

Chapter 9

Multiplying and Dividing Decimals

Practice 1 Multiplying Decimals

Multiply. Write the product as a decimal.

Example

$$\begin{aligned}
 2 \times 0.3 &= 2 \times \underline{3} \text{ tenths} \\
 &= \underline{6} \text{ tenths} \\
 &= \underline{0.6} \\
 \text{So, } 2 \times 0.3 &= \underline{0.6}.
 \end{aligned}$$

1. $5 \times 0.6 = 5 \times \underline{\hspace{2cm}} \text{ tenths}$
 $= \underline{\hspace{2cm}} \text{ tenths}$
 $= \underline{\hspace{2cm}} \text{ or } \underline{\hspace{2cm}}$
 So, $5 \times 0.6 = \underline{\hspace{2cm}}$.

2. $7 \times 0.8 = 7 \times \underline{\hspace{2cm}} \text{ tenths}$
 $= \underline{\hspace{2cm}} \text{ tenths}$
 $= \underline{\hspace{2cm}}$
 So, $7 \times 0.8 = \underline{\hspace{2cm}}$.

3. $10 \times 0.4 = 10 \times \underline{\hspace{2cm}} \text{ tenths}$
 $= \underline{\hspace{2cm}} \text{ tenths}$
 $= \underline{\hspace{2cm}} \text{ or } \underline{\hspace{2cm}}$
 So, $10 \times 0.4 = \underline{\hspace{2cm}}$.

Multiply. Write the product as a decimal.

Example

$$\begin{aligned} 3 \times 0.03 &= 3 \times \overset{3}{\quad} \text{ hundredths} \\ &= \overset{9}{\quad} \text{ hundredths} \\ &= \underline{0.09} \\ \text{So, } 3 \times 0.03 &= \underline{0.09}. \end{aligned}$$

4. $5 \times 0.02 = 5 \times \underline{\quad} \text{ hundredths}$
 $= \underline{\quad} \text{ hundredths}$
 $= \underline{\quad} \text{ or } \underline{\quad}$

So, $5 \times 0.02 = \underline{\quad}$.

5. $7 \times 0.07 = 7 \times \underline{\quad} \text{ hundredths}$
 $= \underline{\quad} \text{ hundredths}$
 $= \underline{\quad}$

So, $7 \times 0.07 = \underline{\quad}$.

6. $6 \times 0.12 = 6 \times \underline{\quad} \text{ hundredths}$
 $= \underline{\quad} \text{ hundredths}$
 $= \underline{\quad}$

So, $6 \times 0.12 = \underline{\quad}$.

Follow the steps to multiply 2.6 by 3. Fill in the blanks.**7.** **Step 1**

$$\begin{array}{r} 2.6 \\ \times 3 \\ \hline \end{array}$$

Multiply the tenths by 3.

$$3 \times 6 \text{ tenths} = \underline{\hspace{2cm}} \text{ tenths}$$

Regroup the tenths.

$$\underline{\hspace{2cm}} \text{ tenths} = \underline{\hspace{2cm}} \text{ one and } \underline{\hspace{2cm}} \text{ tenths}$$

Step 2

$$\begin{array}{r} 2.6 \\ \times 3 \\ \hline \end{array}$$

Multiply the ones by 3.

$$3 \times 2 \text{ ones} = \underline{\hspace{2cm}} \text{ ones}$$

Add the ones.

$$\underline{\hspace{2cm}} \text{ ones} + \underline{\hspace{2cm}} \text{ one} = \underline{\hspace{2cm}} \text{ ones}$$

$$\text{So, } 3 \times 2.6 = \underline{\hspace{2cm}}.$$

Multiply.

$$\begin{array}{r} 8. \quad 0.3 \\ \times \quad 8 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 2.6 \\ \times \quad 4 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 7.9 \\ \times \quad 5 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 12.4 \\ \times \quad 7 \\ \hline \end{array}$$

Follow the steps to multiply 1.46 by 6. Fill in the blanks.

12.

Step 1

$$\begin{array}{r} 1.46 \\ \times \quad 6 \\ \hline \end{array}$$

Multiply the hundredths by 6.

$$6 \times 6 \text{ hundredths} = \text{_____ hundredths}$$

Regroup the hundredths.

$$\text{_____ hundredths} = \text{_____ tenths} \text{ _____ hundredths}$$

Step 2

$$\begin{array}{r} 1.46 \\ \times \quad 6 \\ \hline \end{array}$$

Multiply the tenths by 6.

$$6 \times 4 \text{ tenths} = \text{_____ tenths}$$

Add the tenths.

$$\text{_____ tenths} + \text{_____ tenths} = \text{_____ tenths}$$

Regroup the tenths.

$$\text{_____ tenths} = \text{_____ ones and _____ tenths}$$

Step 3

$$\begin{array}{r} 1.46 \\ \times \quad 6 \\ \hline \end{array}$$

Multiply the ones by 6.

$$6 \times 1 \text{ one} = \text{_____ ones}$$

Add the ones.

$$\text{_____ ones} + \text{_____ ones} = \text{_____ ones}$$

$$\text{So, } 6 \times 1.46 = \text{_____}.$$

Name: _____

Date: _____

Multiply.

