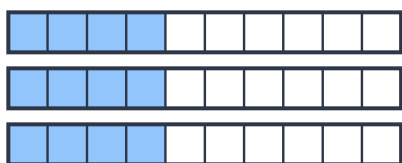


Multiply & Divide Decimals

Multiply a decimal by a whole number. Use models.

Each strip is 1 whole. Shade the tenths on each strip. Then multiply.

Example



$$3 \times 0.4 = \underline{1.2}$$

1.



$$2 \times 0.7 = \underline{\hspace{2cm}}$$

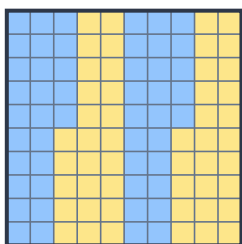
2.



$$4 \times 0.6 = \underline{\hspace{2cm}}$$

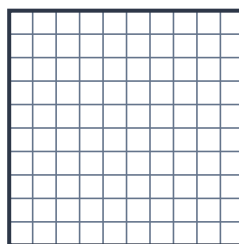
Shade one group at a time in a new color. Then multiply.

Example



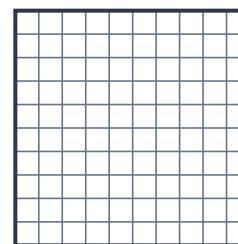
$$4 \times 0.25 = \underline{1}$$

3.



$$3 \times 0.18 = \underline{\hspace{2cm}}$$

4.



$$2 \times 0.35 = \underline{\hspace{2cm}}$$

Multiply. Think in tenths or hundredths.

Example

$$6 \times 0.3 = \underline{18} \text{ tenths}$$

$$= \underline{1.8}$$

$$5. \quad 7 \times 0.4 = \underline{\hspace{2cm}} \text{ tenths}$$

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

$$6. \quad 5 \times 0.08 = \underline{\hspace{2cm}} \text{ hundredths}$$

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

$$7. \quad 4 \times 0.12 = \underline{\hspace{2cm}} \text{ hundredths}$$

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

$$8. \quad 3 \times 1.2 = \underline{\hspace{2cm}} \text{ tenths}$$

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

$$9. \quad 6 \times 0.15 = \underline{\hspace{2cm}} \text{ hundredths}$$

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

Multiply & Divide Decimals

Multiply tenths by tenths on a hundred grid.

Shade the first number down and the second across. Multiply.

Example

0.6

0.3

$0.3 \times 0.6 = 0.18$

1.

$0.6 \times 0.6 = \underline{\hspace{2cm}}$

2.

 $0.9 \times 0.3 = \underline{\hspace{2cm}}$

The overlap is the product. Write the equation each grid shows.

Example

0.7

0.4

$0.4 \times 0.7 = 0.28$

3.

$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

4.

$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

The digits are given. Estimate to place the decimal point.

Problem	Estimate	Digits	Product
Example 2.4×3.1	$\underline{2} \times \underline{3} = \underline{6}$	744	$\underline{7.44}$
5. 5.2×1.9	$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	988	$\underline{\hspace{1cm}}$
6. 3.6×4.3	$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	1548	$\underline{\hspace{1cm}}$
7. 6.3×2.7	$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	1701	$\underline{\hspace{1cm}}$
8. 1.8×0.7	$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	126	$\underline{\hspace{1cm}}$

Multiply & Divide Decimals

Multiply as with whole numbers. Then count the decimal places.

Tenths times tenths: the product has 2 decimal places.

Example

$$\begin{array}{r} 3.6 \\ \times 24 \\ \hline 144 \\ + 720 \\ \hline 8.64 \end{array}$$

1.

$$\begin{array}{r} 1.7 \\ \times 43 \\ \hline \\ + \\ \hline \end{array}$$

2.

$$\begin{array}{r} 5.2 \\ \times 18 \\ \hline \\ + \\ \hline \end{array}$$

3.

$$\begin{array}{r} 2.5 \\ \times 37 \\ \hline \\ + \\ \hline \end{array}$$

Hundredths times a whole number.

Example

$$\begin{array}{r} 4.25 \\ \times 3 \\ \hline 12.75 \end{array}$$

4.

$$\begin{array}{r} 0.68 \\ \times 7 \\ \hline \end{array}$$

5.

$$\begin{array}{r} 2.36 \\ \times 14 \\ \hline \\ + \\ \hline \end{array}$$

6.

$$\begin{array}{r} 1.45 \\ \times 5 \\ \hline \end{array}$$

Money: find the cost.

