Turn in your test corrections for the Exponents.

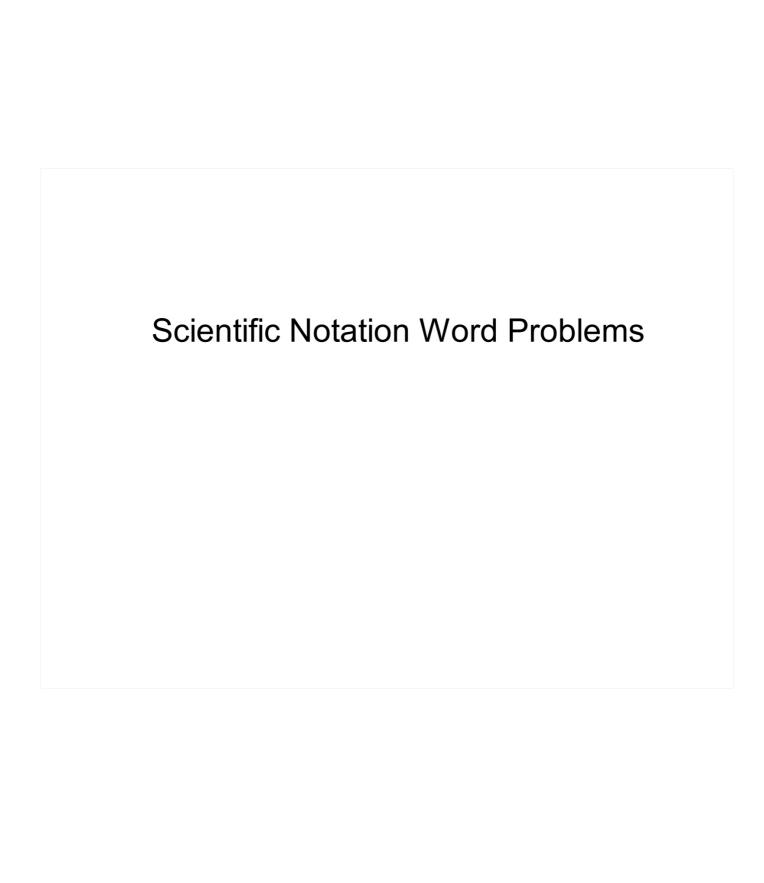
Warm-up

1)
$$1\frac{3}{4} + \frac{2}{3} =$$

$$2)\frac{7}{8} \div \frac{3}{4} =$$

$$3)2\frac{1}{3}-1\frac{7}{9}=$$

$$4)2.\overline{12} \times \frac{7}{9} =$$



Place Value Chart

No Hundred Billions →	Ten Billions			Hundred Millions	Ten Millions	4 Millions		Hundred Thousands	Ten Thousands	8.0		Hundreds	Tens	Ones	, Tenths	· Hundredths	Thousandths	1	3350
2	1	0	,	9	8	1	,	6	5	4	,	3	2	1	2	3	4	5	6



This Chart shows the place value of the number 210,987,654,321.23456
This is how you say it.

Two hundred ten billion, nine hundred eighty seven million, six hundred fifty four thousand, three hundred twenty one, and twenty three thousand four hundred fifty six hundred thousandths.

1) Write 9 billion in scientific notation.

9,000,000,000, 9x 109

2) Write 23 million in scientific notation.

3) Write 613 thousand in scientific notation.

613,000, 6.13 x 10⁵

Drag and drop words into the appropriate category for word problems. Add any new words to you chart from earlier this year (Verbal Expressions interactive Notebook)

AdditionSubtractionmore than
overall
increased
Sum
total
in alldifference
decreased
fewer than
how much longer
how many more

Multiplication	Division
product	per quotient each how many times greate how many times longer how many times more

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?

Ceyword operation: how many times (:)

Solve the problem:
$$\frac{3.0 \times 10^8}{2.3 \times 10^8} = (\frac{3.0}{2.3}) \times 10^{8-8}$$

$$= 1.304 \times 10^{9}$$

$$= 1.304 \times 10^{9}$$

$$= 1.304 \times 10^{9}$$

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

Keyword operation: <u>difference</u> (-)

Solve the problem:

 $4.01 \times 10^{8} - 5.45 \times 10^{7}$ 4. Clum - 5.45 391010 401,000,000 401,000,000 - 54,500,000 -54,500,000 3.465×108

3. In the year 2006 there were $8.512x10^8$ one dollar bills printed. In the year 2007 there were $8.32x10^7$ one dollar bills printed. How many more dollar bills were printed in 2006 than 2007?

