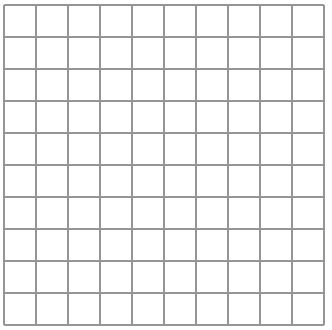


4

11. 0.6 × 0.6



12. 0.2 × 0.9



Write each decimal as an equivalent mixed number with a power of 10 in the denominator. Then calculate the product.

13. 4.6 × 3.2

$$4.6 \times 3.2 = 4\frac{6}{10} \times 3\frac{2}{10}$$
$$= \frac{46}{10} \times \frac{32}{10}$$
$$= \frac{1472}{100}$$
$$= 14\frac{72}{100}$$
$$= 14.72$$

14. 2.8 × 5.7

15. 1.05 × 8.3

16. 6.14 × 7.5

NAME _____ DATE _____

17. 2.037 × 9.4

18. 3.005 × 4.08

Estimate each product to the nearest whole number. Then calculate each product.

19. 5.9 × 2.4

Estimate: $5.9 \times 2.4 \approx 6 \times 2 = 12$

Actual product:

$$\begin{array}{r} 5.9 \\ \times\ 2.4 \\ \hline 236 \\ +\ 1180 \\ \hline 14.16 \end{array}$$

20. 3.1 × 6.2

21. 4.17 × 7.2

22. 2.06 × 8.25

23. 9.154 × 1.62

24. 8.361 × 2.042

Insert decimal points into each multiplication sentence to make the sentence true.

25. 7.2 × 3.9 = 2808

7.2 × 3.9 = 28.08

26. 48 × 61 = 29.28

4

27. 8.29 × 5.2 = 43108

28. 205 × 83 = 17.015

29. 4.832 × 1.9 = 91808

30. 682 × 302 = 20.5964

Lesson 4.6 Skills Practice

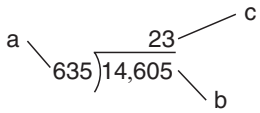
NAME _____ DATE _____

Organized Estimation
Long Division of Whole Numbers

Vocabulary

Match the term with the labeled part in the diagram.

1. quotient
2. divisor
3. dividend



Problem Set

Estimate to solve each division problem.

1. 5168 ÷ 8 = 646

5168
−4800
368
−320
48
−48
0

8 × 600 = 4800
8 × 40 = 320
8 × 6 = 48

600 + 40 + 6 = 646

2. 11,544 ÷ 12 =

3. 31,200 ÷ 60 =

4. 44,275 ÷ 55 =

4

5. 29,988 ÷ 204 =

6. 93,450 ÷ 623 =

Write the number of digits that will be in each quotient. Provide a brief description of your thinking.

7. 6708 ÷ 86

2 digits; 86 can't go into 67, so it has to go into 670, which aligns with the tens place

8. 9135 ÷ 45

9. 361,036 ÷ 524

10. 21,580 ÷ 26

NAME _____ DATE _____

11. 82,134 ÷ 78

12. 195,784 ÷ 39

Fill in the missing digits in each long division problem.

13.
$$\begin{array}{r} 287\text{R}\square 8 \\ 29\overline{)8351} \\ -58 \\ \hline 2\square 5 \\ -232 \\ \hline \square 31 \\ -\ \square 03 \\ \hline \square 8 \end{array}$$

$$\begin{array}{r} 287\text{R}28 \\ 29\overline{)8351} \\ -58 \\ \hline 255 \\ -232 \\ \hline 231 \\ -203 \\ \hline 28 \end{array}$$

14.
$$\begin{array}{r} \square 5\text{R}\square \\ 42\overline{)3\square 78} \\ -336 \\ \hline 2\square\square \\ -210 \\ \hline \square \end{array}$$

15.
$$\begin{array}{r} 7\square\square\text{R}21 \\ 58\overline{)42{,}129} \\ -40\square \\ \hline 15\square \\ -116 \\ \hline 369 \\ -3\square 8 \\ \hline 21 \end{array}$$

16.
$$\begin{array}{r} 5\square 7\text{R}\square 3 \\ 17\overline{)86\square\square} \\ -85 \\ \hline 13 \\ -\square \\ \hline 132 \\ -1\square 9 \\ \hline \square 3 \end{array}$$

17.
$$\begin{array}{r} 1\square 4\text{R}2\square \\ \square\square\overline{)5440} \\ -\square\square \\ \hline 214 \\ -198 \\ \hline 160 \\ -13\square \\ \hline 2\square \end{array}$$

18.
$$\begin{array}{r} 19\square\text{R}\square\square \\ 63\overline{)1\square{,}523} \\ -63 \\ \hline 622 \\ -\square\square 7 \\ \hline 5\square 3 \\ -504 \\ \hline \square\square \end{array}$$

Solve. Write each quotient using a fraction for the remainder.