Example

$$\begin{array}{r} \$ 4.75 \\ \times 3 \\ \hline \$ 14.25 \end{array}$$

7.

$$\begin{array}{r} \$ 12.89 \\ \times 4 \\ \hline \end{array}$$

8.

$$\begin{array}{r} \$ 0.85 \\ \times 12 \\ \hline \\ + \\ \hline \end{array}$$

9.

$$\begin{array}{r} \$ 6.49 \\ \times 5 \\ \hline \end{array}$$

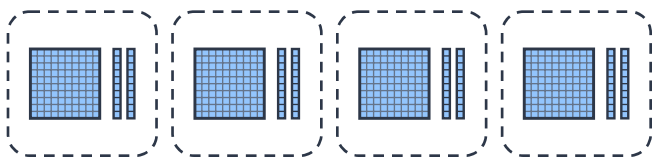
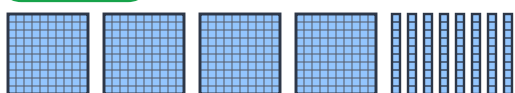
Multiply & Divide Decimals

Divide decimals with blocks, long division, and tenths.

Share the blocks equally. Draw what each group gets.

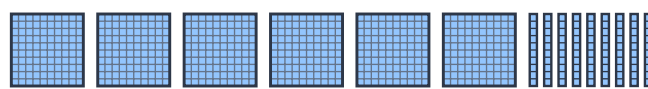
Example

$4.8 \div 4$



$4.8 \div 4 = \underline{1.2}$

1. $6.9 \div 3$



$6.9 \div 3 = \underline{\hspace{2cm}}$

Divide. Put the point in the answer right above the point.

Example

$$\begin{array}{r} 2.5 \\ 3 \overline{) 7.5} \\ \underline{- 6} \\ 15 \\ \underline{- 15} \\ 0 \end{array}$$

2.

$$4 \overline{) 9.36}$$

3.

$$12 \overline{) 25.2}$$

4.

$$16 \overline{) 85.44}$$

Divide by a decimal. How many tenths or hundredths fit?

Example

$1.2 \div 0.3 = \underline{12} \text{ tenths} \div \underline{3} \text{ tenths} = \underline{4}$

5. $3.5 \div 0.5 = \underline{\hspace{2cm}}$ tenths $\div \underline{\hspace{2cm}}$ tenths = $\underline{\hspace{2cm}}$

6. $0.48 \div 0.08 = \underline{\hspace{2cm}}$ hundredths $\div \underline{\hspace{2cm}}$ hundredths = $\underline{\hspace{2cm}}$

7. $0.36 \div 0.04 = \underline{\hspace{2cm}}$ hundredths $\div \underline{\hspace{2cm}}$ hundredths = $\underline{\hspace{2cm}}$

Multiply & Divide Decimals

Estimate first. Then solve the story problems.

Estimate with whole numbers. Then find the exact answer.

Problem	Estimate	Exact answer
Example 6.8×4	<u>7</u> $\times$ <u>4</u> = <u>28</u>	<u>27.2</u>
1. 3.9×5.2	<u> </u> $\times$ <u> </u> = <u> </u>	<u> </u>
2. $19.6 \div 4$	<u> </u> $\div$ <u> </u> = <u> </u>	<u> </u>
3. 2.95×6	<u> </u> $\times$ <u> </u> = <u> </u>	<u> </u>
4. $33.6 \div 8$	<u> </u> $\div$ <u> </u> = <u> </u>	<u> </u>
5. 4.1×7.9	<u> </u> $\times$ <u> </u> = <u> </u>	<u> </u>

Solve. Show your work.

Example Notebooks cost \$1.35 each.
How much do 6 notebooks cost?

$$1.35 \times 6 = 8.10$$

Answer: \$ 8.10

6. 12 friends share a \$45.60 bill
equally. How much does each friend
pay?

Answer: \$

7. A jug holds 3 L of juice. How many
0.25 L cups can it fill?

Answer: cups

8. Pencils cost \$0.45 each. Ana buys
8 pencils and pays with \$5. How much
change does she get?

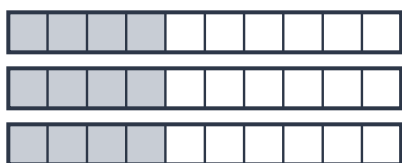
Answer: \$

Multiply & Divide Decimals

Multiply a decimal by a whole number. Use models.

