

Name: _____

Date: _____

MCHS Honors Physics 2014-2015

Scientific Notation

Practice Problems A

1. $0.00001 =$ _____
2. $10,000 =$ _____
3. $4 \times 3^2 =$ _____
4. $4 \times 10^3 =$ _____

5. $2 \times 10^5 + 6 \times 10^5 =$ _____
6. $5 \times 10^3 + 2 \times 10^3 =$ _____
7. $5 \times 10^4 + 2 \times 10^3 =$ _____

8. $6 \times 10^5 - 2 \times 10^5 =$ _____
9. $5 \times 10^3 - 2 \times 10^3 =$ _____
10. $5 \times 10^4 - 2 \times 10^3 =$ _____
11. $2 \times 10^5 - 6 \times 10^5 =$ _____

12. $2 \times 10^5 \times 3 \times 10^5 =$ _____
13. $2 \times 10^3 \times 6 \times 10^2 =$ _____
14. $2 \times 10^{-5} \times 3 \times 10^8 =$ _____
15. $2 \times 10^{-5} \times 3 \times 10^{-8} =$ _____

16. $6 \times 10^7 \div 2 \times 10^4 =$ _____
17. $6 \times 10^7 \div 2 \times 10^{-4} =$ _____
18. $6 \times 10^{-7} \div 2 \times 10^{-4} =$ _____

Practice Problems B

Write the numbers from least to greatest.

1. 1.3759×10^4 ; 12,205 ; 9.287×10^3 ; 3.0214×10^4

2. 0.16; 2.5×10^{-3} ; 1.04×10^{-3} ; 0.0985

3. 8.79×10^2 ; 1146; 1.0085×10^3 ; 1023

4. 1.2×10^{-5} ; 0.001023; 1.045×10^{-3} ; 0.01036

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Evaluate the expression. Write your answer in scientific notation.

5. $(6 \times 10^8)(5 \times 10^{-2})$

6. $\frac{4.5 \times 10^{-5}}{9 \times 10^{-2}}$

7. $(2 \times 10^{-5})^5$

8. **Michigan:** Michigan has an area of approximately 2.505×10^5 square kilometers. In 2013, the population of Michigan was approximately 9.896×10^6 people. How many people were there per square kilometer in Michigan in 2013?

(FYI: Japan has about 337 people/km², the U.S. is about 91.1 people/km²)

9. Uranus' Moons: The table below shows the masses (in kg) of the 5 most massive moons of Uranus. (FYI: Uranus has at least 27 moons)

Moon	Miranda	Titania	Ariel	Oberon	Umbriel
Mass (kg)	6.6×10^{19}	3.52×10^{21}	13.5×10^{20}	30.1×10^{20}	11.7×10^{20}

a) Write the moons in order of largest mass to smallest mass.

b) How many times larger is the moon of largest mass than the moon of smallest mass?