

# Dividing by Decimals

## MAIN IDEA

- Divide decimals by decimals.

## EXAMPLE Divide by Decimals

**1** Find  $59.4 \div 3.6$ .

Estimate   $\div$   =

Multiply by  to make a whole number.

$3.6 \overline{)59.4}$

Multiply by the same number, .

Place the decimal point.

$36 \overline{)594.0}$

Divide as with whole numbers.

—  
234

—  
180

Annex a zero to continue.

—

59.4 divided by 3.6 is . Compare to the estimate.

Check   $\times 3.6 = 59.4$

## REMEMBER IT



You can check the solution to a division problem by multiplying the quotient by the divisor.

## Check Your Progress

Find  $72.9 \div 5.4$ .

**EXAMPLES** Zeros in the Quotient and Dividend**1** Find  $8.1 \div 0.054$ .

$$0.054 \overline{)8.100}$$

Multiply each decimal by .

$$\begin{array}{r} \phantom{0.054 \overline{)8.100}} \\ \phantom{0.054 \overline{)8.100}} \end{array}$$

Place the decimal point.

$$54 \overline{)8100.}$$

$$\begin{array}{r} \phantom{54 \overline{)8100.}} \\ \phantom{54 \overline{)8100.}} \end{array}$$

$$\begin{array}{r} \phantom{54 \overline{)8100.}} \\ \phantom{54 \overline{)8100.}} \end{array}$$

$$\begin{array}{r} \phantom{54 \overline{)8100.}} \\ \phantom{54 \overline{)8100.}} \end{array}$$

$$\begin{array}{r} \phantom{54 \overline{)8100.}} \\ \phantom{54 \overline{)8100.}} \end{array}$$

Write a zero in the ones place of the quotient because  $0 \div 54 = \text{input}$ .

So,  $8.1 \div 0.054 = \text{input}$ .

**Check**  $\text{input} \times 0.054 = 8.1$

**2** Find  $0.052 \div 1.3$ .

$$1.3 \overline{)0.052}$$

Multiply each decimal by .

$$\begin{array}{r} \phantom{1.3 \overline{)0.052}} \\ \phantom{1.3 \overline{)0.052}} \end{array}$$

Place the decimal point.

$$13 \overline{)0.52}$$

$$\begin{array}{r} \phantom{13 \overline{)0.52}} \\ \phantom{13 \overline{)0.52}} \end{array}$$

$$\begin{array}{r} \phantom{13 \overline{)0.52}} \\ \phantom{13 \overline{)0.52}} \end{array}$$

$$\begin{array}{r} \phantom{13 \overline{)0.52}} \\ \phantom{13 \overline{)0.52}} \end{array}$$

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$$\begin{array}{r} \phantom{13 \overline{)0.52}} \\ \phantom{13 \overline{)0.52}} \end{array}$$

13 does not go into 5, so write a  in the tenths place.

So,  $0.052 \div 1.3$  is .

**Check**  $\text{input} \times 1.3 = 0.052$

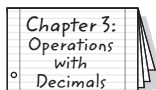
**Check Your Progress** Divide.

**a.**  $81.9 \div 0.63$

**b.**  $0.072 \div 1.2$

**FOLDABLES****ORGANIZE IT**

Under Lesson 3-9 of your Foldable, compare and contrast dividing a decimal by a decimal and dividing a decimal by a whole number.



**REMEMBER IT**

When you are rounding to the nearest tenth, you can stop dividing when there is a digit in the hundredths place.

**EXAMPLE Round Quotients**

**STOCK** Leon bought a stock at \$42.88 per share. If he spent \$786.85, how many shares did he buy? Round to the nearest tenth.

Find  $\$786.85 \div \$42.88$ .

Multiply the divisor and the dividend by .

$$\begin{array}{r}
 \phantom{42.88} \overline{)786.85} \longrightarrow 4288 \overline{)78685.00} \\
 \underline{\phantom{42.88} \phantom{00} \phantom{00} \phantom{00} \phantom{00} \phantom{00}} \\
 35805 \\
 \underline{\phantom{42.88} \phantom{00} \phantom{00} \phantom{00} \phantom{00} \phantom{00}} \\
 15010 \\
 \underline{\phantom{42.88} \phantom{00} \phantom{00} \phantom{00} \phantom{00} \phantom{00}} \\
 21460 \\
 \underline{\phantom{42.88} \phantom{00} \phantom{00} \phantom{00} \phantom{00} \phantom{00}} \\
 20
 \end{array}$$

To the nearest tenth,  $786.85 \div 42.88 = \text{}$ . So, Leon

was able to buy about  shares.

**Check Your Progress**

**STOCK** Kyle bought a stock at \$23.35 per share. If he spent \$771.28, how many shares did he buy? Round to the nearest tenth.

**HOMEWORK ASSIGNMENT**

Page(s):

Exercises: