

Name: _____

Date: _____

Scientific Notation and Exponents Review Sheet

For each question, answer True (T) or False (F).

- 1.) _____ 5×10^{12} is written in scientific notation.
- 2.) _____ If a number in standard notation is between 0 and 1, the scientific notation will have a power of ten with a positive exponent.
- 3.) _____ 9.999×10^3 is larger than 1.6×10^4
- 4.) _____ 3,405,000 in scientific notation is 3.45×10^6
- 5.) _____ 2.1×10^{-3} in standard form is 0.0021
- 6.) _____ $0^0 = 0$
- 7.) _____ 5^{-4} evaluates to a negative number.

Write each number in standard form.

8.) 5.23×10^4 _____

9.) 4.16×10^{-3} _____

Write each number in scientific notation

10.) 560,000 _____

11.) 0.024 _____

Circle the greater number in each pair of numbers.

12.) 2.4×10^6 7.9×10^2

13.) 3.1×10^{-7} 7.5×10^{-4}

Find the product or quotient in each example.

14.) $(3.1 \times 10^{-5})(3 \times 10^2)$

15.) $\frac{2.4 \times 10^{-3}}{2 \times 10^4}$

16.) $\frac{(6.0 \times 10^{-4})(3 \times 10^{-8})}{(9 \times 10^{-12})}$

Write the following numbers in scientific notation.

17.) 35.7×10^7

18.) 0.08×10^{-3}

19.) 0.05×10^2

20.) 435.6×10^2

Simplify every expression using the laws of exponents. Where possible, evaluate the expression.

21. $4(9^0)$	22. $2^3 \times 2^2$	23. $3^9 \div 3^3$	24. -5^2	25. $(-5)^2$
26. $10^7 \div 10$	27. 4^{-2}	28. $(-2)^{-3}$	29. $-5n^0$	30. $(-5n)^0$
31. $k^3 \cdot k \cdot k^4$	32. $\frac{8^6}{8^3}$	33. $\frac{x^4 \cdot x^5}{x^2}$	34. $\frac{4^{-4}}{4^{-6}}$	35. $(-3a^3)(2a^5)$

36. Order the following numbers from **least to greatest**. Show all work to justify your response.

3^{-3}

2^3

$(-3)^3$

2^{-5}

$(-2)^{-2}$