Adding Decimals (Adding Zeros)

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Find each sum.

1. $\begin{array}{r} 3.02 \\ + \ 0.8 \\ \hline \end{array}$ 2. $\begin{array}{r} 0.91 \\ + \ 4.0 \\ \hline \end{array}$ 3. $\begin{array}{r} 2.6 \\ + \ 5.07 \\ \hline \end{array}$ 4. $\begin{array}{r} 5.9 \\ + \ 2.08 \\ \hline \end{array}$

5. $\begin{array}{r} 4.16 \\ + \ 3.5 \\ \hline \end{array}$ 6. $\begin{array}{r} 9.36 \\ + \ 0.4 \\ \hline \end{array}$ 7. $\begin{array}{r} 6.0 \\ + \ 1.38 \\ \hline \end{array}$ 8. $\begin{array}{r} 12.03 \\ + \ 3.9 \\ \hline \end{array}$

9. $\begin{array}{r} 0.3 \\ + \ 1.47 \\ \hline \end{array}$ 10. $\begin{array}{r} 6.2 \\ + \ 0.84 \\ \hline \end{array}$ 11. $\begin{array}{r} 2.6 \\ + \ 0.12 \\ \hline \end{array}$ 12. $\begin{array}{r} 3.2 \\ + \ 0.08 \\ \hline \end{array}$

13. $\begin{array}{r} 1.8 \\ + \ 7.45 \\ \hline \end{array}$ 14. $\begin{array}{r} 3.64 \\ + \ 1.7 \\ \hline \end{array}$ 15. $\begin{array}{r} 4.97 \\ + \ 3.5 \\ \hline \end{array}$ 16. $\begin{array}{r} 2.61 \\ + \ 0.8 \\ \hline \end{array}$

17. $\begin{array}{r} 11.8 \\ + \ 9.07 \\ \hline \end{array}$ 18. $\begin{array}{r} 0.72 \\ + \ 3.9 \\ \hline \end{array}$ 19. $\begin{array}{r} 2.43 \\ + \ 1.8 \\ \hline \end{array}$ 20. $\begin{array}{r} 6.85 \\ + \ 2.8 \\ \hline \end{array}$

21. $\begin{array}{r} 18.23 \\ + \ 27.3 \\ \hline \end{array}$ 22. $\begin{array}{r} 29.2 \\ + \ 4.08 \\ \hline \end{array}$ 23. $\begin{array}{r} 5.7 \\ + \ 17.03 \\ \hline \end{array}$ 24. $\begin{array}{r} 4.0 \\ + \ 10.44 \\ \hline \end{array}$

Find each sum. Show your work.

25. 16 + 3.6	**26.** 21.3 + 0.65	**27.** 9 + 23.62	**28.** 0.32 + 2.9
29. 21.3 + 0.68	**30.** 40 + 6.9	**31.** 5.6 + 25	**32.** 0.64 + 2.3

Adding Decimals (Adding Zeros)

————————— CRITICAL THINKING AND PROBLEM SOLVING —————————

33. Use the menu at the right to find the total cost for each order.

Order 1

   Spaghetti and Meatballs

   Lettuce Salad

   Order 1 Total = _____

Order 2

   Special of the Day

   Iced Tea

   Order 2 Total = _____

Order 3

   Grilled Chicken Breast

   Cup of Soup

   Order 3 Total = _____

Order 4

   Grilled Chicken Breast

   Fruit Salad, Milk

   Order 4 Total = _____

MENU

Dinners

Spaghetti and Meatballs $6.00
Grilled Chicken Breast $7.95
Special of the Day $5.00

Soup and Salad

Cup of Soup..............$2.00
Lettuce Salad...........$1.59
Fruit Salad................ $1.90

Beverage

Milk................$1.00
Soft Drink..... .$0.99
Iced Tea..........$0.99

---

34. On the first day of your vacation you drove 329 miles. The next day you drove 123.7 miles. How many miles did you travel?

You traveled _____ miles.

35. You are moving two boxes. One box weighs 12.7 pounds. The second box weighs 25 pounds. How much do the boxes weigh together?

The boxes weigh _____ pounds.

Use a calculator to find the sum for each problem.

36.	**37.**	**38.**	**39.**
53.65	58.23	15.374	69.78
12.54	71.36	16.581	2.34
+ 23.57	+ 52.68	+ 57.306	+ 5.67

40. $0.25 + 5.69 + 12.99 =$ _____   **41.** $5.94 + 6 + 2.66 + 3.9 =$ _____

42. $2.51 + 3.09 + 6.66 =$ _____   **43.** $26.87 + 69.68 + 50.01 =$ _____

44. $569.51 + 345.69 + 231.08 + 657.25 =$ _____

Adding More Than Two Decimals

―――――――――――――――――――― SKILLS ――――――――――――――――――――

Find each sum.

1.	0.3	2.	0.72	3.	6.8	4.	9.1
	8.6		0.09		7.4		3.7
	+ 2.4		+ 1.47		+ 3.5		+ 4.28

5.	1.9	6.	7.8	7.	4.9	8.	0.72
	4.08		3.6		3.04		53
	+ 3.25		+ 5.09		+ 2.06		+ 8.91

9.	8.37	10.	6.39	11.	0.84	12.	0.09
	7.72		6.8		0.28		2.4
	+ 4.21		+ 6.47		+ 3.4		+ 8.7

13.	26.18	14.	10.09	15.	16.8	16.	21.8
	17.82		0.01		1.25		13.74
	+ 31		+ 43.9		+ 4.38		+ 49.6

17.	125	18.	11.04	19.	365.7	20.	28.31
	70.4		0.08		981.6		109.4
	+ 426.9		+ 9.9		+ 107.5		+ 94.7

For each addition problem, show your work in the space provided.