13.
$$\begin{array}{r} 10.07 \\ \times \quad 5 \\ \hline \end{array}$$

14.
$$\begin{array}{r} 0.75 \\ \times \quad 4 \\ \hline \end{array}$$

15.
$$\begin{array}{r} 3.06 \\ \times \quad 9 \\ \hline \end{array}$$

16.
$$\begin{array}{r} 15.24 \\ \times \quad 8 \\ \hline \end{array}$$

17. $4 \times 2.08 = \underline{\hspace{2cm}}$

18. $3 \times 3.29 = \underline{\hspace{2cm}}$

19. $7 \times 5.71 = \underline{\hspace{2cm}}$

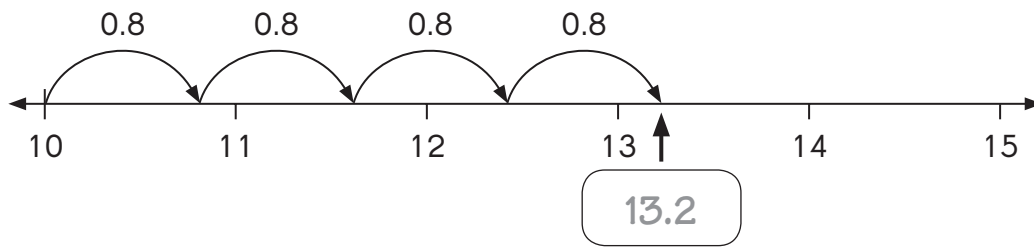
20. $6 \times 4.81 = \underline{\hspace{2cm}}$

21. $9 \times 7.46 = \underline{\hspace{2cm}}$

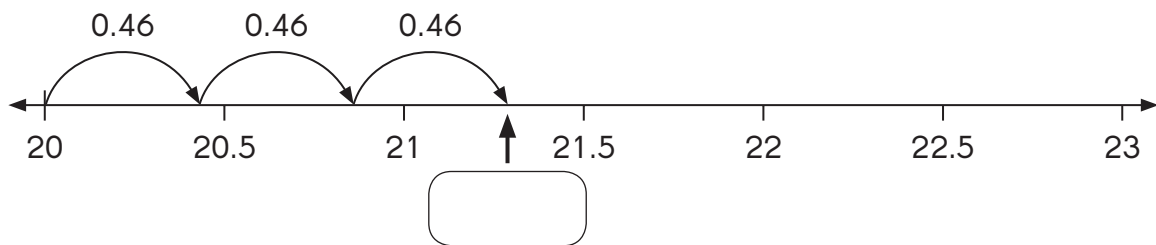
22. $8 \times 6.52 = \underline{\hspace{2cm}}$

Write the correct decimal in each box.

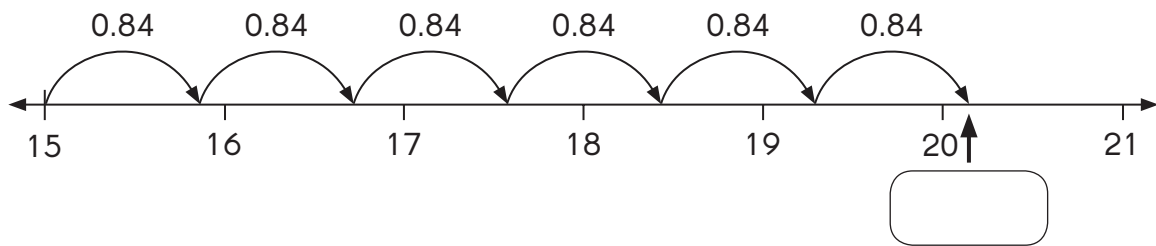
Example



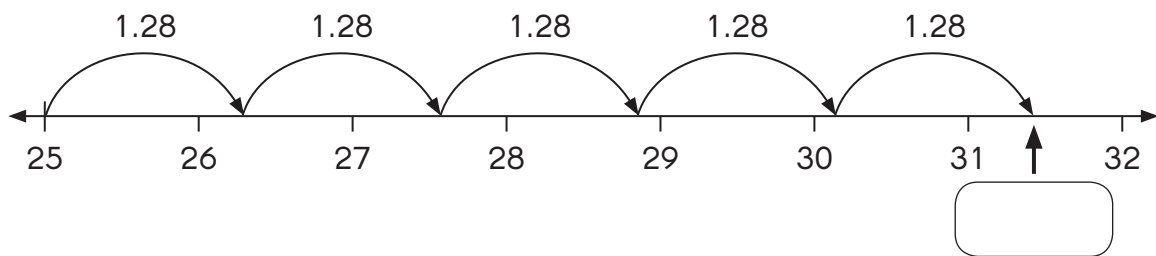
23.