Keyword operation: <u>how many more</u> (-)

Solve the problem:

$$8.512 \times 10^{8} - 8.32 \times 10^{7}$$

 $8.512 \times 10^{8} - .832 \times 10^{8}$
 $(8.512 - .832) \times 10^{8} - \frac{1411}{7.68}$
 7.68×10^{8}

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?

Keyword operation: total (+)

Solve the problem:

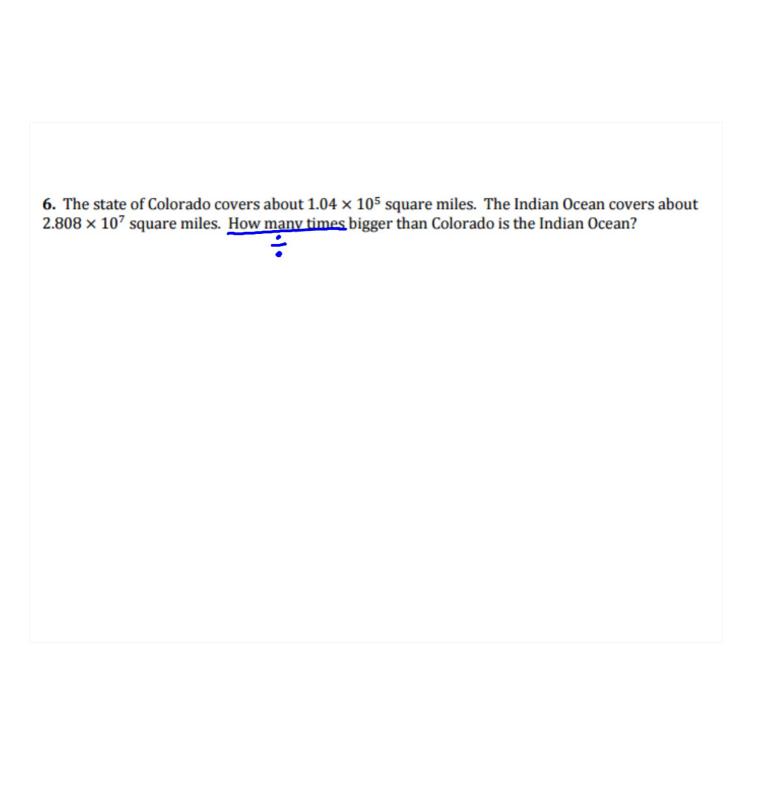
$$4.05 \times 10^{9} + 7.36 \times 10^{8}$$

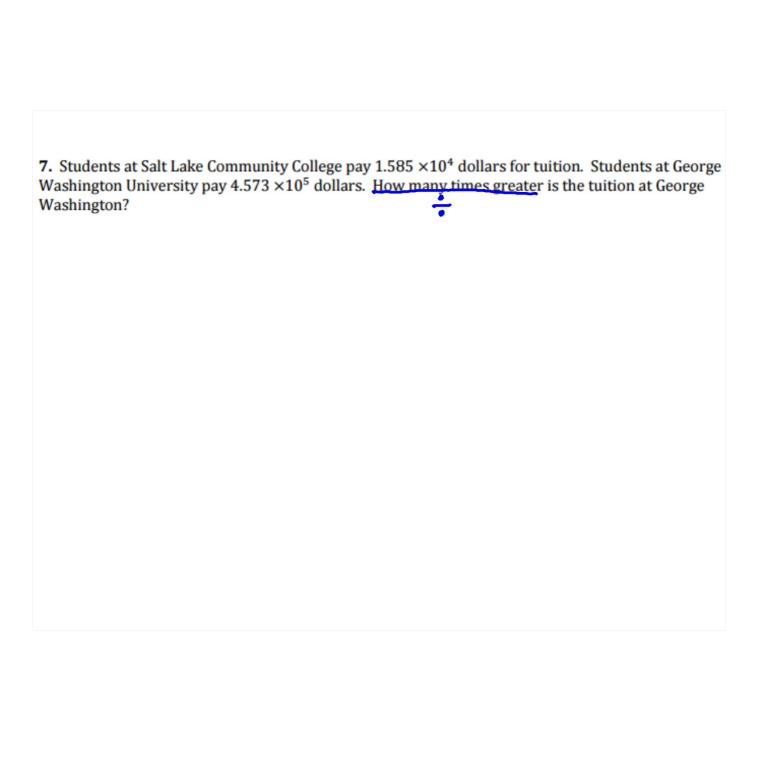
 $4.05 \times 10^{9} + .736 \times 10^{9}$

4.050

6 (4.05+.736) X 10⁹
4.786 X 10⁹

5. The half-life of uranium-238 is 4.5×10^9 years. The half-life of uranium-238 than that of uranium-238 than than than the uranium-238 than	ium-234 is 2.5×10^5 years. nium-234?





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

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.

	Population					
Place	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				

add

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