21. Find the sum of 612.7, 98.4, and 7.08.	22. Find the sum of 33.72, 195, and 0.8	23. Find the sum of 57.08, 93.7 and 18.59.	24. Find the sum of 67.2, 46, and 9.85.

Adding More Than Two Decimals

——————————— CRITICAL THINKING AND PROBLEM SOLVING ———————————

Use the table to answer questions 25–27.

GROCERY PRICES			
Cereal	$3.29	Soup	$0.96
Grapes	$1.47	Rolls	$1.39
Lettuce	$0.99	Ground beef	$4.32
Cheese	$2.39	Milk	$2.36

25. Choose four items from the table and write them on the lines below with their cost. Find the total cost.

ITEM   COST

_____   _____

_____   _____

_____   _____

_____   _____

TOTAL COST   _____

26. The total of three items is $6.70. Write the three items on the lines below.

_____   _____   _____

27. The total of four items is $6.63. Write the four items on the lines below.

_____   _____

_____   _____

Find the missing number in each addition problem.

28.   23.00
   + [   ]
   ‾‾‾‾‾‾‾
     116:35

29.   45.89
   + [   ]
   ‾‾‾‾‾‾‾
     134.05

> **Hint:** There are different ways to find the missing number. One way is to use the Guess, Check, and Revise strategy. Guess a number, add it to the given number, check to see whether this is the given sum, then revise your guess, if needed.

30.   69.32
   + [   ]
   ‾‾‾‾‾‾‾
     89.86

31.   78.59
   + [   ]
   ‾‾‾‾‾‾‾
     89.80

32.   63.87
   + [   ]
   ‾‾‾‾‾‾‾
     68.97

33.   99.99
   + [   ]
   ‾‾‾‾‾‾‾
     125.33

Adding Decimals Through Thousandths

─────────────────── SKILLS ───────────────────

Find each sum.

1. 6.78 + 0.436	**2.** 0.847 + 0.27	**3.** 0.552 + 1.473	**4.** 9.98 + 1.259
5. 4.934 + 0.085	**6.** 7.536 + 68.7	**7.** 32.856 + 109.23	**8.** 762.9 + 158.556
9. 28.8 + 3.497	**10.** 278 + 37.634	**11.** 67.489 + 109.6	**12.** 3.92 + 8.087

For each addition problem, show your work in the space provided.

13. Add 42.329, 45.361, and 93.215.	**14.** Add 5.376, 42.75, and 56.304.	**15.** Add 0.439, 59, and 42.36.	**16.** Add 5.36, 9.064, and 12.361.
17. Find the sum of 21.6, 35.093, and 4.72.	**18.** Find the sum of 436.27, 94.432, and 235.	**19.** Find the sum 9.76, 25, and 3.409.	**20.** Find the sum of 94.706, 42.7, and 5.69.

Adding Decimals Through Thousandths

—————————— CRITICAL THINKING AND PROBLEM SOLVING ——————————

Choose the best answer.

| HINT: To solve a problem like this, find the lowest possible answer and the highest possible answer. The sum must be somewhere between the two. |

21. 2.?
  + 3.?

    a. The sum is between 5 and 6.   **b.** The sum is between 6 and 7.
    c. The sum is between 5 and 7.   **d.** The sum is between 6 and 8.

22. 2.?
  + 2.?

    a. The sum is between 4 and 5.
    b. The sum is between 4 and 6.
    c. The sum is between 5 and 6.
    d. The sum is between 5 and 7.

23. 0.?
  + 1.?

    a. The sum is between 0 and 1.
    b. The sum is between 1 and 2.
    c. The sum is between 1 and 3.
    d. The sum is between 0 and 2.

24. 1.?
  + 2.?

    a. The sum is between 3 and 5.
    b. The sum is between 4 and 5.
    c. The sum is between 3 and 4.
    d. The sum is between 4 and 7.

25. 4.?
  + 5.?

    a. The sum is between 9 and 10.
    b. The sum is between 10 and 12.
    c. The sum is between 9 and 11.
    d. The sum is between 10 and 11.

26. Your frog jumped 1.15 meters. Your friend's frog jumped 0.236 meter farther. How far did your friend's frog jump?

    Your friend's frog jumped _____ meters.

27. In the second jump your friend's frog jumped 1.03 meters. Your frog jumped 0.126 meter farther. How far did your frog jump?

    Your frog jumped _____ meters.

28. On field day you ran a mile in 10.562 minutes. Your friend took 0.731 minutes longer. How long did it take your friend to run a mile?

    Your friend took _____ minutes to run a mile.

29. On the first day of vacation you drove 317.8 miles. The second day you drove 236.735 miles, and on the third day you drove 176 miles. How far did you travel in three days?

    Your traveled _____miles in three days.

Name _____

Subtracting Decimals (Regrouping)

——————————————— SKILLS ———————————————

Find each difference.

1. 4.3 − 1.7	**2.** 2.4 − 0.8	**3.** 1.6 − 0.9	**4.** 2.45 − 1.6
5. 9.11 − 3.05	**6.** 4.02 − 1.3	**7.** 5.7 − 4.8	**8.** 3.6 − 1.7
9. 16.01 − 4.8	**10.** 3.07 − 0.4	**11.** 1.18 − 0.3	**12.** 25.32 − 9.1
13. 12.4 − 9.8	**14.** 15.6 − 8.7	**15.** 1.32 − 0.94	**16.** 8.21 − 1.85
17. 38.31 − 9.6	**18.** 42.16 − 8.3	**19.** 22.91 − 3.07	**20.** 5.12 − 0.19
21. 51.32 − 1.52	**22.** 23.24 − 16.7	**23.** 62.5 − 23.8	**24.** 81.24 − 66.9

25. Find the difference of 36.2 and 7.49.

26. Find the difference of 7 and 5.91.

27. Find the difference of 93.1 and 37.25.

28. Find the difference of 237.5 and 75.37.

29. Find the difference of 73 and 16.71.

30. Find the difference of 0.70 and 0.54.

LIM-17-06

Subtracting Decimals (Regrouping)

———————————— CRITICAL THINKING AND PROBLEM SOLVING ————————————

Is each difference correct? If it is **NOT** correct, give the correct difference and tell why you think it is not correct.