24.



25.



Practice 2 Multiplying by Tens, Hundreds, and Thousands

Complete. Draw chips and use arrows to show how the chips move. Then fill in the blanks.

1.

	Hundreds	Tens	Ones	Tenths	Hundredths
12		○	○ ○		
12×10	○	○ ○			
2			○ ○		
2×10					
0.2				○ ○	
0.2×10					
0.12				○	○ ○
0.12×10					

$12 \times 10 = \underline{\hspace{2cm}}$

$2 \times 10 = \underline{\hspace{2cm}}$

$0.2 \times 10 = \underline{\hspace{2cm}}$

$0.12 \times 10 = \underline{\hspace{2cm}}$

Multiply.

2. $0.5 \times 10 = \underline{\hspace{2cm}}$

3. $1.9 \times 10 = \underline{\hspace{2cm}}$

4. $3.42 \times 10 = \underline{\hspace{2cm}}$

5. $7.035 \times 10 = \underline{\hspace{2cm}}$

6. $10 \times 7.9 = \underline{\hspace{2cm}}$

7. $10 \times 4.8 = \underline{\hspace{2cm}}$

8. $10 \times 27.54 = \underline{\hspace{2cm}}$

9. $10 \times 12.009 = \underline{\hspace{2cm}}$

Complete.

10. $0.7 \times \underline{\hspace{2cm}} = 7$

11. $15.72 \times \underline{\hspace{2cm}} = 157.2$

12. $10 \times \underline{\hspace{2cm}} = 534.2$

13. $\underline{\hspace{2cm}} \times 10 = 19.07$

Complete.

Example

$$\begin{aligned} 8 \times 50 &= (8 \times \underline{5}) \times 10 \\ &= \underline{40} \times 10 \\ &= \underline{400} \end{aligned}$$

So, $8 \times 50 = \underline{400}$.

14. $0.8 \times 50 = (0.8 \times 5) \times \underline{\hspace{2cm}}$
 $= \underline{\hspace{2cm}} \times 10$
 $= \underline{\hspace{2cm}}$

So, $0.8 \times 50 = \underline{\hspace{2cm}}$.

15. $0.88 \times 50 = (0.88 \times \underline{\hspace{2cm}}) \times 10$
 $= \underline{\hspace{2cm}} \times 10$
 $= \underline{\hspace{2cm}}$

So, $0.88 \times 50 = \underline{\hspace{2cm}}$.

Find each product.

16. $0.9 \times 40 = \underline{\hspace{2cm}}$

17. $1.5 \times 60 = \underline{\hspace{2cm}}$

18. $0.05 \times 80 = \underline{\hspace{2cm}}$

19. $9.17 \times 70 = \underline{\hspace{2cm}}$

20. $6.358 \times 30 = \underline{\hspace{2cm}}$

21. $34.6 \times 50 = \underline{\hspace{2cm}}$

22. $41.32 \times 60 = \underline{\hspace{2cm}}$

23. $23.05 \times 40 = \underline{\hspace{2cm}}$

Name: _____

Date: _____

Multiply.

24. $1.3 \times 100 = \underline{\hspace{2cm}}$

25. $6.8 \times 100 = \underline{\hspace{2cm}}$

26. $4.196 \times 100 = \underline{\hspace{2cm}}$

27. $100 \times 74.3 = \underline{\hspace{2cm}}$

28. $46.8 \times 100 = \underline{\hspace{2cm}}$

29. $4.68 \times 100 = \underline{\hspace{2cm}}$

30. $5.095 \times 100 = \underline{\hspace{2cm}}$

31. $100 \times 50.95 = \underline{\hspace{2cm}}$

Multiply.

32. $1.8 \times 1,000 = \underline{\hspace{2cm}}$

33. $2.1 \times 1,000 = \underline{\hspace{2cm}}$

34. $9.097 \times 1,000 = \underline{\hspace{2cm}}$

35. $1,000 \times 7.007 = \underline{\hspace{2cm}}$

36. $2.74 \times 1,000 = \underline{\hspace{2cm}}$

37. $27.4 \times 1,000 = \underline{\hspace{2cm}}$

38. $1,000 \times 10.81 = \underline{\hspace{2cm}}$

39. $108.1 \times 1,000 = \underline{\hspace{2cm}}$

Complete.*Example*

$$1.2 = 0.12 \times \underline{10}$$

$$= 0.012 \times \underline{100}$$

40. $360 = 36 \times \underline{\hspace{2cm}}$

$= 3.6 \times \underline{\hspace{2cm}}$

$= 0.36 \times \underline{\hspace{2cm}}$

41. $438 = \underline{\hspace{2cm}} \times 10$

$= \underline{\hspace{2cm}} \times 100$

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

42. $7,256 = \underline{\hspace{2cm}} \times 10$

$= \underline{\hspace{2cm}} \times 100$

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

Multiply.

