DIVIDING DECIMALS

You can divide decimals easily by simply making them into whole numbers. You do that by multiplying both the **DIVIDEND** and **DIVISOR** by the same power of ten. Because the new numbers are proportional to the original numbers, the answer is the same!

CORRESPONDING IN SIZE

EXAMPLE: $2.5 \div 0.05 = (2.5 \times 100) \div (0.05 \times 100)$
$= 250 \div 5 = 50$

The **DIVIDEND** is the number that is being divided.
The **DIVISOR** is the number that "goes into" the dividend.
The answer to a division problem is called the **QUOTIENT**.

$\dfrac{\text{dividend}}{\text{divisor}} = \text{quotient},$ **OR** $\text{dividend} \div \text{divisor} = \text{quotient},$

OR $\text{divisor} \overline{)\text{dividend}}^{\text{quotient}}$

Multiply both decimal numbers by 100, because the decimal needs to move two places in order for both the dividend and divisor to become whole numbers. Remember, every time you multiply by another power of ten, the decimal moves one more space to the right!

Let's try another example:

EXAMPLE: A car drives 21.6 miles in 2.7 hours. How many miles does it travel each hour?

$$\frac{21.6}{2.7} = \frac{21.6 \times 10}{2.7 \times 10} = \frac{216}{27} = 8 \text{ miles}$$

Don't be thrown off if you see decimals being divided like this:

$$2.7\overline{)21.6}$$

The process is the same—multiply both numbers by 10 in order for both terms to become whole numbers:

$$2.7\overline{)21.6} = 27\overline{)216}^{\,8 \text{ miles}}$$
$$\times 10 \quad \times 10$$

1. $7.5 \div 2.5$

2. $18.4 \div 4.6$

3. $102.84 \div 0.2$

4. $1,250 \div 0.05$

5. $\dfrac{3.98}{0.4}$

6. $\dfrac{0.27}{0.4}$

7. $\dfrac{1.5}{3.75}$

8. $\dfrac{1.054}{0.02}$

9. A machine pumps 8.4 gallons of water every 3.2 minutes. How many gallons does the machine pump each minute?

10. Will swims a total of 45.6 laps in 2.85 hours. How many laps does he swim each hour?

ANSWERS ➤ 63

CHECK YOUR ANSWERS

1. 3

2. 4

3. 514.2

4. 25,000

5. 9.95

6. 0.675

7. 0.4

8. 52.7

9. 2.625 gallons

10. 16 laps