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

12.5 × 1.989	828 × 0.921	321.46 × 1.26
0.007 × 1.02	2.16 × 1.11	0.05 × 0.1

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

Boxes in the "less than" column are multiplied by a number less than 1.

Boxes in the "greater than" column are multiplied by a number 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 × 0.019 is a lot less than 1,955 because 0.019 is a lot less than 1.

d. Two thousand × 1.0001 is slightly more than two thousand because 1.0001 is slightly more than 1.

e. Two-thousandths × 0.911 is slightly less than two-thousandths because 0.911 is slightly less than 1.

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.

Kayla < Jonathan < Rachel

Rachel is heavier than Jonathan because she is 1.5 times heavier than Kayla while Jonathan is only 1.25 times heavier than Kayla. This makes Kayla the lightest.

4. Circle your choice.

a. $a \times b > a$

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.

$7 \times \frac{5}{3} > 7$

$\frac{35}{3} = 11\frac{2}{3} > 7$

$7 \times 1.8 > 7$

$12.6 > 7$

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.

$6 \times \frac{1}{2} < 6$

$\frac{6}{2} = 3 < 6$

$8 \times 0.7 < 8$

$5.6 < 8$