19. $43\overline{)4150}$

$$\begin{array}{r} 96\text{R}22 \text{ or } 96\frac{22}{43} \\ 43\overline{)4150} \\ -387 \\ \hline 280 \\ -258 \\ \hline 22 \end{array}$$

20. $129\overline{)26{,}206}$

21. $52\overline{)4874}$

22. $84\overline{)27{,}500}$

23. $36\overline{)11{,}115}$

24. $75\overline{)8505}$

4

NAME _____ DATE _____

Solve each word problem. Consider how to deal with the remainder in the situation.

25. A local superstore had a surplus of 10,000 pencil packs and decided to donate them to area schools. If there are 27 schools and the store wants to donate the same number of packs to each school, how many pencil packs will each school receive?

$$\begin{array}{r} 370\text{R}10 \\ 27\overline{)10{,}000} \\ -81 \\ \hline 190 \\ -189 \\ \hline 10 \end{array}$$

$10{,}000 \div 27 = 370\frac{10}{27}$ or 370 R10

Each school will receive 370 pencil packs, and there will be 10 pencil packs left over.

26. The student council ordered rubber bracelets in the shape of the school mascot, a lion. Each student in the school will receive one lion bracelet on the first day of school. If there are 247 students in the school and the bracelets are sold in packs of 15, how many packs does the student council need to order? How many extra bracelets will they have?

27. Kylie volunteers at the library shelving books. Today, she is arranging a new children's book section. The library has 683 children's books to place on 14 shelves. Any books left over can be displayed in the readers' corner. How many books will Kylie place in the readers' corner?

28. Micah is designing an experiment for the science fair. He ordered 150 fruit flies from a biology supplies website. He will apply a different condition to each of three groups of fruit flies and keep one group as a control. How many fruit flies will be in each group? Explain why it is not possible to use the total number of flies.

29. The city purchased 18,000 daffodil bulbs. They plan to plant the same amount of bulbs in each of the city's 38 parks. How many daffodil bulbs will be planted in each park? The remaining bulbs will be added to the landscaping in front of the city building. How many daffodils will be planted at the city building?

30. The food bank has 8509 cans to donate to the area's 21 assistance centers. If the cans are distributed evenly among the centers, what is the maximum number of cans each center will receive?

NAME _____ DATE _____

Los Angeles Commute Didn't Top the List?
Dividing Decimals

Problem Set

Write each decimal as an equivalent mixed number with a power of 10 in the denominator. Then calculate the quotient.

1. 24.38 ÷ 4.6

$$24.38 \div 4.6 = 24\frac{38}{100} \div 4\frac{6}{10}$$
$$= \frac{2438}{100} \div \frac{46}{10}$$
$$= \frac{2438}{100} \times \frac{10}{46}$$
$$= \frac{24{,}380}{4600}$$
$$= 5\frac{1380}{4600}$$
$$= 5\frac{3}{10}$$
$$= 5.3$$

2. 77.28 ÷ 8.4

3. 11.88 ÷ 2.2

4. 50.63 ÷ 6.1

5. 10.025 ÷ 2.5

6. 9.632 ÷ 3.2

4

Rewrite each division statement so that the divisor is a whole number.

7. 69.2 ÷ 2.5

$69.2 \div 2.5 = (69.2 \times 10) \div (2.5 \times 10)$
$= 692 \div 25$

8. 82.01 ÷ 4.6

9. 48.4 ÷ 5.02

10. 32.164 ÷ 7.04

NAME _____ DATE _____

11. 103.5 ÷ 25.02

12. 45.8 ÷ 7.002

Write two division statements that have the same quotient as each division statement given.

13. 50.32 ÷ 6.8 = 7.4

Answers will vary.

503.2 ÷ 68.0 = 7.4

5.032 ÷ 0.68 = 7.4

14. 0.07 ÷ 3.5 = 0.02

15. 47.593 ÷ 9.1 = 5.23

16. 8.008 ÷ 3.08 = 2.6

17. 0.18 ÷ 0.3 = 0.6

18. 13.398 ÷ 1.65 = 8.12

Estimate each quotient by rounding both the dividend and divisor to the nearest whole number.

19. 3.8 ÷ 0.7

$3.8 \div 0.7 \approx 4 \div 1$

$= 4$

20. 49.7 ÷ 25.3

21. 11.8 ÷ 2.6

22. 24.4 ÷ 8.3

23. 60.3 ÷ 9.8

24. 14.7 ÷ 3.4

Estimate each quotient to the nearest whole number. Then calculate each quotient.

25. 16.1 ÷ 3.5

Estimate: $16.1 \div 3.5 \approx 16 \div 4$
$= 4$

Actual quotient:

$16.1 \div 3.5 = (16.1 \times 10) \div (3.5 \times 10)$
$= 161 \div 35$

$$\begin{array}{r} 4.6 \\ 35\overline{)\ 161.0} \\ -140 \\ \hline 21\,0 \\ -21\,0 \\ \hline 0 \end{array}$$

$16.1 \div 3.5 = 4.6$

26. 48.14 ÷ 8.3

4

27. 59.52 ÷ 6.4

28. 7.524 ÷ 4.4

NAME _____ DATE _____

29. 25.012 ÷ 5.2

30. 5.568 ÷ 2.4

4