Each strip is 1 whole. Shade the tenths on each strip. Then multiply.

Example



$$3 \times 0.4 = \underline{1.2}$$

1.



$$2 \times 0.7 = \underline{\hspace{2cm}}$$

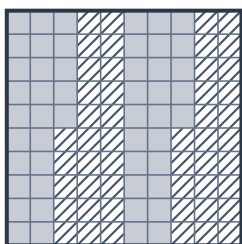
2.



$$4 \times 0.6 = \underline{\hspace{2cm}}$$

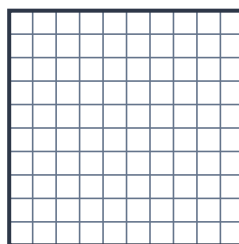
Shade one group at a time in a new color. Then multiply.

Example



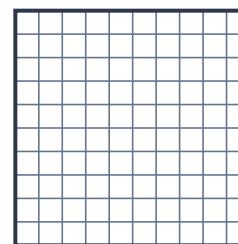
$$4 \times 0.25 = \underline{1}$$

3.



$$3 \times 0.18 = \underline{\hspace{2cm}}$$

4.



$$2 \times 0.35 = \underline{\hspace{2cm}}$$

Multiply. Think in tenths or hundredths.

Example

$$6 \times 0.3 = \underline{18} \text{ tenths}$$

$$= \underline{1.8}$$

$$5. \quad 7 \times 0.4 = \underline{\hspace{2cm}} \text{ tenths}$$

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

$$6. \quad 5 \times 0.08 = \underline{\hspace{2cm}} \text{ hundredths}$$

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

$$7. \quad 4 \times 0.12 = \underline{\hspace{2cm}} \text{ hundredths}$$

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

$$8. \quad 3 \times 1.2 = \underline{\hspace{2cm}} \text{ tenths}$$

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

$$9. \quad 6 \times 0.15 = \underline{\hspace{2cm}} \text{ hundredths}$$

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

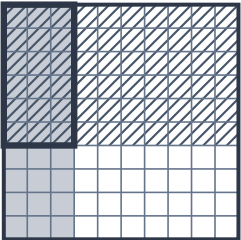
Multiply & Divide Decimals

Multiply tenths by tenths on a hundred grid.

Shade the first number down and the second across. Multiply.

Example

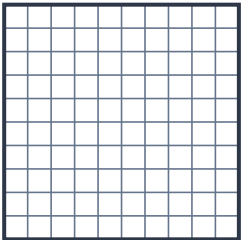
0.6



0.3

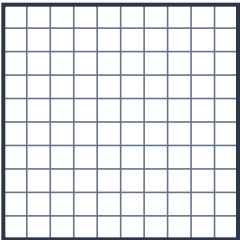
$0.3 \times 0.6 = 0.18$

1.



$0.6 \times 0.6 = \underline{\hspace{2cm}}$

2.

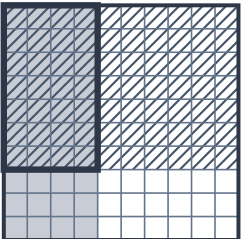


$0.9 \times 0.3 = \underline{\hspace{2cm}}$

The overlap is the product. Write the equation each grid shows.

Example

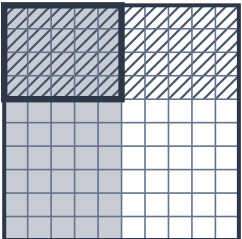
0.7



0.4

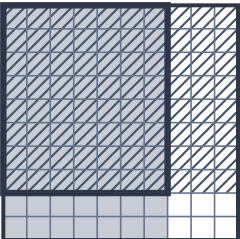
$0.4 \times 0.7 = 0.28$

3.



$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

4.



$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

The digits are given. Estimate to place the decimal point.

Problem	Estimate	Digits	Product
Example 2.4×3.1	$\underline{2} \times \underline{3} = \underline{6}$	744	$\underline{7.44}$
5. 5.2×1.9	$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	988	$\underline{\hspace{2cm}}$
6. 3.6×4.3	$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	1548	$\underline{\hspace{2cm}}$
7. 6.3×2.7	$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	1701	$\underline{\hspace{2cm}}$
8. 1.8×0.7	$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	126	$\underline{\hspace{2cm}}$

Multiply & Divide Decimals

Multiply as with whole numbers. Then count the decimal places.