Example

$$\begin{aligned} 0.3 \times 700 &= (0.3 \times 7) \times 100 \\ &= \underline{2.1} \times 100 = \underline{210} \end{aligned}$$

$$\text{So, } 0.3 \times 700 = \underline{210}.$$

$$\begin{aligned} \mathbf{43.} \quad 0.003 \times 700 &= (0.003 \times \underline{\quad\quad\quad}) \times 100 \\ &= \underline{\quad\quad\quad} \times 100 = \underline{\quad\quad\quad} \end{aligned}$$

$$\text{So, } 0.003 \times 700 = \underline{\quad\quad\quad}.$$

$$\begin{aligned} \mathbf{44.} \quad 0.03 \times 2,000 &= (0.03 \times \underline{\quad\quad\quad}) \times 1,000 \\ &= \underline{\quad\quad\quad} \times 1,000 = \underline{\quad\quad\quad} \end{aligned}$$

$$\text{So, } 0.03 \times 2,000 = \underline{\quad\quad\quad}.$$

$$\begin{aligned} \mathbf{45.} \quad 0.003 \times 2,000 &= (0.003 \times \underline{\quad\quad\quad}) \times 1,000 \\ &= \underline{\quad\quad\quad} \times 1,000 = \underline{\quad\quad\quad} \end{aligned}$$

$$\text{So, } 0.003 \times 2,000 = \underline{\quad\quad\quad}.$$

Find each product.

$$\mathbf{46.} \quad 4.5 \times 200 = \underline{\quad\quad\quad}$$

$$\mathbf{47.} \quad 0.49 \times 300 = \underline{\quad\quad\quad}$$

$$\mathbf{48.} \quad 3.148 \times 500 = \underline{\quad\quad\quad}$$

$$\mathbf{49.} \quad 2.27 \times 700 = \underline{\quad\quad\quad}$$

$$\mathbf{50.} \quad 900 \times 3.18 = \underline{\quad\quad\quad}$$

$$\mathbf{51.} \quad 1.8 \times 2,000 = \underline{\quad\quad\quad}$$

$$\mathbf{52.} \quad 4,000 \times 2.5 = \underline{\quad\quad\quad}$$

$$\mathbf{53.} \quad 72.5 \times 6,000 = \underline{\quad\quad\quad}$$

$$\mathbf{54.} \quad 1.75 \times 8,000 = \underline{\quad\quad\quad}$$

$$\mathbf{55.} \quad 4.19 \times 9,000 = \underline{\quad\quad\quad}$$

Practice 3 Dividing Decimals

Divide. Write the quotient as a decimal.

Example

$$0.6 \div 2 = \underline{6} \text{ tenths} \div 2$$

$$= \underline{3} \text{ tenths}$$

$$= \underline{0.3}$$

$$\text{So, } 0.6 \div 2 = \underline{0.3}.$$

1. $0.8 \div 4 = \underline{\hspace{2cm}} \text{ tenths} \div 4$
 $= \underline{\hspace{2cm}} \text{ tenths}$
 $= \underline{\hspace{2cm}}$

$$\text{So, } 0.8 \div 4 = \underline{\hspace{2cm}}.$$

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

$$\text{So, } 1 \div 5 = \underline{\hspace{2cm}}.$$

3. $2.4 \div 6 = \underline{\hspace{2cm}} \text{ tenths} \div 6$
 $= \underline{\hspace{2cm}} \text{ tenths}$
 $= \underline{\hspace{2cm}}$

$$\text{So, } 2.4 \div 6 = \underline{\hspace{2cm}}.$$

Complete. Write the quotient as a decimal.

Example

$$\begin{aligned} 0.08 \div 2 &= \underline{8} \text{ hundredths} \div \underline{2} \\ &= \underline{4} \text{ hundredths} \\ &= \underline{0.04} \\ \text{So, } 0.08 \div 2 &= \underline{0.04}. \end{aligned}$$

4. $0.14 \div 7 = \underline{\hspace{2cm}} \text{ hundredths} \div \underline{\hspace{2cm}}$
 $= \underline{\hspace{2cm}} \text{ hundredths}$
 $= \underline{\hspace{2cm}}$
So, $0.14 \div 7 = \underline{\hspace{2cm}}$.

5. $0.27 \div 9 = \underline{\hspace{2cm}} \text{ hundredths} \div \underline{\hspace{2cm}}$
 $= \underline{\hspace{2cm}} \text{ hundredths}$
 $= \underline{\hspace{2cm}}$
So, $0.27 \div 9 = \underline{\hspace{2cm}}$.

