

Name: \_\_\_\_\_

Period \_\_\_\_\_ Date: \_\_\_\_\_

## Unit 2 Post-Test

1. The current U.S. national debt is  $\$1.6 \times 10^{13}$ . The population in the United States is  $3.2 \times 10^8$  people. How much money does each person owe to pay off the debt if each person in the U.S. pays an equal share?  
\$ \_\_\_\_\_
  
2. An asteroid created the Chicxulub crater in the Yucatan Peninsula, Mexico about 65 million years ago. It is estimated that the energy of the impact was  $8 \times 10^9$  times larger than the atomic bomb dropped on Hiroshima, Japan in 1945. The energy of the Hiroshima bomb was equivalent to about  $1.25 \times 10^4$  tons of TNT. In tons of TNT, how much energy did the Chicxulub impact have? State your answer in scientific notation.
  
3. Mrs. Finck was teaching a lesson and asked her class to blurt out the value of the square root of 100. In her class of 34 students most of them shouted, "**Ten!**" But, six of the kids blurted out, "**Fifty!**" Explain in a short paragraph, using your best math vocabulary, what the kids saying 50 are doing incorrectly? They are incorrect and need you to clear up their misconception.
  
4. Place an X in the box next to each phrase that can be used to classify the number  $0.2\overline{4}$ 

<input type="checkbox"/> Real Number	<input type="checkbox"/> Whole Number
<input type="checkbox"/> Terminating Decimal	<input type="checkbox"/> Integer
<input type="checkbox"/> Repeating Decimal	<input type="checkbox"/> Rational Number
<input type="checkbox"/> Natural/Counting Number	<input type="checkbox"/> Irrational Number

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5. Place an X in the box next to each expression that has a value between 0 and 1.

☐  $5^{-11} \cdot 5^7$

☐  $\left(\frac{1}{2}\right)^8 \cdot \left(\frac{1}{2}\right)^{-8}$

☐  $\frac{7^2}{7^{12}}$

☐  $(3^2)^{-5}$

☐  $(-2)^3$

6. Below you will find two students' work on the same problem. Finish each of the girl's work. Then, write a short paragraph explaining which girl is correct.

**Juanita**

$$x^3 = 27$$

$$x = \sqrt[3]{27}$$

$$x =$$

**Michelle**

$$x^3 = 27$$

$$x = \frac{1}{3} \cdot 27$$

$$x =$$

7. Write the fraction equivalent of the repeating decimals below.

a.  $0.\overline{13}$

b.  $0.2\overline{5}$