31.   456.8   YES _____

      − 26.59   NO _____

        19.01

                              _____

32.   423.7   YES _____

      − 156.8   NO _____

        257.9

                              _____

33.   82.3   YES _____

      − 2.56   NO _____

        5.67

                              _____

The table gives the speed in kilometers per hour that animals can run. Use the table to answer each question.

Animal	Speed (kph)
Cheetah	112.63
Wildebeest	80.45
Gray fox	67.58
Greyhound dog	63.31
Quarter horse	76.43
Zebra	64.36
Grizzly bear	48.27
Lion	80.45

34. How much faster does a cheetah run than a zebra?

     A cheetah runs _____ kilometers per hour faster than a zebra.

35. How much faster does a lion run than a gray fox?

     The lion runs _____ kilometers per hour faster than a gray fox.

36. What is the difference in the speeds of a lion and a grizzly bear?

     The difference is _____ kilometers per hour.

37. How much slower does a quarter horse run than a cheetah?

     A quarter horse runs _____ kilometers per hour slower than a cheetah.

Name _____

Subtracting Decimals Through Thousandths

━━━━━━━━━━━━━━━━━━━ SKILLS ━━━━━━━━━━━━━━━━━━━

Find each difference.

1.　16 － 4.95	**2.**　12 － 11.63	**3.**　27 － 6.451	**4.**　32.1 － 3.053
5.　4.6 － 1.394	**6.**　60 － 2.316	**7.**　41 － 13.821	**8.**　7 － 1.815
9.　3.02 － 1.265	**10.**　0.8 － 0.643	**11.**　30.026 － 6.7	**12.**　12.657 － 4.039
13.　28.1 － 9.39	**14.**　15 － 8.273	**15.**　1 － 0.98	**16.**　21.06 － 14.353
17.　31 － 6.776	**18.**　51.284 － 7.9	**19.**　32.1 － 8.473	**20.**　9.314 － 6.537
21.　70.084 － 9.3	**22.**　20.437 － 0.7	**23.**　2.025 － 0.25	**24.**　7.064 － 1.391

For each subtraction problem, show your work in the space provided.

25. Subtract 3.213 from 50.	**26.** Subtract 1.156 from 20.	**27.** Subtract 0.463 from 0.8.	**28.** Subtract 0.645 from 1.3.

Subtracting Decimals Through Thousandths

—————————CRITICAL THINKING AND PROBLEM SOLVING—————————

Use the table to answer questions 29–32.

Standard Diameters for U.S. Coins	
Coin	Diameter (in inches)
Penny	0.75
Nickel	0.835
Dime	0.705
Quarter	0.955
Half Dollar	1.205
Dollar	1.04
Golden Dollar	1.043

29. How much larger in diameter is the half dollar than the penny?

   The half dollar is _____ inch longer.

30. What is the difference in the diameters of the dollar and the dime?

   The difference is _____ inch.

31. What is the difference in the diameters of the golden dollar and the quarter?

   The difference is _____ inch.

32. How much larger in diameter is the dollar than the nickel?

   The dollar is _____ inch longer.

Use a calculator to find each difference. Be sure you put in the decimal point when you enter the numbers on your calculator.

33.	34.	35.	36.
526.23 − 258.736	89.573 − 28.949	123.65 − 56.873	298.361 − 165.876

Find the missing number in each subtraction problem.

37.	38.	39.	40.
69.32 − ☐ 42.31	78.59 − ☐ 63.63	41.63 − ☐ 27.34	86.11 − ☐ 33.59

41.	42.	43.	44.
63.87 − ☐ 20.38	99.99 − ☐ 29.61	63.25 − ☐ 41.35	55.04 − ☐ 52.62

Multiplying by 10, 100, and 1,000

―――――――――――――――― SKILLS ―――――――――――――――――

Use mental math to find each product.

1. $7.42 \times 10 =$ _____

2. $8.361 \times 1,000 =$ _____

3. $12.91 \times 100 =$ _____

4. $25.734 \times 100 =$ _____

> To multiply a decimal by 10, move the decimal point one place to the right.
>
> To multiply a decimal by 100, move the decimal point two places to the right.
>
> To multiply a decimal by 1,000, move the decimal point three places to the right.

5. $426.95 \times 10 =$ _____

6. $3.425 \times 1,000 =$ _____

7. $0.59 \times 100 =$ _____

8. $49.6 \times 10 =$ _____

9. $3.042 \times 1,000 =$ _____

10. $75.436 \times 100 =$ _____

Find each product.

11. $\begin{array}{r} 0.82 \\ \times\ 10 \\ \hline \end{array}$	**12.** $\begin{array}{r} 1.34 \\ \times\ 10 \\ \hline \end{array}$	**13.** $\begin{array}{r} 100 \\ \times\ 0.21 \\ \hline \end{array}$	**14.** $\begin{array}{r} 6.93 \\ \times\ 100 \\ \hline \end{array}$
15. $\begin{array}{r} 1,000 \\ \times\ 3.28 \\ \hline \end{array}$	**16.** $\begin{array}{r} 100 \\ \times\ 6.4 \\ \hline \end{array}$	**17.** $\begin{array}{r} 7.46 \\ \times\ 10 \\ \hline \end{array}$	**18.** $\begin{array}{r} 3.82 \\ \times\ 1,000 \\ \hline \end{array}$

Circle the missing number in each multiplication problem.