6. $0.1 \div 2 = \underline{\hspace{2cm}} \text{ hundredths} \div \underline{\hspace{2cm}}$
 $= \underline{\hspace{2cm}} \text{ hundredths}$
 $= \underline{\hspace{2cm}}$
So, $0.1 \div 2 = \underline{\hspace{2cm}}$.

Follow the steps to divide 8.4 by 3. Fill in the blanks.**7.** **Step 1**

$$3 \overline{) 8.4}$$

Divide the ones by 3.

$$8 \text{ ones} \div 3 = \underline{\quad\quad} \text{ ones R } \underline{\quad\quad} \text{ ones}$$

$$3 \overline{) 8.4}$$

Regroup the remainder into tenths.

$$\underline{\quad\quad} \text{ ones} = \underline{\quad\quad} \text{ tenths}$$

Add the tenths.

$$\underline{\quad\quad} \text{ tenths} + 4 \text{ tenths} = \underline{\quad\quad} \text{ tenths}$$

Step 2

$$3 \overline{) 8.4}$$

Divide the tenths by 3.

$$\underline{\quad\quad} \text{ tenths} \div 3 = \underline{\quad\quad} \text{ tenths}$$

$$\text{So, } 8.4 \div 3 = \underline{\quad\quad\quad}.$$

Divide.

8. $3 \overline{)12.9}$

9. $8 \overline{)5.6}$

10. $3 \overline{)8.7}$

11. $9 \overline{)24.3}$

12. $4 \overline{)0.6}$

13. $5 \overline{)5.2}$

Follow the steps to divide 5.48 by 4. Fill in the blanks.**14.**

Step 1

$$4 \overline{) 5.48}$$

Divide the ones by 4.

$$5 \text{ ones} \div 4 = \underline{\quad\quad} \text{ one R } \underline{\quad\quad} \text{ one}$$

Regroup the remainder into tenths.

$$\underline{\quad\quad} \text{ one} = \underline{\quad\quad} \text{ tenths}$$

Add the tenths.

$$\underline{\quad\quad} \text{ tenths} + 4 \text{ tenths} = \underline{\quad\quad} \text{ tenths}$$

Step 2

$$4 \overline{) 5.48}$$

Divide the tenths by 4.

$$\underline{\quad\quad} \text{ tenths} \div 4 = \underline{\quad\quad} \text{ tenths R } \underline{\quad\quad} \text{ tenths}$$

Regroup the remainder into hundredths.

$$\underline{\quad\quad} \text{ tenths} = \underline{\quad\quad} \text{ hundredths}$$

Add the hundredths.

$$\underline{\quad\quad} \text{ hundredths} + 8 \text{ hundredths} = \underline{\quad\quad} \text{ hundredths}$$

Step 3

$$4 \overline{) 5.48}$$

Divide the hundredths by 4.

$$\underline{\quad\quad} \text{ hundredths} \div 4 = \underline{\quad\quad} \text{ hundredths}$$

$$\text{So, } 5.48 \div 4 = \underline{\quad\quad\quad}.$$

Divide.

15. $4 \overline{)0.52}$

16. $9 \overline{)0.81}$

17. $6 \overline{)12.12}$

18. $7 \overline{)9.66}$

19. $5 \overline{)15.65}$

20. $4 \overline{)3}$

Divide. Round each quotient to the nearest tenth.*Example*

$7 \div 8$

$$\begin{array}{r}
 0.87 \\
 8 \overline{)7.00} \\
 \underline{0} \\
 70 \\
 \underline{64} \\
 60 \\
 \underline{56} \\
 4
 \end{array}$$

 $7 \div 8$ is about 0.9 .

First, divide to two decimal places. Then round the answer to the nearest tenth.



21. $5 \div 7$

$$7 \overline{)5}$$

22. $11 \div 9$

$$9 \overline{)11}$$

Divide. Round each quotient to the nearest hundredth.

Example

$$\begin{array}{r} 14.7 \div 9 \\ \hline 1.633 \\ 9 \overline{)14.700} \\ \underline{9} \\ 57 \\ \underline{54} \\ 30 \\ \underline{27} \\ 30 \\ \underline{27} \\ 3 \end{array}$$

14.7 ÷ 9 is about 1.63.

First, divide to three decimal places. Then round the answer to the nearest hundredth.



23. $3.2 \div 7$

$$7 \overline{)3.2}$$

24. $13 \div 6$

$$6 \overline{)13}$$

Practice 4 Dividing by Tens, Hundreds, and Thousands

Complete. Draw chips and use arrows to show how the chips move. Then fill in the blanks.

1.

