

Name _____

Date _____

1. Compare using $>$, $<$, or $=$.

a. 0.5 0.327

b. 2 thousandths + 3 hundredths 0.46

c. 2 tens 2 tenths 1 thousandth 20.10

d. 23 tenths 2.5

e. $3 \times 10^3 + 3 \times 100 + 3 \times \frac{1}{10}$ $3 \times 1000 + 3 \times 10^2 + 3 \times \frac{1}{10}$

f. $2 \times \frac{1}{10} + 2 \times \frac{1}{1000}$ 0.240

2. Model the number 9.98 on the place value chart.

a. Use words, numbers, and your model to explain why each of the digits has a different value. Be sure to use “ten times as large” and “one tenth as large” in your explanation.

b. Multiply 9.98×10^4 . Explain the shift of the digits and the change in the value of each digit.

c. Divide the product from (b) by 10^2 . Explain the shift of the digits and the change in the value of each digit.

3. Rainfall collected in a rain gauge was found to be 2.6 cm when rounded to the nearest tenth of a centimeter.

a. Circle all the measurements below that could be the actual measurement of the rainfall.

2.551 cm

2.359 cm

2.512 cm

2.345 cm

b. Convert the rounded measurement to meters. Write an equation to show your work.

4. Average annual rainfall totals for cities in New Jersey are listed below.

Jersey City	0.67 meters
Newark	0.827 meters
Trenton	1.7 meters
Paterson	1.438 meters

- a. Put the rainfall measurements in order from least to greatest. Write the smallest total rainfall in word form and expanded form.

- b. Round each of the rainfall totals to the nearest tenth.

- c. Imagine New Jersey City's rainfall is the same every year. How much rain would fall in 100 years?

- d. Write an equation using an exponent that would express the 100-year total rainfall. Explain how the digits have shifted position and why.