**Lesson 9**

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| Topic Goal: Dividing by powers of ten. |

Whole numbers:

When you divide **whole numbers** by 10, 100, 1000, and so on, you count the number of zeros in the dividing number and move the decimal place to the **left** by that amount.

*Remember you’re making the number smaller.*

10 has ONE zero, so you move the decimal place to the **left** only once.

100 has TWO zeros, so you move the decimal place to the **left** two spaces.

1000 has THREE zeros, so you move the decimal place to the **left** three spaces.

Decimals:

The same rule can be applied when **dividing decimal numbers** by powers of 10 such as 10, 100, 1000. Just move the decimal to the ***left*** as many places as there are zeroes in the divisible.

Move the decimal point one step to the left (10 has one zero)

Move the decimal point two steps to the left (100 has two zeros).

Move the decimal point three steps to the left (1000 has three zeros). Write a zero in front of 25.6 so that the decimal point can “jump over to” that place.

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| Example(s): |

To divide by 100 means to move the decimal place to the left two steps (because 100 has 2 zeros). Therefore,

To divide by 1000 means to move the decimal place to the left three steps. Therefore,

Notice that there is a decimal place between last two digits in the answer. This means that the decimal place was moved to the left only once. 10 has only one zero, therefore,

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| Practice Questions: |

Evaluate the following. (Do not use a calculator)

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. 6584 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. 7
5. 3.45 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. 34.67 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. 9876.12 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. 567.21 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Find the missing number in each question.

1. ? 10 = 300

? =\_\_\_\_\_\_\_\_

1. ?

? =\_\_\_\_\_\_\_\_

1. ?

? =\_\_\_\_\_\_\_\_

1. ?

? =\_\_\_\_\_\_\_\_

1. ? 1000 = 1000

? =\_\_\_\_\_\_\_\_

1. ?

? =\_\_\_\_\_\_\_\_

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| Assessment: |

Evaluate the following without using your calculator.

1. 0.24 ÷ 10 = \_\_\_\_\_\_\_\_\_\_\_\_\_

2. 240 ÷ 1000 = \_\_\_\_\_\_\_\_\_\_\_

3. 7.8 ÷ 10= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. 1.6 ÷ 10 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. 0.16 ÷ 100 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. 247 ÷ 1000 = \_\_\_\_\_\_\_\_\_\_\_

7. 18.5 ÷ 1000 = \_\_\_\_\_\_\_\_\_\_

8. 1.4 ÷ 100 = \_\_\_\_\_\_\_\_\_\_\_\_\_

Find the missing number in each question.

1. ? 10 = 200

? =\_\_\_\_\_\_\_\_

1. ?

? =\_\_\_\_\_\_\_\_

1. ?

? =\_\_\_\_\_\_\_\_