	Hundreds	Tens	Ones	Tenths	Hundredths
140	○	○○○○			
140 ÷ 10		○	○○○○		
20		○○			
20 ÷ 10					
6			○○○ ○○○		
6 ÷ 10					
0.3				○○○	
0.3 ÷ 10					

140 ÷ 10 = _____

20 ÷ 10 = _____

6 ÷ 10 = _____

0.3 ÷ 10 = _____

Divide.

2. $\overset{\curvearrowright}{6} \div 10 = \underline{\hspace{2cm}}$

3. $\overset{\curvearrowright}{54} \div 10 = \underline{\hspace{2cm}}$

4. $\overset{\curvearrowright}{215} \div 10 = \underline{\hspace{2cm}}$

5. $\overset{\curvearrowright}{5.2} \div 10 = \underline{\hspace{2cm}}$

6. $64.6 \div 10 = \underline{\hspace{2cm}}$

7. $4.08 \div 10 = \underline{\hspace{2cm}}$

8. $180.4 \div 10 = \underline{\hspace{2cm}}$

9. $1.84 \div 10 = \underline{\hspace{2cm}}$

Complete.

10. $23.7 \div \underline{\hspace{2cm}} = 2.37$

11. $0.78 \div \underline{\hspace{2cm}} = 0.078$

12. $\underline{\hspace{2cm}} \div 10 = 4.106$

13. $\underline{\hspace{2cm}} \div 10 = 6.4$

Divide

Example

$$9 \div 30 = (9 \div \underline{3}) \div 10$$

$$= \underline{3} \div 10$$

$$= \underline{0.3}$$

$$\text{So, } 9 \div 30 = \underline{0.3}.$$

14. $0.9 \div 30 = (0.9 \div \underline{\hspace{2cm}}) \div 10$

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

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

$$\text{So, } 0.9 \div 30 = \underline{\hspace{2cm}}.$$

15. $0.09 \div 30 = (0.09 \div \underline{\hspace{2cm}}) \div 10$

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

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

$$\text{So, } 0.09 \div 30 = \underline{\hspace{2cm}}.$$

16. $1.8 \div 90 = (1.8 \div \underline{\hspace{2cm}}) \div 10$

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

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

$$\text{So, } 1.8 \div 90 = \underline{\hspace{2cm}}.$$

Name: _____

Date: _____

Divide.

17. $4.8 \div 20 = \underline{\hspace{2cm}}$

18. $0.32 \div 40 = \underline{\hspace{2cm}}$

19. $2.08 \div 80 = \underline{\hspace{2cm}}$

20. $2.55 \div 50 = \underline{\hspace{2cm}}$

21. $3.5 \div 70 = \underline{\hspace{2cm}}$

22. $0.3 \div 60 = \underline{\hspace{2cm}}$

Divide.

23. $\overset{\curvearrowright}{\overset{\curvearrowright}{7.5}} \div 100 = \underline{\hspace{2cm}}$

24. $\overset{\curvearrowright}{\overset{\curvearrowright}{49.3}} \div 100 = \underline{\hspace{2cm}}$

25. $6,001 \div 100 = \underline{\hspace{2cm}}$

26. $708.2 \div 100 = \underline{\hspace{2cm}}$

27. $\overset{\curvearrowright}{\overset{\curvearrowright}{\overset{\curvearrowright}{900}}} \div 1,000 = \underline{\hspace{2cm}}$

28. $\overset{\curvearrowright}{\overset{\curvearrowright}{\overset{\curvearrowright}{4,103}}} \div 1,000 = \underline{\hspace{2cm}}$

29. $909 \div 1,000 = \underline{\hspace{2cm}}$

30. $9,009 \div 1,000 = \underline{\hspace{2cm}}$

Complete.

31. $86.2 \div \underline{\hspace{2cm}} = 0.862$

32. $275 \div \underline{\hspace{2cm}} = 0.275$

33. $\underline{\hspace{2cm}} \div 100 = 0.006$

34. $\underline{\hspace{2cm}} \div 1,000 = 3.082$

Complete.*Example*

$$\begin{aligned} 0.07 &= 0.7 \div \underline{10} \\ &= 7 \div \underline{100} \\ &= 70 \div \underline{1,000} \end{aligned}$$

35. $0.31 = 3.1 \div \underline{\hspace{2cm}}$

$= 31 \div \underline{\hspace{2cm}}$

$= 310 \div \underline{\hspace{2cm}}$

36. $8.06 = \underline{\hspace{2cm}} \div 10$

37. $5.115 = \underline{\hspace{2cm}} \div 10$

$= 806 \div \underline{\hspace{2cm}}$

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

$= 8,060 \div \underline{\hspace{2cm}}$

$= 5,115 \div \underline{\hspace{2cm}}$

Complete.