19. $63.45 \times ? = 634.5$
    a. 10 **b.** 100 **c.** 1,000

20. $5.963 \times ? = 5,963$
    a. 10 **b.** 100 **c.** 1,000

21. $2.94 \times ? = 2,940$
    a. 10 **b.** 100 **c.** 1,000

22. $42.63 \times ? = 4,263$
    a. 10 **b.** 100 **c.** 1,000

23. $0.45 \times ? = 45$
    a. 10 **b.** 100 **c.** 1,000

24. $0.1245 \times ? = 12.45$
    a. 10 **b.** 100 **c.** 1,000

Multiplying by 10, 100, and 1,000

————————————— CRITICAL THINKING AND PROBLEM SOLVING —————————————

25. Titan, one of Saturn's moons, has a diameter of (5.15 × 1,000) kilometers. Evaluate the expression to find Titan's diameter.

Titan's diameter is _____ kilometers.

26. The Gobi Desert in Central Asia is (401.5 × 1,000) square miles in area. Evaluate the expression to find the area.

The area of the Gobi Desert is _____ square miles.

27. The area of Hawaii, Hawaii is (40.37 × 100) square kilometers. Evaluate the expression to find Hawaii's area.

Hawaii has an area of _____ square kilometers.

28. Mt. McKinley, the highest mountain in the United States is (20.32 × 1,000) feet high. Evaluate the expression to find Mt. McKinley's height.

Mt. McKinley is _____ feet high.

29. The Nile River, the longest river in the world, is (66.7 × 100) kilometers long. Evaluate the expression to find the Nile's length.

The Nile River is _____ miles long.

30. Niagara Falls has a flow of about (58.3 × 100) cubic meters per second. Evaluate the expression to find the amount of water going over the falls.

Niagara Falls has an average flow of _____ cubic meters per second.

Choose the best estimate for each product.

31. 3.8 × 4.3

    12   16   20   15

32. 2.1 × 8.9

    16   19   18   10

33. 4.7 × 6

    6   24   42   30

34. 0.98 × 6.1

    5   6   7   8

35. 0.9 × 7.9

    8   9   7   6

36. 6.8 × 8.9

    48   56   63   54

37. 9.8 × 6.9

    54   63   72   70

38. 7.8 × 11

    88   77   80   71

Multiplying Decimals by Whole Numbers

=========================== SKILLS ===========================

Use the models to find each product.
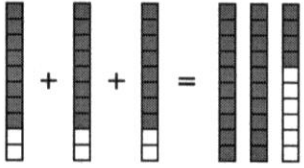
1. $0.8 \times 3 =$ ☐
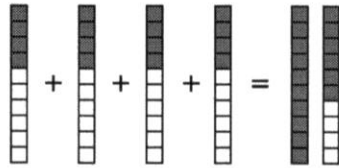
2. $0.4 \times 4 =$ ☐

3. $1.2 \times 4 =$ ☐

Find each product.

4. 0.4
  $\times\ 6$

5. 0.9
  $\times\ 5$

6. 0.7
  $\times\ 8$

7. 2.3
  $\times\ 7$

8. 3.6
  $\times\ 9$

9. 6.1
  $\times\ 2$

10. 5.6
  $\times\ 3$

11. 7.9
  $\times\ 6$

12. 8.3
  $\times\ 4$

13. 4.7
  $\times\ 3$

14. 9.1
  $\times\ 12$

15. 7.4
  $\times\ 32$

16. 2.6
  $\times\ 24$

17. 5.8
  $\times\ 16$

18. 0.5
  $\times\ 47$

19. 0.61
  $\times\ 7$

20. 0.83
  $\times\ 4$

21. 0.26
  $\times\ 2$

22. 1.38
  $\times\ 6$

23. 1.94
  $\times\ 8$

24. 6.92
  $\times\ 3$

25. 4.07
  $\times\ 6$

26. 3.49
  $\times\ 21$

27. 6.04
  $\times\ 62$

28. 9.22
  $\times\ 13$

29. 2.18
  $\times\ 36$

30. 12.36
  $\times\ 5$

31. 26.12
  $\times\ 15$

32. 17.38
  $\times\ 9$

33. 47.08
  $\times\ 2$

Multiplying Decimals by Whole Numbers

————————— CRITICAL THINKING AND PROBLEM SOLVING —————————

34. Dexter's family is planning a vacation to Disney World. There is a total of four people in the family, all over 12 years of age. They hope to visit Disney World for four days, and Universal Studios for two days. In addition, they want to spend two days on the beach at St. Augustine. They will fly to Florida and rent a car for their visit. Using the costs below, estimate how much they will have to save to pay for their trip. You may use a calculator to help you.

Airfare to Orlando   Total Cost _____
    $185.00 per person (Multiply $185.00 × 4)

Car Rental for 10 days   Total Cost _____
    $199.99 per week plus $35.50 for each extra day
    (Multiply $35.50 × 3) then add $199.99

Disney World 4-day pass   Total Cost _____
    $125.25 per person (Multiply $125.25 × 4)

Universal Studios 2-day pass   Total Cost _____
    $55.25 per person (Multiply $55.25 × 4)

Motel fees—10 nights   Total Cost _____
    Average $85.95 per night (Multiply $85.95 × 10)

Food Expense—11 days   Total Cost _____
    $79.50 per day (Multiply $79.50 × 11)

Estimated Gas Cost $95.00
    (1,000 miles)

Miscellaneous recreation, souvenirs, etc. $250.00

Add all figures in the right column to find total cost.

