

Chapter 6 – Study Guide

Investigations in Measurement and Decimal Multiplication & Division

1.) Multiply the numbers.

a) $2.8 * 10^2 =$ _____

b) $2.8 * 10^3 =$ _____

c) $2.8 * 10^4 =$ _____

2.) Where did you place the decimal point in your answer to $2.8 * 10^3$? How did you know to place it there?

3.) Divide the numbers.

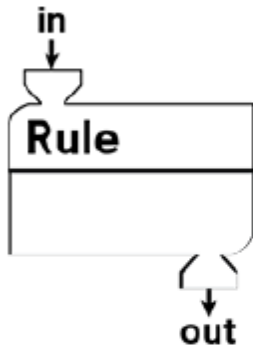
a) $14.3 \div 10^2 =$ _____

b) $14.3 \div 10^3 =$ _____

c) $14.3 \div 10^4 =$ _____

4.) Where did you place the decimal point in your answer to $14.3 \div 10^4$? How did you know to place it there?

5.) Convert between millimeters (mL) and liters (L) to complete the “What’s My Rule?” table. Then *write a rule using a power of 10 in exponential notation.*



in (mL)	out (L)
1,000	1
3,500	3.5
150	
55	
280	0.28
	2.4

6.) Lisa is conducting an experiment for a science project. She is creating a mixture that requires 1.8 liters to complete. She needs 50 milliliters to have enough of the mixture. How much of the mixture does she currently have?

Answer: _____

7.) Use an estimate to place the decimal point in each product.

a) $38.4 * 6.1 = 23424$

b) $2.78 * 14.6 = 40588$

c) Explain how you determined where to place the decimal point in the problem:

$38.4 * 6.1 = 23424$

Solve the problem.

8.) $14.7 * 3.2 =$ _____

9.) $26.8 * 37.3 =$ _____

10.) Explain how you solved the problem $14.7 * 3.2$

11.) Make an estimate. Then divide as if the dividend were a whole number. Use your estimate to place the decimal point in the answer.

$6.71 \div 2 =$ _____

Estimate: _____

OR

Divide the traditional method and place the decimal as we learned in class.

c) What is the total volume of the interior of the house (the whole house)?

Number model: _____

Volume of the whole house: _____cubic feet

14.) Solve the problem.

a) $6.7 * 4.5 =$ _____

c) $4.231 * 3.5 =$ _____

b) $12.4 * 3.8 =$ _____

d) $5.12 * 2.7 =$ _____

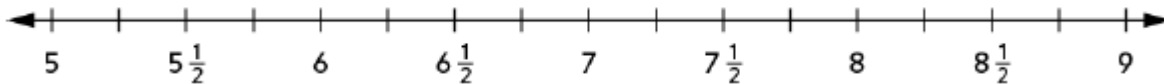
15.) Luca is starting a rock collection. He collects unusual rocks wherever he can find them. He wants to know how different rock sizes compare to their weights, so he measures the weights of his 10 favorite rocks and recorded the results below.

Rock Weights (ounces)

$5\frac{3}{4}$	$6\frac{1}{2}$	$7\frac{1}{4}$	$7\frac{3}{4}$	$5\frac{1}{2}$	$8\frac{1}{4}$	$7\frac{3}{4}$	$5\frac{1}{4}$	$7\frac{3}{4}$	$6\frac{1}{4}$
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a) Complete the line plot using Luca's data. Remember to add a title and label .

(title)



b) What is the most common weight of the rocks in his collection? _____

c) What is the combined weight of the five heaviest rocks?

Number model: _____

The combined weight is: _____ ounces

d) What is the difference between the heaviest and lightest rocks?

Number model: _____

The difference in weight is: _____ ounces