

AIM: 1-11 How do we divide a decimal by a whole number? By a decimal?

Name _____
Ms. Piccolo

Date _____
Math 6 - Period _____

Warm-up: Think, Pair, Share!

The cost of 8 tickets to the fair was \$140. How much did each ticket cost?
Write your answer in a complete sentence.



$$\begin{array}{r}
 \times 17.5 \\
 8 \overline{) 140.0} \\
 \underline{- 8} \\
 60 \\
 \underline{- 56} \\
 40 \\
 \underline{- 40} \\
 0
 \end{array}$$

Each ticket cost \$17.50.

* money is rounded to the nearest cent or hundredths.



Let's Investigate: What are the steps for dividing a decimal by a decimal?

Dividing a Decimal by a Decimal



**WHEN A DECIMAL'S ON THE SIDE,
SLIDE, SLIDE!**

1. Change the divisor to a whole number, by multiplying by a power of 10.
2. Multiply the dividend by the same power of 10. In other words, move the decimal in the dividend the same number of spaces to the RIGHT!
3. Place a decimal point in the quotient directly above the decimal point in the dividend.
4. Divide as you would with whole numbers.
5. Check your answer by multiplying the quotient and the divisor to obtain the dividend.

LET'S TRY SOME TOGETHER!

Examples: Divide and check using multiplication!

a) $3.25 \div 0.5$

$$\begin{array}{r} 0.5 \overline{) 3.25} \\ \downarrow \\ 5 \overline{) 32.5} \\ \underline{-30} \\ 22 \\ \underline{-20} \\ 25 \\ \underline{-25} \\ 0 \end{array}$$

6.5

CHECK:

quotient \times original divisor = dividend

6.5×0.5

$$\begin{array}{r} 6.5 \quad \text{1 scoop} \\ \times 0.5 \quad \text{1 scoop} \\ \hline 325 \end{array}$$

$3.25 \checkmark$

b) $1.287 \div 0.11$

$$\begin{array}{r} 0.11 \overline{) 1.287} \\ \downarrow \\ 11 \overline{) 1287} \\ \underline{-11} \\ 18 \\ \underline{-11} \\ 77 \\ \underline{-77} \\ 0 \end{array}$$

11.7

CHECK:

$$\begin{array}{r} 11.7 \quad \text{1 scoop} \\ \times 1.1 \quad \text{2 scoops} \\ \hline 117 \\ + 1170 \\ \hline 1287 \end{array}$$

$1.287 \checkmark$



Let's Investigate: What are the steps for dividing a decimal by a whole number?

Dividing a Decimal by a Whole Number

**WHEN A DECIMAL'S IN THE HOUSE,
RAISE IT TO THE ROOF!**



1. Place a decimal point in the quotient directly above the decimal point in the dividend.
2. Divide as you would with whole numbers.
3. Check your answer using multiplication.

Examples:

c) $3.25 \div 5$

$$\begin{array}{r}
 0.65 \\
 5 \overline{) 3.25} \\
 \underline{-30} \\
 25 \\
 \underline{-25} \\
 0
 \end{array}$$

0.65

CHECK:

$$\begin{array}{r}
 3.25 \\
 \times 5 \\
 \hline
 325 \\
 1500 \\
 \hline
 3.25
 \end{array}$$

2 scoops
3.25 ✓

d) The Piccolo family plans to take a cruise that costs \$3,122.40 for a family of four.
How much will the trip cost per person?

Each person
must pay
\$780.60.

$$\begin{array}{r}
 780.60 \\
 4 \overline{) 3122.40} \\
 \underline{-28} \\
 32 \\
 \underline{-32} \\
 02 \\
 \underline{-02} \\
 00
 \end{array}$$





Now You Try! Find the quotient and check using multiplication!

When a decimal's on the side: **SLIDE, SLIDE;**

When a decimal's in the house: **RAISE IT TO THE ROOF!**

1) $172.2 \div 82$	<u>CHECK:</u>
2) $14.64 \div 12$	<u>CHECK:</u>
3) $36.45 \div 0.09$	<u>CHECK:</u>

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4) $18.88 \div 1.6$

CHECK:

5) McCall Middle School wants to have a car wash to raise money for new technology equipment. They need exactly \$468.75. In the past, they washed an average of 125 cars at each car wash. How much should they charge per car so they reach their goal?



Answer: \$ _____

6) Eight friends purchase various supplies for a camping trip and agree to share the total cost equally. They spend \$85.43 on food, \$32.75 on water, and \$239.66 on other items. How much does each person owe? Keep your work neat and organized!



Answer: \$ _____ per person

7) A woodshop teacher wants to cut a board that is 8.52 meters long into 4 equal pieces. How long will each piece be? Show work to support your answer!



Answer: _____ meters

Let's Summarize: Find the quotient.

8) $1.38 \div 0.6$

9) $33.475 \div 0.65$

Challenge Question

10) Emilia is saving money to buy a new bicycle that costs \$195.75. She already has \$40 saved and plans to save \$8 each week. How many weeks will it take her to save enough money to purchase this bicycle?



Answer: _____ weeks