They must save _____ for a trip to Florida.

Multiplying Decimals Through Hundredths

━━━━━━━━━━━━━━━━━━━━━━ SKILLS ━━━━━━━━━━━━━━━━━━━━━━

1. Multiply 1.3 times 0.9.

> **Multiplying Decimals**
> 1. Write the problem vertically.
> 2. Multiply as you would multiply whole numbers.
> 3. Use the total number of decimal places in the factors to place the decimal point in the product.

2. Multiply 2.4 times 0.6. **3.** Multiply 0.9 times 0.5. **4.** Multiply 3.3 times 0.5.

5. Multiply 7.63 times 0.5. **6.** Multiply 4.05 times 0.9. **7.** Multiply 0.71 times 0.4.

Find each product.

8.	**9.**	**10.**	**11.**
3.6	8.5	1.2	2.37
× 1.4	× 7.9	× 1.2	× 3.3

12.	**13.**	**14.**	**15.**
7.37	1.05	3.07	0.5
× 0.2	× 0.9	× 6.2	× 0.4

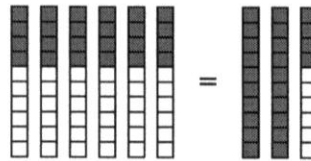| **16.**	**17.**	**18.**	**19.**
0.54	0.82	0.04	7.05
× 0.7	× 2.8	× 3.6	× 0.8

Multiplying Decimals Through Hundredths

―――――――――――― CRITICAL THINKING AND PROBLEM SOLVING ――――――

Write the multiplication problem that is shown by each model.
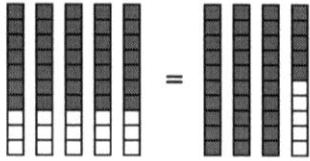
20. [   ] × [   ] = [   ]   21. [   ] × [   ] = [   ]

22. You earn $5.75 per hour. If you work 8.5 hours in one day, how much will you earn? Round your answer to the nearest hundredth.

   You will earn _____ in one day.

23. You received a large box in the mail. The length of the box is 2.3 meters, the width is 1.2 meters, and the height is 0.5 meter. What is the volume of the box? (Volume = length × width × height)

   The volume of the box is _____ cubic meters.

24. The cost for a pound of ground beef is $1.59. You need to buy 6.5 pounds for your picnic. What is the cost of the ground beef? Round your answer to the nearest hundredth.

   The ground beef costs _____.

Enter the missing number in each multiplication problem.

25. 3.5   26. 6.7   27. 0.25   28. 2.3
   × [ ]   × [ ]   × [ ]   × [ ]
   ―――――   ―――――   ―――――   ―――――
    10.5   40.2   1.25   0.69

29. 1.24   30. 4.3   31. 0.08   32. 5.4
   × [ ]   × [ ]   × [ ]   × [ ]
   ―――――   ―――――   ―――――   ―――――
    2.48   12.9   0.072   21.6

Multiplying Decimals with Zeros in the Product

─────────────────── SKILLS ───────────────────

Use mental math to solve each multiplication problem.

1. Multiply 0.06×0.04.

2. Multiply 0.09×0.6.

3. Multiply 0.3×0.06.

_____ _____ _____

4. Multiply 0.12×0.2.

5. Multiply 0.08×0.7.

6. Multiply 0.04×0.09.

_____ _____ _____

Find each product.

7. 0.13 × 0.06	**8.** 0.21 × 0.06	**9.** 2.41 × 0.03	**10.** 0.96 × 0.04	**11.** 0.16 × 0.09

12. 0.31 × 0.08	**13.** 0.09 × 0.09	**14.** 1.03 × 0.06	**15.** 1.3 × 0.06	**16.** 0.32 × 0.04

17. Which pair of factors has a product greater than 4 but less than 6?

  a. 3.5 and 1.6
  b. 4 and 1.9
  c. 1.8 and 1.4

18. Which pair of factors has a product greater than 1 but less than 2?

  a. 1.4 and 1.9
  b. 1.1 and 1.6
  c. 0.99 and 3

19. Which pair of factors has a product greater than 7 but less than 9?

  a. 6 and 1.5
  b. 4 and 2.4
  c. 5.1 and 1.5

20. Which pair of factors has a product greater than 8 but less than 10?

  a. 2.9 and 4.5
  b. 5 and 2.5
  c. 2.1 and 4.2

21. Which pair of factors has a product greater than 3 but less than 5?

  a. 1.6 and 2.6
  b. 2.4 and 2.2
  c. 3.4 and 1.7

22. Which pair of factors has a product greater than 5 but less than 7?

  a. 2.7 and 3.1
  b. 2.2 and 2.6
  c. 2.1 and 2.2

Multiplying Decimals with Zeros in the Product

——————————— CRITICAL THINKING AND PROBLEM SOLVING ———————————

Use a calculator to find the product for each problem. Be sure you press the key for the decimal point in the right place and watch for the decimal point in the answer.

23. 45.6
     × 2.07

24. 2.05
     × 5.18

25. 16.8
     × 2.79

26. 6.24
     × 35.4

27. 0.26
     × 6.4

28. 4.67
     × 25.4

29. 2.31
     × 6.7

30. 8.98
     × 0.56

31. 36.12
     × 3.9

32. 15.68
     × 4.91

33. 12.34
     × 26.5

34. 89.6
     × 1.35

35. What is the area of a rectangular flower garden whose length is 0.98 meter and width is 0.1 meter?

The area of the garden is _____ square meter.

