

WKS – Chem Honors
Scientific Notation

NAME _____
Period _____ **Date** _____

For Parts A to C do NOT use your calculator.

A. Express in scientific notation. Keep track of units.

1. 3,000,000 km	2. 0.0000307 L
3. -350,000 mm	4. -0.00009 kg

B. Express in common decimal form. Keep track of units.

5. 7.3×10^2 ms	6. 5.83×10^{-4} L
7. -3.4×10^6 km	8. -8.003×10^{-4} s

C. Evaluate the following expressions. Write the answer as you initially determine it, then convert it to valid scientific notation if necessary. Watch your units!

9. 8.5×10^3 s + 2.3×10^2 s	10. 4.55×10^2 g - 3.3×10^1 g
11. 25×10^4 cm \times 5×10^2 cm	12. $\frac{4 \times 10^4 \text{ g}}{8 \times 10^2 \text{ L}}$

D. Evaluate the following expressions *using your calculator*; write your answer in scientific notation. Watch units!

13. 2×10^{-4} mm \times 3×10^7 mm	14. $\frac{3.4 \times 10^{-8} \text{ m}}{1.7 \times 10^{-3} \text{ s}}$
15. $\frac{5 \times 10^2 \text{ g} \times 8 \times 10^{-4} \text{ cm}}{2 \times 10^7 \text{ s}}$	16. $\frac{8 \times 10^{-1} \text{ kg} \times 1.5 \times 10^2 \text{ m}}{2 \times 10^{-1} \text{ s} \times 7.5 \times 10^1 \text{ s}}$

17. By what *factor* is 6 greater than 2?

18. By what *factor* is 1×10^6 greater than 1×10^2 ?