Name _____   Date _____

1. Compare using >, <, or =.

    a.   0.5   ◯   0.227

    b. 4 thousandths + 4 hundredths   ◯   0.037

    c. 2 tens 3 tenths 1 thousandth   ◯   20.31

    d.   27 tenths   ◯   2.5

    e. $6 \times 10^3 + 2 \times 100 + 3 \times \frac{1}{10}$ ◯ $6 \times 1000 + 2 \times 10^2 + 3 \times \frac{1}{10}$

    f. $3 \times \frac{1}{10} + 6 \times \frac{1}{1000}$ ◯   0.360

2. Model the number 5.55 on the place value chart.
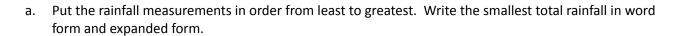

    a. Use words, numbers, and your model to explain why each of the digits has a different value. Be sure to use "ten times as large" and "one tenth as large" in your explanation.

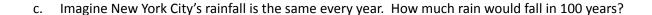b.   Multiply 5.55×10^4. Explain the shift of the digits and the change in the value of each digit.

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 3.4 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.

3.351 cm   3.449 cm   3.452 cm   3.295 cm

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

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

Rochester	0.97 meters
Ithaca	0.947 meters
Saratoga Springs	1.5 meters
New York City	1.268 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 York 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.