36. A football field is about 0.03 mile wide and about 0.07 mile long. What is the area of the field in square miles?

The area of a football field is _____ square mile.

37. What is the area of a rectangle whose width is 0.03 yard and length is 0.08 yard?

The area of the rectangle is _____ square yard.

38. A survey showed that 0.07 of the people chose cauliflower or asparagus as their favorite vegetable. Of those people, 0.6 chose cauliflower. What part of the people chose cauliflower?

_____ of the people chose cauliflower.

39. What is the area of a rectangle with a length equal to 0.5 foot and a width equal to 0.07 foot?

The area of the rectangle is _____ square foot.

Name _____

Multiplying Decimals Through Thousandths

——————————— SKILLS ———————————

Estimate each product, then find the actual product.

	Estimate		Estimate		Estimate

1. 4.961 →
   × 0.42 →

2. 4.936 →
   × 4.14 →

3. 10.836 →
    × 2.34 →

4. 3.782 →
   × 1.246 →

5. 5.164 →
   × 1.023 →

6. 6.065 →
   × 7.84 →

Find each product.

7. 7.293
  × 0.06

8. 5.082
  × 0.09

9. 1.375
  × 0.05

10. 0.493
   × 0.06

11. 6.482
   × 0.25

12. 1.574
   × 0.93

13. 3.075
   × 0.55

14. 0.873
   × 0.22

Put the decimal in the correct place in each product.

15. 8.61
   × 3.72
  3 2 0 2 9 2

16. 2.072
   × 3.61
  7 4 7 9 9 2

17. 7.732
   × 2.32
 1 7 9 3 8 2 4

18. 9.084
   × 5.62
 5 1 0 5 2 0 8

19. 9.371
   × 3.08
 2 8 8 6 2 6 8

20. 0.873
   × 2.2
 1 9 2 0 6

21. 2.365
   × 24.3
 5 7 4 6 9 5

22. 0.736
   × 21.3
 1 5 6 7 6 8

Multiplying Decimals Through Thousandths

──────────── CRITICAL THINKING AND PROBLEM SOLVING ────────────

Is the decimal point in the right place in each product? If it is not, tell why you think it is not in the right place.

23.　12.6　　YES _____
　　× 6.5
　　8.190　　NO _____

　　　　　　　_____

24.　　3.65　YES _____
　　× 12.7
　　4635.5　NO _____

　　　　　　　_____

25.　　62.4　YES _____
　　× 0.46
　　287.04　NO _____

　　　　　　　_____

26.　　0.627　YES _____
　　× 0.058
　　0.036366　NO _____

　　　　　　　_____

27. An ostrich is 274.3 centimeters high. What is its height in inches? Round your answer to the nearest tenth. (1 cm = 0.394 inch)

　　An ostrich is _____ inches tall.

28. A spine-tailed swift is the fastest bird in the world. It can fly at 106 miles per hour. How many kilometers per hour is that? Round your answer to the nearest tenth. (1 mile = 1.609 km)

　　A spine-tailed swift can fly at _____ kilometers per hour.

29. A blue whale is 33.5 meters long. How many feet is that? Round your answer to the nearest tenth. (1 meter = 3.281 feet)

　　A blue whale is _____ feet long.

30. A walrus is 3.8 meters long. How long is that in feet? Round your answer to the nearest tenth. (1 meter = 3.281 feet)

　　A walrus is _____ feet long.

Dividing Decimals by 10, 100, and 1,000

————————————————————— SKILLS —————————————

Divide by 10	Divide by 100	Divide by 1,000
Move decimal point one place to the left.	Move decimal point two places to the left.	Move decimal point three places to the left.

Use mental math to find each quotient.

1. 0.63 ÷ 10 = _____   **2.** 0.63 ÷ 100 = _____   **3.** 0.63 ÷ 1,000 = _____

4. 23.7 ÷ 10 = _____   **5.** 23.7 ÷ 100 = _____   **6.** 23.7 ÷ 1,000 = _____

7. 4.6 ÷ 10 = _____   **8.** 23.6 ÷ 100 = _____   **9.** 42.7 ÷ 1,000 = _____

10. 563 ÷ 10 = _____   **11.** 726 ÷ 100 = _____   **12.** 483 ÷ 1,000 = _____

Use 10, 100, or 1,000 to make each division statement true.

13. 45.7 ÷ _____ = 0.457   **14.** 73.5 ÷ _____ = 7.35   **15.** 6.46 ÷ _____ = 0.0646

16. 237 ÷ _____ = 0.237   **17.** 9.61 ÷ _____ = 0.961   **18.** 78.9 ÷ _____ = 7.89

19. 364.2 ÷ _____ = 3.642   **20.** 20.63 ÷ _____ = 0.02063

Find each quotient.

21. 0.36 ÷ 10 = _____   **22.** 0.75 ÷ 10 = _____

23. 0.32 ÷ 100 = _____   **24.** 0.97 ÷ 100 = _____

25. 196.8 ÷ 100 = _____   **26.** 567.3 ÷ 1,000 = _____

27. 86.4 ÷ 1,000 = _____   **28.** 70.9 ÷ 10 = _____

Dividing Decimals by 10, 100, and 1,000

————— CRITICAL THINKING AND PROBLEM SOLVING —————

Use the given numbers to write a correct decimal division statement.