Tenths times tenths: the product has 2 decimal places.

Example

		3.6	
×		24	
	1	44	
+	7	20	
	8.6	4	

1.

		1.7	
×		43	
+			

2.

		5.2	
×		18	
+			

3.

		2.5	
×		37	
+			

Hundredths times a whole number.

Example

		4.25	
×		3	
	1	2.75	

4.

		0.68	
×		7	

5.

		2.36	
×		14	
+			

6.

		1.45	
×		5	

Money: find the cost.

Example

\$		4.75	
×		3	
\$	1	4.25	

7.

\$	1	2.89	
×		4	

8.

\$		0.85	
×		12	
+			

9.

\$		6.49	
×		5	

Multiply & Divide Decimals

Divide decimals with blocks, long division, and tenths.

Share the blocks equally. Draw what each group gets.

Example $4.8 \div 4$

$4.8 \div 4 = \underline{1.2}$

1. $6.9 \div 3$

$6.9 \div 3 = \underline{\hspace{2cm}}$

Divide. Put the point in the answer right above the point.

Example

2.

3.

4.

Divide by a decimal. How many tenths or hundredths fit?

Example $1.2 \div 0.3 = \underline{12} \text{ tenths} \div \underline{3} \text{ tenths} = \underline{4}$

5. $3.5 \div 0.5 = \underline{\hspace{2cm}} \text{ tenths} \div \underline{\hspace{2cm}} \text{ tenths} = \underline{\hspace{2cm}}$

6. $0.48 \div 0.08 = \underline{\hspace{2cm}} \text{ hundredths} \div \underline{\hspace{2cm}} \text{ hundredths} = \underline{\hspace{2cm}}$

7. $0.36 \div 0.04 = \underline{\hspace{2cm}} \text{ hundredths} \div \underline{\hspace{2cm}} \text{ hundredths} = \underline{\hspace{2cm}}$

Multiply & Divide Decimals

Estimate first. Then solve the story problems.

Estimate with whole numbers. Then find the exact answer.

Problem	Estimate	Exact answer
Example 6.8×4	$\underline{7} \times \underline{4} = \underline{28}$	$\underline{27.2}$
1. 3.9×5.2	$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	$\underline{\hspace{1cm}}$
2. $19.6 \div 4$	$\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	$\underline{\hspace{1cm}}$
3. 2.95×6	$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	$\underline{\hspace{1cm}}$
4. $33.6 \div 8$	$\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	$\underline{\hspace{1cm}}$
5. 4.1×7.9	$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$	$\underline{\hspace{1cm}}$

Solve. Show your work.

Example

Notebooks cost \$1.35 each.
How much do 6 notebooks cost?

$1.35 \times 6 = 8.10$

Answer: \$ 8.10

6. 12 friends share a \$45.60 bill
equally. How much does each friend
pay?

Answer: \$ _____

7. A jug holds 3 L of juice. How many
0.25 L cups can it fill?

Answer: _____ cups

8. Pencils cost \$0.45 each. Ana buys
8 pencils and pays with \$5. How much
change does she get?

Answer: \$ _____

Multiply & Divide Decimals

Multiply a decimal by a whole number. Use models.

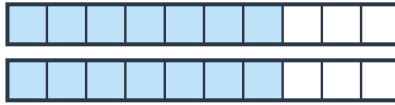
Each strip is 1 whole. Shade the tenths on each strip. Then multiply.

Example



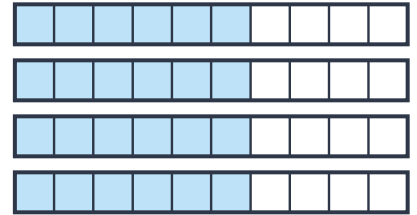
$$3 \times 0.4 = \underline{1.2}$$

1.



$$2 \times 0.7 = \underline{1.4}$$

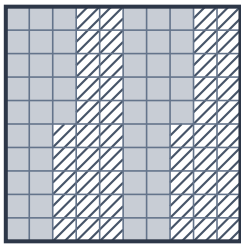
2.



$$4 \times 0.6 = \underline{2.4}$$

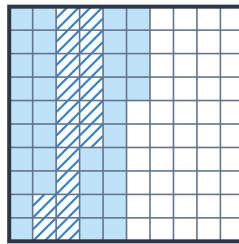
Shade one group at a time in a new color. Then multiply.

