Book and homework on your desk.

Announcements

HF through Chapter 6 must be completed today

Test Wednesday, 2/20

Bring Cans!

Unit Map

Thursday, 2/7/2019 → Transformations of functions
Friday, 2/8/2019 → Ms. Barger Absent, Hidden Figures reading and work
Monday, 2/11/2019 → Exponential Growth and Decay
Tuesday, 2/12/2019 → Compound Interest and Half Life
Wednesday, 2/13/2019 → Transformations of Exponentials
Thursday, 2/14/2019 → Scientific Notation converting back and forth
Friday, 2/15/2019 → Scientific Notation adding and subtracting & multiplying and dividing
Monday, 2/18/2019 → Scientific Notation word problems
Tuesday, 2/19/2019 → Review
Wednesday, 2/20/2019 → **Exponents Test 2**

Quizlet

https://quizlet.com/_642L9y

Some specifics about your test

1. Paper and pencil
2. 3 calculator active questions on white paper
3. 12 calculator inactive questions on blue paper
4. 1 extra credit question
5. You will not be asked to complete an unreasonable question without your calculator
6. Will include ALL exponents standards, including things from your last test

Quick time for homework questions

Scientific Notation (Day 3 of 3)

2/18/2019

In July 2010 there were approximately 500 million facebook users. In July 2011 there were approximately 750 million facebook users. How many more users were there in 2011?
Write your answer in scientific notation.

A state government has 5.7×10^{7} dollars invested in a pension fund for retired employees. It expects the investment to double in value every 8 years.

What is the investment after 8 years, 16 years and 24 years.

Write your response in scientific notation

1. The mass of one oxygen atom is 2.66×10^{-26} kg. A cylinder contains 5.97×10^{23} oxygen atoms. What is the mass of the oxygen?

2. The average distance from Earth to the sun is 1.5×10^{11} m. The speed of light is 3×10^8 m/s. Approximately how long does it take for light to travel from the sun to Earth?

1. In a vacuum, light travels at the speed of 3.0×10^8. In air, light travels at a speed of 2.3×10^8. How many times faster does light travel in a vacuum than ice?

2. The distance between Mars and Earth varies over time. The greatest distance between the two planets is about 4.01×10^8 km. The shortest distance is 5.45×10^7 km. What is the difference in km between these distances written in scientific notation?

3. In the year 2006 there were 8.512×10^8 one dollar bills printed. In the year 2007 there were 8.32×10^7 one dollar bills printed. How many more dollar bills were printed in 2006 than 2007?

4. The population of Asia is 4.05×10^9. The population of Europe is 7.36×10^8. What is the total population of both Asia and Europe?

5. The half-life of uranium–238 is 4.5×10^9 years. The half-life of uranium-234 is 2.5×10^5 years. How many times greater is the half-life of uranium-238 than that of uranium-234?

6. The state of Colorado covers about 1.04×10^5 square miles. The Indian Ocean covers about 2.808×10^7 square miles. How many times bigger than Colorado is the Indian Ocean?

7. Students at Salt Lake Community College pay 1.585×10^4 dollars for tuition. Students at George Washington University pay 4.573×10^5 dollars. How many times greater is the tuition at George Washington?

8. The population of the United State is 3×10^8 and the population of the world is 7×10^9. How many times larger is the population of the world than the U.S.?

Geographers keep track of how many people live in different areas of the world. They are especially interested in how the populations of certain area change. The table below shows the population of different regions in 1985 and in 2005.

Place	Population	
	1985	2005
Earth	4.9×10^9	6.4×10^9
China	1.1×10^9	1.3×10^9
India	7.6×10^8	1.1×10^9
United States	2.4×10^8	3.0×10^8

9. In 2005, how many times greater than China's population is the population of the world?

10. How many more people inhabited Earth in 2005 than in 1985?

Complete lesson check on page 423

Do you know HOW?

Write each number in scientific notation.

1. 0.0007
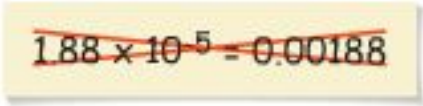
2. 32,000,000

Write each number in standard notation.

3. 3.5×10^6

4. 1.27×10^{-4}

Order the numbers in each list from least to greatest.

5. $10^5, 10^{-3}, 10^0, 10^{-1}, 10^1$

6. $5 \times 10^{-3}, 2 \times 10^4, 3 \times 10^0, 7 \times 10^{-1}$

7. $2.5 \times 10^7, 2.1 \times 10^7, 3.5 \times 10^6, 3.6 \times 10^6$

Do you UNDERSTAND?

8. Open-Ended Describe a situation in which it is easier to use numbers written in scientific notation than to use numbers written in standard form.

9. Error Analysis A student wrote 1.88×10^{-5} in standard notation as shown below. Describe and correct the student's mistake.

$$1.88 \times 10^{-5} = 0.00188$$

10. Reasoning A student claims that 3.5×10^{11} is greater than 1.4×10^{13} because $3.5 > 1.4$. Is the student correct? Explain.

Complete lesson check on page 423

Lesson Check

1. 7×10^{-4} **2.** 3.2×10^7

3. 3,500,000   **4.** 0.000127

5. 10^{-3}, 10^{-1}, 10^0, 10^1, 10^5

6. 5×10^{-3}, 7×10^{-1}, 3×10^0, 2×10^4

7. 3.5×10^6, 3.6×10^6, 2.1×10^7, 2.5×10^7

8. Answers may vary. Sample: When numbers are very large or very small. An example of a very large distance may be the distance from Earth to the nearest star.

9. The student interpreted the negative exponent of -5 to represent the number of decimal places when it represents how many places to move the decimal point to the left; $1.88 \times 10^{-5} = 0.0000188$.

10. No; the difference between two numbers with different powers of 10 is more significant than the difference between two numbers with the same power of 10.

Homework: Worksheet Online