29. 236.4 ÷ _____ = _____

10	0.02364
100	2.364
1,000	236.4

30. 75.04 ÷ _____ = _____

10	7,504
100	750.4
1,000	0.07504

31. 76.93 ÷ _____ = _____

10	0.007693
100	7.693
1,000	769.3

32. 73.09 ÷ _____ = _____

10	0.7309
100	730.9
1,000	0.007309

33. 7,563 ÷ _____ = _____

10	0.7563
100	7.563
1,000	75,630

34. 798.7 ÷ _____ = _____

10	7,987.0
100	0.07987
1,000	7.987

35. Lake Michigan is the fifth largest lake in the world. It has an area of (222,780 ÷ 10) square miles. Evaluate the expression to find the area.

The area of Lake Michigan is _____ square miles.

36. Aswan, Egypt is the driest place in the world where people live. It receives (2 ÷ 100) inch of rain per year. Evaluate the expression to find the annual rainfall.

Aswan, Egypt receives _____ inch of rain each year.

37. Marquette, Michigan receives (12,920 ÷ 100) inches of snow each year. Evaluate the expression to find the annual snowfall.

Marquette receives _____ inches of snow each year.

38. A common shrew weighs about (11.25 ÷ 1,000) pound. It is one of the smallest mammals. Evaluate the expression to find its weight.
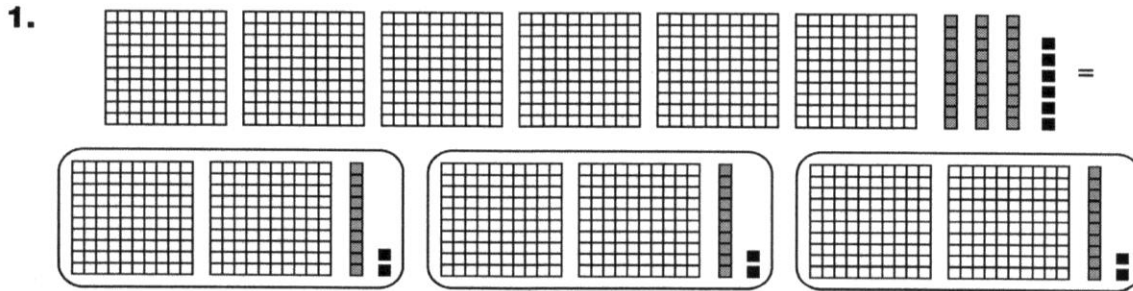
A common shrew weighs _____ pound.

39. A brown bat is about (13.3 ÷ 100) foot in length. Evaluate the expression to find its length.

A little brown bat is _____ foot in length.

Dividing Decimals by Whole Numbers

─────────────────── **SKILLS** ───────────────────

Use the model to solve the division problem.

1.

$6.36 \div 3 =$ _____

Find each quotient.

2. $3 \overline{)0.9}$ **3.** $6 \overline{)2.4}$ **4.** $4 \overline{)8.4}$ **5.** $5 \overline{)25.5}$ **6.** $2 \overline{)68.6}$

7. $11 \overline{)7.7}$ **8.** $9 \overline{)5.4}$ **9.** $7 \overline{)25.2}$ **10.** $2 \overline{)19.4}$ **11.** $12 \overline{)10.8}$

12. $4 \overline{)1.48}$ **13.** $6 \overline{)0.36}$ **14.** $7 \overline{)0.35}$ **15.** $8 \overline{)33.04}$ **16.** $9 \overline{)0.72}$

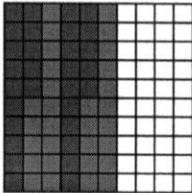**17.** $5 \overline{)11.75}$ **18.** $3 \overline{)12.63}$ **19.** $2 \overline{)64.28}$ **20.** $9 \overline{)30.24}$ **21.** $4 \overline{)26.56}$

Dividing Decimals by Whole Numbers

──────────── CRITICAL THINKING AND PROBLEM SOLVING ────────────

**Write and solve the division problem that is shown by each decimal model.**

Clue: Count the total number of hundredth squares that are colored in the decimal model. In the model at the left, there are 60 colored squares. Because each square is $\frac{1}{100}$, the sixty squares equal 0.60. They are divided into four different groups, so you divide by four. Now, count the number of squares in each group. There are fifteen, so the quotient is 0.15.
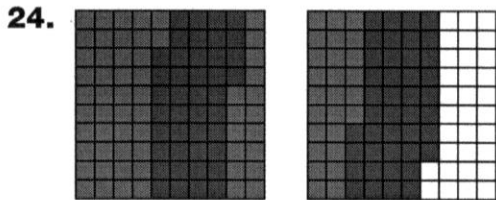
| 0.60 | ÷ | 4 | = | 0.15 |

22.

| | ÷ | | = | |

23.

| | ÷ | | = | |

24.

| | ÷ | | = | |
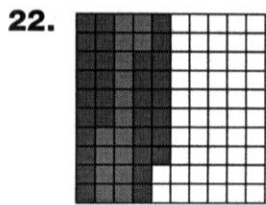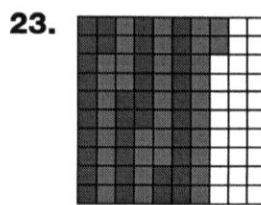
25. Your team is buying a gift for your softball coach that costs $87.75. If nine people on the team share the cost, what will each person pay?

Each person will pay _____.

26. What is the length of the rectangle?

The length of the rectangle is _____ inches.

Area = 13.8 sq in.   3 in.

? in.
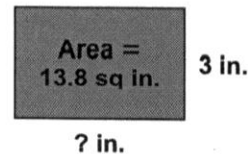
27. You ran 13.75 miles this week. If you ran the same distance each day for 5 days, how far did you run each day?

You ran _____ miles each day.

Finding Decimal Quotients

━━━━━━━━━━━━━━━━━━━━━━━ SKILLS ━━━━━━━━━━━━━━━━━━

Find each quotient.