Example



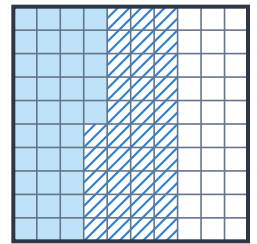
$$4 \times 0.25 = \underline{1}$$

3.



$$3 \times 0.18 = \underline{0.54}$$

4.



$$2 \times 0.35 = \underline{0.7}$$

Multiply. Think in tenths or hundredths.

Example

$$\begin{aligned} 6 \times 0.3 &= \underline{18} \text{ tenths} \\ &= \underline{1.8} \end{aligned}$$

$$\begin{aligned} 5. \quad 7 \times 0.4 &= \underline{28} \text{ tenths} \\ &= \underline{2.8} \end{aligned}$$

$$\begin{aligned} 6. \quad 5 \times 0.08 &= \underline{40} \text{ hundredths} \\ &= \underline{0.4} \end{aligned}$$

$$\begin{aligned} 7. \quad 4 \times 0.12 &= \underline{48} \text{ hundredths} \\ &= \underline{0.48} \end{aligned}$$

$$\begin{aligned} 8. \quad 3 \times 1.2 &= \underline{36} \text{ tenths} \\ &= \underline{3.6} \end{aligned}$$

$$\begin{aligned} 9. \quad 6 \times 0.15 &= \underline{90} \text{ hundredths} \\ &= \underline{0.9} \end{aligned}$$

Multiply & Divide Decimals

Multiply tenths by tenths on a hundred grid.

Shade the first number down and the second across. Multiply.

Example

0.6

0.3

$0.3 \times 0.6 = 0.18$

1.

$0.6 \times 0.6 = 0.36$

2.

$0.9 \times 0.3 = 0.27$

The overlap is the product. Write the equation each grid shows.

Example

0.7

0.4

$0.4 \times 0.7 = 0.28$

3.

$0.5 \times 0.4 = 0.2$

4.

$0.7 \times 0.8 = 0.56$

The digits are given. Estimate to place the decimal point.

Problem	Estimate	Digits	Product
Example 2.4×3.1	$2 \times 3 = 6$	744	<u>7.44</u>
5. 5.2×1.9	$5 \times 2 = 10$	988	<u>9.88</u>
6. 3.6×4.3	$4 \times 4 = 16$	1548	<u>15.48</u>
7. 6.3×2.7	$6 \times 3 = 18$	1701	<u>17.01</u>
8. 1.8×0.7	$2 \times 1 = 2$	126	<u>1.26</u>

Multiply & Divide Decimals

Multiply as with whole numbers. Then count the decimal places.

Tenths times tenths: the product has 2 decimal places.

Example

$$\begin{array}{r} 3.6 \\ \times 24 \\ \hline 144 \\ + 720 \\ \hline 8.64 \end{array}$$

1.

$$\begin{array}{r} 1.7 \\ \times 43 \\ \hline 51 \\ + 680 \\ \hline 7.31 \end{array}$$

2.

$$\begin{array}{r} 5.2 \\ \times 18 \\ \hline 416 \\ + 520 \\ \hline 9.36 \end{array}$$

3.

$$\begin{array}{r} 2.5 \\ \times 37 \\ \hline 175 \\ + 750 \\ \hline 9.25 \end{array}$$

Hundredths times a whole number.

Example

$$\begin{array}{r} 4.25 \\ \times 3 \\ \hline 12.75 \end{array}$$

4.

$$\begin{array}{r} 0.68 \\ \times 7 \\ \hline 4.76 \end{array}$$

5.

$$\begin{array}{r} 2.36 \\ \times 14 \\ \hline 944 \\ + 2360 \\ \hline 33.04 \end{array}$$

6.

$$\begin{array}{r} 1.45 \\ \times 5 \\ \hline 7.25 \end{array}$$

Money: find the cost.

