

Name _____ Date _____

1.

a. Sort the following expressions by rewriting them in the table.

| The product is less than the boxed number: | The product is greater than the boxed number: |
|--|---|
| 828×0.921 | 12.5×1.989 |
| 0.05×0.1 | 0.007×1.02 |
| | 2.16×1.11 |
| | 321.46×1.26 |

$$\boxed{12.5} \times 1.989$$

$$\boxed{828} \times 0.921$$

$$\boxed{321.46} \times 1.26$$

$$\boxed{0.007} \times 1.02$$

$$\boxed{2.16} \times 1.11$$

$$\boxed{0.05} \times 0.1$$

b. What do the expressions in each column have in common?

In column one, the boxed number is being multiplied by a factor less than 1. In column two, the boxed number is being multiplied by a factor greater than 1.

2. Write a statement using one of the following phrases to compare the value of the expressions. Then, explain how you know.

is slightly more than is a lot more than is slightly less than is a lot less than

a. 14×0.999 is slightly less than ¹⁴ because 0.999 is slightly less than 1

b. 1.01×2.06 is slightly more than ^{2.06} because 1.01 is slightly more than 1

c. $1,955 \times 0.019$ is a lot less than ^{1,955} because 0.019 is a lot less than 1

2,000
d. Two thousand $\times 1.0001$

0.002
e. Two-thousandths $\times 0.911$

3. Rachel is 1.5 times as heavy as her cousin, Kayla. Another cousin, Jonathan, weighs 1.25 times as much as Kayla. List the cousins, from lightest to heaviest, and explain your thinking.

| | | |
|---|---------------|--|
| R | $\times 1.5$ | |
| K | | |
| J | $\times 1.25$ | |

① Kayla
② Jonathan
③ Rachel

4. Circle your choice.

a. $a \times b > a$

For this statement to be true, b must be

greater than 1

less than 1

Rachel is heavier than Jonathan because $1.5 > 1.25$. Kayla is the lightest because Rachel and Jonathan are both slightly more than 1 times the weight of Kayla.

Write two expressions that support your answer. Be sure to include one decimal example.

$$2.5 \times 1.1 = 2.75$$

$$2.75 > 2.5$$

$$2.5 \times 1.3 = 3.25$$

$$3.25 > 2.5$$

b. $a \times b < a$

For this statement to be true, b must be

greater than 1

less than 1

Write two expressions that support your answer. Be sure to include one decimal example.

$$2.5 \times 0.1 = 0.25$$

$$0.25 < 2.5$$

$$2.5 \times 0.9 = 2.25$$

$$2.25 < 2.5$$