1. $5\overline{)7}$ 2. $4\overline{)1}$ 3. $2\overline{)9}$ 4. $6\overline{)15}$ 5. $30\overline{)27}$

6. $12\overline{)81}$ 7. $15\overline{)36}$ 8. $5\overline{)56}$ 9. $14\overline{)49}$ 10. $6\overline{)33}$

11. $4\overline{)27}$ 12. $16\overline{)46}$ 13. $8\overline{)65}$ 14. $8\overline{)23}$ 15. $20\overline{)48}$

16. Find the quotient of 152 and 5.

$5\overline{)152}$

17. Which expression could be used to check your answer to question 16?

    a. 152×5
    b. 3.4×5
    c. 30.4×5
    d. 3.4×152

18. Divide 93 by 6.

$6\overline{)93}$

19. Which expression could be used to check your answer to question 18?

    a. 155×6
    b. 15×6
    c. 93×6
    d. 6×15.5

Finding Decimal Quotients

─────────── CRITICAL THINKING AND PROBLEM SOLVING ───────────

Grocery stores often advertise prices as 2 for a certain price, or 3 for a certain price. To decide whether the price is a good buy, you may want to figure out how much one item costs. Decimal division is used to do that. Find prices for one of each item listed below.

20. 12 ounce bowls of whipped topping

Price: 2 for $3

Cost for 1 = _____

21. 12 ounce cans of orange juice

Price: 4 for $5

Cost for 1 = _____

22. 21 ounce cheese or pepperoni pizza

Price: 2 for $4

Cost for 1 = _____

23. 16 ounce box of graham crackers

Price: 2 for $5

Cost for 1 = _____

24. 16 ounce bottles of iced tea

Price: 4 for $2

Cost for 1 = _____

25. Lawn & leaf bags — 10 count box

Price: $3

Cost for 1 = _____

26. Frozen dinners

Price: 5 for $6

Cost for 1 = _____

27. Boxes of gelatin

Price: 8 for $2

Cost for 1 = _____

Find the missing number in each division problem.

28. $\square\,)\,\overline{5.6}$ → 0.7

29. $\square\,)\,\overline{3.0}$ → 0.5

30. $\square\,)\,\overline{2.7}$ → 0.3

31. $\square\,)\,\overline{6.3}$ → 0.7

32. $\square\,)\,\overline{4.5}$ → 0.5

33. $\square\,)\,\overline{6.4}$ → 0.8

34. $\square\,)\,\overline{4.9}$ → 0.7

35. $\square\,)\,\overline{8.1}$ → 0.9

36. $\square\,)\,\overline{4.8}$ → 0.6

37. $\square\,)\,\overline{4.2}$ → 0.6

38. $\square\,)\,\overline{5.4}$ → 0.9

39. $\square\,)\,\overline{3.6}$ → 0.6

More on Dividing Decimals by Whole Numbers

———————————— SKILLS ————————————

For each division problem, show your work in the space provided.

1. Divide 3.792 by 6.

2. Divide 3.213 by 7.

3. Divide 3.515 by 5.

4. Divide 3.296 by 4.

5. Divide 5.484 by 6.

6. Divide 2.658 by 3.

7. Divide 4.344 by 6.

8. Divide 9.704 by 8.

Find each quotient. Show your work on a separate piece of paper.

9. $5\overline{)11.825}$

10. $3\overline{)9.372}$

11. $4\overline{)10.612}$

12. $2\overline{)8.282}$

13. $9\overline{)19.206}$

14. $3\overline{)12.711}$

15. $3\overline{)22.068}$

16. $6\overline{)21.744}$

More on Dividing Decimals by Whole Numbers

———————————— CRITICAL THINKING AND PROBLEM SOLVING ————————————

17. How many boards are in a 9-inch pile if each one is 0.75 inch thick?

There are _____ boards.

18. A stack of 8 textbooks measures 11.8 inches high. How thick is each book?

Each textbook is _____ inches thick.

19. A row of 50 pennies is 3.125 feet long. How wide is each penny?

Each penny is _____ foot wide.

20. A bag containing 40 sweet cherries weighs 1.3 pounds. What is the approximate weight of each cherry?

The weight of each cherry is about _____ pound.

21. You bought 6 chicken breasts in a package that weighed 1.26 pounds. About how much did each one weigh?

Each chicken breast weighed about _____ pound.

Is the decimal point in the correct place in each quotient? If you answer NO, tell what the correct answer should be and how you decided where to put the decimal point.

22.   40.5   YES _____

   6) 24.30   NO _____

23.   2.3   YES _____

   8) 18.4   NO _____

24.   1.7   YES _____

   8) 1.36   NO _____

25.   2.34   YES _____

   5) 1.17   NO _____

26.   13.2   YES _____

   8) 10.56   NO _____

Dividing Decimals Through Hundredths

———————————————— SKILLS ————————————————

Find each quotient.

1. $0.4\overline{)3.2}$

> Rewrite the divisor as a whole number.
> Divide as you would divide whole numbers.
> Place decimal point in quotient.

2. $1.2\overline{)4.32}$

3. $0.9\overline{)5.04}$

4. $0.6\overline{)1.62}$

5. $0.25\overline{)4.1}$

6. $0.11\overline{)9.9}$

7. $0.9\overline{)20.52}$

8. $0.5\overline{)15.22}$

9. $2.4\overline{)0.3}$

10. $0.6\overline{)7.5}$

11. $0.12\overline{)0.9}$

12. $0.03\overline{)3.66}$

13. $0.07\overline{)45.5}$

14. $1.1\overline{)9.57}$

15. $0.35\overline{)0.7}$

16. $1.3\overline{)0.65}$

17. $1.5\overline{)10.5}$