Name:_____ Period:_____ Score: ____/____ = ____% = _____

HW6-4: Applying Scientific Notation

Simplify. Write your answer using scientific notation.

1. $(1.2 \times 10^{9}) + (7.77 \times 10^{12})$

7.7712×10^{12}

2. $(5.01 \times 10^{33}) - (4.1 \times 10^{31})$

3. $(6.3 \times 10^{-31})(3.5 \times 10^{13})$

2.205×10^{-17}

4. $(2.21 \times 10^{9}) \div (2.6 \times 10^{3})$

5. $(6.52 \times 10^{-11}) + (8.08 \times 10^{-11})$

6. $\dfrac{4.84 \times 10^{11}}{8.8 \times 10^{4}}$

5.5×10^{14}

Write your answers using scientific notation.

7. There are about 6.022×10^{23} atoms of hydrogen in a mole of hydrogen. How many hydrogen atoms are in 3.5×10^{3} moles of hydrogen?

2.1077×10^{27} hydrogen atoms

8. The mass of Neptune is 1.02×10^{26} kg. The mass of Venus is 4.87×10^{24} kg. How much greater is the mass of Neptune than the mass of Venus?

9. New York County had a population of about 1.54×10^6 people in 2000. Erie County has a population of about 9.5×10^5 people. Find the combined population of New York and Erie Counties.

2.49×10^6 people

10. Find the population density of China if the population is 1.332×10^9 people and the area of China is $3.7 \times 10^6\ mi^2$.

11. An album receives an award when it sells 10 000 000 copies. An album has already sold 8.78×10^6 copies. How many more copies does it need to sell to receive the award?

1.22×10^6 copies

12. The population of several European countries is found in the table.
What is the total population of Italy, Germany and Hungary?

Country	Population
Germany	8.13×10^7
France	6.71×10^7
Italy	6.07×10^7
Spain	4.64×10^7
Hungary	9.85×10^6

13. The total income for Georgia residents is $\$2.4 \times 10^{11}$. There are 10 million residents in the state of Georgia. What is the average income per person in the state of Georgia?

$\$2.4 \times 10^4$ is the average income per person

14. The table shows the surface temperature of five stars.

Star	Betelgeuse	Bellatrix	Sun	Aldebaran	Rigel
Surface Temperature (°F)	6.2×10^3	3.8×10^4	1.1×10^4	7.2×10^3	2.2×10^4

a. Which star has the highest surface temperature?

b. Which star has the lowest surface temperature?

15. The average mass of a grain of sand on a beach is about 1.5×10^{-5} g. There are about 5.1×10^{11} grains of sand in a beach volleyball court. What is the mass of grains of sand in the beach volleyball court?

7.65×10^6 grams

16. The maximum length of a particle that can fit through a surgical mask is 1×10^{-4} mm. The average length of a dust mite is 1.25×10^{-1}mm. What is the difference between a dust mite and a particle that can fit through a surgical mask?