

Multiplying and Dividing Decimals

Practice 1 Multiplying Decimals

Multiply. Write the product as a decimal.

Example

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

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

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

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

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

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

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

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

Multiply. Write the product as a decimal.

Example

$$\begin{aligned} 3 \times 0.03 &= 3 \times \underline{3} \text{ hundredths} \\ &= \underline{9} \text{ hundredths} \\ &= \underline{0.09} \end{aligned}$$

$$\text{So, } 3 \times 0.03 = \underline{0.09}.$$

4. $5 \times 0.02 = 5 \times \underline{\hspace{2cm}} \text{ hundredths}$
 $= \underline{\hspace{2cm}} \text{ hundredths}$
 $= \underline{\hspace{2cm}} \text{ or } \underline{\hspace{2cm}}$

$$\text{So, } 5 \times 0.02 = \underline{\hspace{2cm}}.$$

5. $7 \times 0.07 = 7 \times \underline{\hspace{2cm}} \text{ hundredths}$
 $= \underline{\hspace{2cm}} \text{ hundredths}$
 $= \underline{\hspace{2cm}}$

$$\text{So, } 7 \times 0.07 = \underline{\hspace{2cm}}.$$

6. $6 \times 0.12 = 6 \times \underline{\hspace{2cm}} \text{ hundredths}$
 $= \underline{\hspace{2cm}} \text{ hundredths}$
 $= \underline{\hspace{2cm}}$

$$\text{So, } 6 \times 0.12 = \underline{\hspace{2cm}}.$$

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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.

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

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

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

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

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.

6×6 hundredths = _____ hundredths

Regroup the hundredths.

_____ hundredths = _____ tenths _____ hundredths

Step 2

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

Multiply the tenths by 6.

6×4 tenths = _____ tenths

Add the tenths.

_____ tenths + _____ tenths = _____ tenths

Regroup the tenths.

_____ tenths = _____ ones and _____ tenths

Step 3

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

Multiply the ones by 6.

6×1 one = _____ ones

Add the ones.

_____ ones + _____ ones = _____ ones

So, $6 \times 1.46 =$ _____.

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

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

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

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

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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

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

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

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

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

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

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

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

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

Find each product.

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

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

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

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

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

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

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

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

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

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

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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, $0.1 \div 2 = \underline{\hspace{2cm}}$.

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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.

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

$$3 \overline{)8.4}$$

Regroup the remainder into tenths.

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

Add the tenths.

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

Step 2

$$3 \overline{)8.4}$$

Divide the tenths by 3.

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

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

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.

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

Regroup the remainder into tenths.

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

Add the tenths.

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

Step 2

$$4 \overline{) 5.48}$$

Divide the tenths by 4.

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

Regroup the remainder into hundredths.

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

Add the hundredths.

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

Step 3

$$4 \overline{) 5.48}$$

Divide the hundredths by 4.

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

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

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. $4 \overline{)3}$