Example

$$\begin{aligned}42 \div 200 &= (42 \div \underline{2}) \div 100 \\ &= \underline{21} \div 100 \\ &= \underline{0.21} \\ \text{So, } 42 \div 200 &= \underline{0.21}.\end{aligned}$$

38. $18.9 \div 900 = (18.9 \div \underline{\hspace{2cm}}) \div 100$
 $= \underline{\hspace{2cm}} \div 100$
 $= \underline{\hspace{2cm}}$

So, $18.9 \div 900 = \underline{\hspace{2cm}}$.

39. $2 \div 2,000 = (2 \div \underline{\hspace{2cm}}) \div 1,000$
 $= \underline{\hspace{2cm}} \div 1,000$
 $= \underline{\hspace{2cm}}$

So, $2 \div 2,000 = \underline{\hspace{2cm}}$.

40. $1,500 \div 6,000 = (1,500 \div \underline{\hspace{2cm}}) \div 1,000$
 $= \underline{\hspace{2cm}} \div 1,000$
 $= \underline{\hspace{2cm}}$

So, $1,500 \div 6,000 = \underline{\hspace{2cm}}$.

Divide.

41. $306 \div 600 = \underline{\hspace{2cm}}$ **42.** $29.7 \div 900 = \underline{\hspace{2cm}}$

43. $1,056 \div 800 = \underline{\hspace{2cm}}$ **44.** $48 \div 2,000 = \underline{\hspace{2cm}}$

45. $408 \div 3,000 = \underline{\hspace{2cm}}$ **46.** $805 \div 7,000 = \underline{\hspace{2cm}}$

Practice 5 Estimating Decimals

Round each decimal to the nearest whole number.
Then estimate the sum or difference.

Example

$$7.7 + 12.3$$

7.7 rounds to 8.

12.3 rounds to 12.

$$8 + 12 = 20$$

7.7 + 12.3 is about 20.

$$21.8 - 11.5$$

21.8 rounds to 22.

11.5 rounds to 12.

$$22 - 12 = 10$$

21.8 - 11.5 is about 10.

1. $\$2.90 + \7.15

2. $9.05 + 19.55$

3. $35.67 - 15.09$

4. $\$15.40 - \5.95

Estimate the product by rounding the decimal to the nearest whole number.

Example

$$4.5 \times 4$$

4.5 rounds to 5.

$$5 \times 4 = 20$$

4.5 × 4 is about 20.

5. 19.6×3

6. 0.95×8

7. 8.25×3

Estimate the quotient by choosing a whole number close to the dividend that can be evenly divided by the divisor.

Example

$$24.6 \div 5$$

24.6 is about 25.

$$25 \div 5 = 5$$

24.6 ÷ 5 is about 5.

8. $38.4 \div 6$

9. $71.09 \div 8$

10. $99.75 \div 5$

Name: _____

Date: _____

Round each decimal to the nearest tenth. Then estimate.

11. $0.47 + 15.51$

12. $9.95 - 1.46$

13. $2.89 \text{ pounds} \times 4$

Estimate the quotient by choosing a tenth close to the dividend that can be evenly divided by the divisor.

14. $6.34 \text{ kilograms} \div 7$

Solve. Show your work.

15. A bag of walnuts sells for \$1.95. Estimate the cost of 8 bags of walnuts.

16. A piece of plywood is 1.27 centimeters thick. Find the thickness of a pile of 9 pieces of plywood to the nearest tenth of a centimeter. Estimate to check if your answer is reasonable.

Practice 6 Real-World Problems: Decimals

Solve. Show your work.

1. How many liters of spring water are in 6 bottles if each bottle contains 0.33 liter of spring water? Round your answer to the nearest liter.
2. A plumber has a copper pipe 0.9 meter long. He cuts the pipe into 4 equal pieces. Find the length of each piece in meters. Round your answer to the nearest tenth of a meter.
3. Ashton is thinking of a number. When she divides it by 7, she gets a quotient of 7.35. What number is Ashton thinking of?

Solve. Show your work.

4. Mr. Kasac drives 32.27 miles from his office to his home. After driving 15.65 miles, he stopped at the dry cleaner's. How much farther does he have to drive before he gets home? Give your answer to the nearest mile.

5. 4 gallons of low fat milk cost \$13.80. Find the cost of 6 gallons of low fat milk.

6. 3 cans of green beans cost \$1.80. Rizal bought 9 cans of green beans. How much did he pay?

Name: _____

Date: _____

Solve. Show your work.

7. During the summer, Andrew worked for 6 days each week. He worked 8 hours each day. In a week, he earned \$360. How much was he paid for each hour of work?

8. A bag contains 10 pounds of dog food. A family feeds their dogs 0.85 pound of dog food a day. How much dog food is left in the bag after 7 days? Give your answer to the nearest pound.

Solve. Show your work.

