


3.2 Divide Decimals by 10, 100, and 1000

You can follow these steps to quickly divide a decimal by 10, 100, or 1000:

- 1.) Count the number of zeros in the divisor.
- 2.) Move the decimal point to the left one place in the dividend for **each zero in the divisor**.
- 3.) Write zeros in the quotient as needed.

Dividing with Decimals



Move decimal to left

Number of zeros = Number of place you move

Examples:

* $87.6 / 100 = 0.876$

Answer: **0.876**

* $5.0 / 1,000 = 0.005$

Answer: **0.005**

Example: Find the quotients.

1.) $724.8 \div 10 = 72.48$
 $724.8 \div 100 = 7.248$
 $724.8 \div 1000 = 0.7248$

2.) $2.8 \div 10 = 0.28$
 $2.8 \div 100 = 0.028$
 $2.8 \div 1000 = 0.0028$

3.) $2.52 \div 10$

0.252

4.) $0.105 \div 10$

0.0105

6.) $9.9 \div 100$

0.099

Example: Find the unknown value for each problem.

7.) 4.07 is the dividend and 0.0407 is the quotient. What is the divisor?

$$4.07 \div \boxed{100} = 0.0407$$

8.) 100 is the divisor and 56.7 is the quotient. What is the dividend?

$$\boxed{5670} \div 100 = 56.7$$

9.) 14.8 is the dividend and 1.48 is the quotient. What is the divisor?

$$14.8 \div \boxed{10} = 1.48$$

10.) Charlotte buys a 9.14 m roll of canvas to paint watercolors and cuts it into 10 equal sections. What is the length of each section?

$$9.14 \div 10 = \boxed{0.914 \text{ m}}$$

11.) There are 1000 millimeters (mm) in 1 meter (m). A dime has a thickness of 1 mm. How tall (in meters) is a stack of 8775 dimes?

$$8775 \div 1000 = \boxed{8.775 \text{ m}}$$