

Name: _____

Review Unit 6

1.

When you multiply a number by a power of 10, do you expect the product to be greater than or less than the start number? Why?

Use a calculator to complete the table. Look for patterns in how the decimal point moves. *Note:* You may need to place a zero in the tenths place to show the location of the decimal point for whole numbers. For example, write 453.0 instead of 453 to show the decimal point.

Start Number	× Power of 10	Result in Standard Notation	Movement of Decimal Point	
			Direction	Number of Places
4.53	$\times 10^1$			
4.53	$\times 10^2$			
4.53	$\times 10^3$			
4.53	$\times 10^4$			
4.53	$\times 10^5$			
4.53	$\times 10^6$			

2-3

- a. Look at your results in the table. Compare the power of 10 in each row to the movement of the decimal point. What do you notice?

- b. Use the patterns you noticed to write a rule for multiplying any decimal by a power of 10.

If you *divided* a start number by a power of 10, would you expect the quotient to be greater than or less than the start number? Why?

Use a calculator to complete the table.

Look for patterns in how the decimal point moves.

4.

Start Number	÷ Power of 10	Result in Standard Notation	Movement of Decimal Point	
			Direction	Number of Places
67.2	÷ 10^1			
67.2	÷ 10^2			
67.2	÷ 10^3			
67.2	÷ 10^4			
67.2	÷ 10^5			

5-6

a. Look at your results in the table. Compare the power of 10 in each row to the movement of the decimal point. What do you notice?

b. Use the patterns you noticed to write a rule for dividing any decimal by a power of 10.

Use the rules you discovered to multiply and divide in Problems 7–12. Do not use a calculator.

7 $5.8 \times 10^2 =$

8 $2.8 \div 10^2 =$

9 $673.9 \div 10^2 =$

10 $23.7 \times 10^2 =$

11 $3.1 \times 10^4 =$

12 $49.2 \div 10^4 =$

13.

The digits provided in the Answer column are correct, but they are missing a decimal point. For each problem, write a number sentence to estimate the product or quotient. Use your estimate to place a decimal point in the digits provided. An example is done for you.

Problem	Estimation Number Sentence	Answer (place the decimal point)
<i>Example:</i> 12.2 * 1.9	$10 * 2 = 20$	2 3.1 8
1 17.4 * 97.5		1 6 9 6 5
2 83.12 * 7.25		6 0 2 6 2
3 0.36 * 325.5		1 1 7 1 8
4 4.85 * 0.6		2 9 1
5 1.8 * 27.3		4 9 1 4
6 95.76 ÷ 7.6		1 2 6
7 515.87 ÷ 65.3		7 9
8 2.76 ÷ 3.68		0 7 5
9 101.8 ÷ 0.8		1 2 7 2 5
10 1,390.72 ÷ 21.73		6 4 0 0

14.

Four families held a garage sale and split the proceeds evenly. They made a total of \$1,256.60 at the garage sale. Select the number model that represents the correct amount of money each family earned.

a. $\$1,256.60 \div 4 = \31.41

b. $\$1,256.60 \div 4 = \314.15

c. $\$1,256.60 \div 4 = \$3,141.50$

d. $\$1,256.60 \div 4 = \3.14

15.

Solve the problem using the following method:

Step 1: Make an estimate.

Step 2: Multiply as if the factors were whole numbers.

Step 3: Use your estimate to place the decimal point in the product.

$76.1 * 9.6 = ?$

Estimate: _____

Answer: _____

16.

$189.6 * 1.75 = ?$

Estimate: _____

Answer: _____

17.

$$5.6 * 0.8 = ?$$

Estimate: _____

Answer: _____

For problems 18 and 19:

- Write a number model.
- Make an estimate. Write a number sentence to record your estimate.
- Divide as if the dividend were a whole number. If there is a remainder, write it as a fraction and use it to round the quotient to the nearest whole number.
- Use your estimate to place the decimal point. Record your answer.

18.

Three sisters set up a lemonade stand. On Wednesday they made \$8.46. If they share the money equally, how much will each sister get?

Number model: _____

Estimate: _____

Answer: Each sister will get _____ .

19.

Janine is building a bookshelf. She has a board that is 6.77 meters long. She wants to cut it into 5 pieces of equal length. How long will each piece be?

Number model: _____

Estimate: _____

Answer: Each piece is about _____ meters long.

For problems 20, 21 and 22:

- Make an estimate. Write a number sentence to record your estimate.
- Divide as if the dividend were a whole number. Show your work on the computation grid. If there is a remainder, write it as a fraction and use it to round the quotient to the nearest whole number.
- Use your estimate to place the decimal point. Record your answer.

20.

$9.44 \div 4 = ?$ Estimate: _____

$9.44 \div 4 =$ _____

21.

$46.8 \div 12 = ?$ Estimate: _____

$46.8 \div 12 =$ _____

22.

$89.9 \div 4 = ?$ Estimate: _____

$89.9 \div 4 \approx$ _____

For problems 23 and 24:

- Write an equivalent division problem that has a whole-number divisor. Be sure to multiply the dividend and the divisor by the same number.
- Make an estimate for your equivalent problem.
- Divide as if the dividend were a whole number to solve your equivalent problem.
- Use your estimate to place the decimal point.
- Complete the number sentences to show the answers to the equivalent problem and the original problem.

23.

$2.79 \div 0.9 = ?$

Equivalent problem: _____

Estimate: _____

Equivalent problem with answer:

_____ \div _____ = _____

$2.79 \div 0.9 =$ _____

24.

$$85.4 \div 0.14 = ?$$

Equivalent problem: _____

Estimate: _____

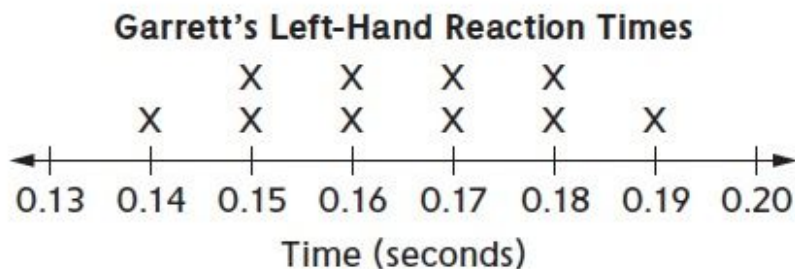
Equivalent problem with answer:

$$\underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$85.4 \div 0.14 = \underline{\hspace{2cm}}$$

25.

Garrett tried the Grab-It Gauge experiment with his left hand. He recorded his results on the line plot below. Use the data to answer the questions.



Which time(s) came up most often for Garrett? _____ sec

Write Garrett's reaction times in order from fastest to slowest.

What is the difference between Garrett's fastest time and his slowest time?

_____ sec

What is Garrett's evened-out reaction time? Record your calculations.

Expression: _____

Evened-out reaction time: _____ sec

What would you say is a typical reaction time for Garrett's left hand? Why?
