Wisdom Lane Middle School Homework #101 Date:_____
Name:_____ Period:_____
Teacher: Mr. Tomeo

Scientific Notation 2

(Operations in Scientific Notation)

I.

Simplify. Write each answer in scientific notation.

1) $(1.08 \times 10^{-3})(9.3 \times 10^{-3})$

2) $(2 \times 10^{-4})(8.1 \times 10^{-1})$

3) $(2.32 \times 10^{-6})(4 \times 10^{-5})$

4) $(3.48 \times 10^{3})(9.8 \times 10^{4})$

5) $(7.1 \times 10^{-5})(6.7 \times 10^{-6})$

6) $(6 \times 10^{3})(9.91 \times 10^{0})$

7) $\dfrac{7.8 \times 10^{4}}{8 \times 10^{1}}$

8) $\dfrac{8.42 \times 10^{3}}{5 \times 10^{2}}$

9) $\dfrac{2.04 \times 10^{-1}}{2 \times 10^{-2}}$

10) $\dfrac{1.91 \times 10^{3}}{5 \times 10^{-4}}$

II. Compute the **exact** answer to each of the following and report your answer in **scientific notation.** For these you may need to make some changes before computing. A calculator is allowed as well. Just be sure to record your answer in **scientific notation.**

1. $(3 \times 10^{-6})(3 \times 10^{9})$

2. $\frac{6.8 \times 10^{9}}{2 \times 10^{5}}$

3. $4.5 \times 10^{7} + 41{,}000{,}000$

4. $8.4 \times 10^{7} - 3.1 \times 10^{7}$

5. $(2.4 \times 10^{4})(3{,}000)$

6. $\frac{5.4 \times 10^{x}}{3{,}000}$

7. $3.9 \times 10^{13} + 4.2 \times 10^{13}$

8. $8.2 \times 10^{-5} - 0.000\,059$

9. $(1.3 \times 10^{-4})(4.2 \times 10^{11})$

10. $\frac{4.5 \times 10^{9}}{1.5 \times 10^{13}}$

11. $1.3 \times 10^{7} + 4 \times 10^{7}$

12. $5.2 \times 10^{7} - 12{,}000{,}000$

III. Answer each of the following questions and record your answers in **scientific notation.**

1.

The distance from the Earth to the sun is 9.3×10^6 miles. The distance from the Earth to the moon is 3×10^5 miles. How many times bigger is the distance from Earth to the sun than the distance from Earth to the moon?

2.

The temperature halfway to the Sun from Mercury is approximately $1{,}800° C$ and scientists theorize that it may be up to 26,000 times hotter at the center of the Sun. Approximately how hot is it at the center of the Sun?

3.

Each shrimp weighs approximately $0.000\ 27\ g$ and a shrimp company can bring in over 3,100,000,000 shrimp per year. Approximately how much would that many shrimp weigh?

4.

The Earth has a mass of about 1×10^{25} kg. Neptune has a mass of 1.8×10^{27} kg. How many times bigger is Neptune than Earth?

5.

A country has an area of approximately 8,400,000,000 square miles and has approximately 210,000 people. How much area is this per person?

6.

A blue whale can eat 300,000,000 krill in a day. All of that krill weighs approximately 6,300,000,000 mg. About how much does each krill weigh?

7.

The US spends on average 10,200 dollars on each student per year. There are about 77,000,000 students in the United States. How about much money total is spent on students each year?

8.

McDonald's has about 210,000 managers and each makes on average 39,000 dollars per year. How much money does McDonald's spend on managers each year?