9. A box of rice cakes costs \$1.95. What is the greatest number of boxes of rice cakes Jared can buy with \$10?

10. A metal rod 9.4 meters long is cut into two pieces. One piece is 3 times as long as the other. Find the length of the longer piece in meters. Round your answer to the nearest tenth of a meter.

Name: _____

Date: _____

Solve. Show your work.

11. Rani bought 9 similar notebooks. She gave the cashier \$10 and received change of \$5.05. What was the cost of 1 notebook?

12. A kilogram of whole-wheat flour costs \$6. What is the cost of 400 grams of the flour?

Solve. Show your work.

- 13.** A shop owner bought 30 folders and some journals. He paid \$82.50 for the folders. Each journal cost 10 times as much as a folder. What was the cost of each journal?



- 14.** There are 1,000 workers in a factory. Each worker works 30 hours a week and is paid \$10.50 an hour. How much does the company pay the workers altogether each week?

Practice 7 Real-World Problems: Decimals

Solve. Show your work.

1. Mrs. Lee uses 0.025 kilogram of wax to make a candle. On Monday, she made 50 candles. On Tuesday, she made 4 times as many candles as on Monday. How much wax did she use to make the candles on Tuesday?

2. One lap of a race track measures 4.68 kilometers. During a race of 56 laps, a driver stops to refuel after completing 48 laps. How many more kilometers does he have to drive to finish the race?



Solve. Show your work.

- 3.** Mrs. Rahlee bought 300 yards of ribbon to make flowers. She used 1.22 yards to make one large flower. She made 200 such large flowers. She used all of the remaining ribbon to make 100 small flowers. What was the length of ribbon Mrs. Rahlee used to make one small flower?

- 4.** Britta bought some carrots and apples for \$24.80. A carrot and an apple cost \$0.90 altogether. She bought more carrots than apples. The cost of the extra number of carrots was \$6.80. How many apples did Britta buy?



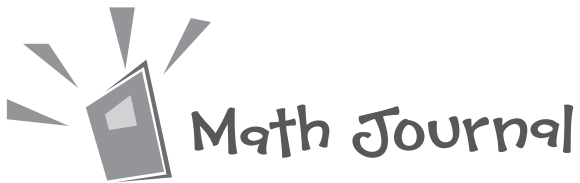
Name: _____

Date: _____

Solve. Show your work.

5. A plastic tub has a capacity of 13.5 quarts. It can hold 3 times as much liquid as a pail. The pail can hold twice as much liquid as a can. Find the capacity of the pail and that of the can in quarts.

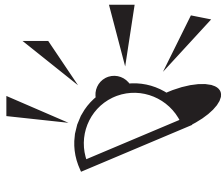
6. Marcy paid \$35 for 10 kilograms of raisins. She divided the raisins equally into two containers. Then she sold the raisins in the first container at \$4.50 per kilogram and those in the second container at \$5.50 per kilogram. How much money did Marcy earn after selling all the raisins?



Solve. Show your work.

1. James has a square piece of paper. He wants to cut it into 20 strips of equal width. He says, 'This piece of paper is **about** 48 centimeters wide.'
How can he find out the width of each strip without measuring?
Is this width accurate?

2. James takes a ruler and measures the width of the piece of paper. He finds that the actual width is 48.8 centimeters.
Find the width of each strip. How can you check if your answer is reasonable?



Put On Your Thinking Cap!



Challenging Practice

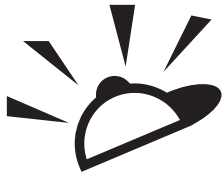
Solve. Show your work.

- 1.** A plumber has two pipes. One pipe is 7 times as long as the other pipe. He cuts 2.2 meters from the longer pipe. The remaining length of this pipe is 3 times that of the shorter pipe. Find the length of the shorter pipe in meters.

- 2.** At a farmer's market, 5 pounds of strawberries cost \$21.50. At a supermarket, 3 pounds of the same quality strawberries cost \$15.75.

 - a.** Which is a better buy?

 - b.** How much can you save by buying 20 pounds of the strawberries that are the better buy?



Put On Your Thinking Cap!



Problem Solving

Solve. Show your work.

1. Sam buys 10 oranges and 11 apples for \$10.05. The total cost of 1 orange and 1 apple is \$0.94. How much does an apple cost?

2. A bucket filled with sand has a mass of 11.15 kilograms. When it is filled with water, the mass is 5.95 kilograms. The mass of the sand is twice that of the water. Find the mass of the bucket in grams.

Name: _____

Date: _____

Solve. Show your work.

- 3.** The total capacity of 6 pitchers and 12 glasses is 21 liters. The capacity of a pitcher is 5 times that of a glass. Find the capacity of each glass. Give your answer in liters.

Solve. Show your work.

4. Dahlia has just enough money to buy either 6 pears and 20 oranges or 12 oranges and 11 pears. A pear costs \$0.80. How much does an orange cost?