Example

$$\begin{array}{r} \$ 4.75 \\ \times 3 \\ \hline \$ 14.25 \end{array}$$

7.

$$\begin{array}{r} \$ 12.89 \\ \times 4 \\ \hline \$ 51.56 \end{array}$$

8.

$$\begin{array}{r} \$ 0.85 \\ \times 12 \\ \hline 170 \\ + 850 \\ \hline \$ 10.20 \end{array}$$

9.

$$\begin{array}{r} \$ 6.49 \\ \times 5 \\ \hline \$ 32.45 \end{array}$$

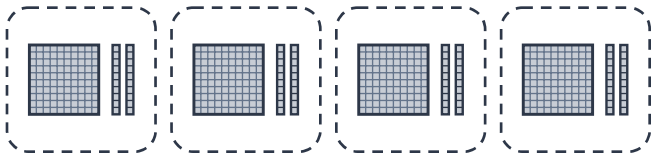
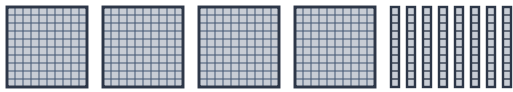
Multiply & Divide Decimals

Divide decimals with blocks, long division, and tenths.

Share the blocks equally. Draw what each group gets.

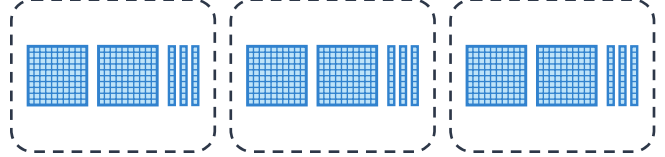
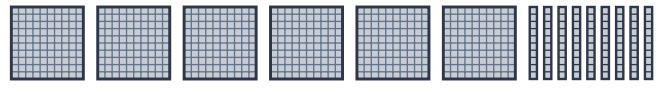
Example

$4.8 \div 4$



$4.8 \div 4 = 1.2$

1. $6.9 \div 3$



$6.9 \div 3 = 2.3$

Divide. Put the point in the answer right above the point.

Example

$$\begin{array}{r} 2.5 \\ 3 \overline{) 7.5} \\ \underline{- 6} \\ 15 \\ \underline{- 15} \\ 0 \end{array}$$

2.

$$\begin{array}{r} 2.34 \\ 4 \overline{) 9.36} \\ \underline{- 8} \\ 13 \\ \underline{- 12} \\ 16 \\ \underline{- 16} \\ 0 \end{array}$$

3.

$$\begin{array}{r} 2.1 \\ 12 \overline{) 25.2} \\ \underline{- 24} \\ 12 \\ \underline{- 12} \\ 0 \end{array}$$

4.

$$\begin{array}{r} 5.34 \\ 16 \overline{) 85.44} \\ \underline{- 80} \\ 54 \\ \underline{- 48} \\ 64 \\ \underline{- 64} \\ 0 \end{array}$$

Divide by a decimal. How many tenths or hundredths fit?

Example

$1.2 \div 0.3 = 12 \text{ tenths} \div 3 \text{ tenths} = 4$

5. $3.5 \div 0.5 = 35 \text{ tenths} \div 5 \text{ tenths} = 7$

6. $0.48 \div 0.08 = 48 \text{ hundredths} \div 8 \text{ hundredths} = 6$

7. $0.36 \div 0.04 = 36 \text{ hundredths} \div 4 \text{ hundredths} = 9$

Multiply & Divide Decimals

Estimate first. Then solve the story problems.

Estimate with whole numbers. Then find the exact answer.

Problem	Estimate	Exact answer
Example 6.8×4	$\underline{7} \times \underline{4} = \underline{28}$	$\underline{27.2}$
1. 3.9×5.2	$\underline{4} \times \underline{5} = \underline{20}$	$\underline{20.28}$
2. $19.6 \div 4$	$\underline{20} \div \underline{4} = \underline{5}$	$\underline{4.9}$
3. 2.95×6	$\underline{3} \times \underline{6} = \underline{18}$	$\underline{17.7}$
4. $33.6 \div 8$	$\underline{32} \div \underline{8} = \underline{4}$	$\underline{4.2}$
5. 4.1×7.9	$\underline{4} \times \underline{8} = \underline{32}$	$\underline{32.39}$

Solve. Show your work.

Example Notebooks cost \$1.35 each.
How much do 6 notebooks cost?

$$1.35 \times 6 = 8.10$$

Answer: \$ 8.10

6. 12 friends share a \$45.60 bill
equally. How much does each friend
pay?

$$45.60 \div 12 = 3.80$$

Answer: \$ 3.80

7. A jug holds 3 L of juice. How many
0.25 L cups can it fill?

$$3 \div 0.25 = 12$$

Answer: 12 cups

8. Pencils cost \$0.45 each. Ana buys
8 pencils and pays with \$5. How much
change does she get?

$$0.45 \times 8 = 3.60$$

$$5.00 - 3.60 = 1.40$$

Answer: \$ 1.40