

Significant Figures and Scientific Notation Review

Determine how many significant figures are in the following.

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|----------------|----------|---------------|----------|
| 1. 56 m | <u>2</u> | 4. 0.10 km | <u>2</u> |
| 2. 9000 mg | <u>1</u> | 5. 8090 hrs | <u>3</u> |
| 3. 0.024010 km | <u>5</u> | 6. 800.0 days | <u>4</u> |

Perform the following calculations. DO NOT FORGET UNITS!

7. $2.25 \text{ cm} * 2.251 \text{ cm} * 2.0000 \text{ cm} = \underline{10.1 \text{ cm}^3}$
8. $45.214 \text{ mg} - 90.93 \text{ g} = \underline{-45.72 \text{ mg}}$
9. $125 \text{ mm}^2 / 25 \text{ mm} = \underline{5.0 \text{ mm}}$
10. $310.500 \text{ min} - 9.0 \text{ min} - 53.21 \text{ min} = \underline{248.3 \text{ min}}$

Convert each number to scientific notation to 2 decimal points. DO NOT FORGET UNITS!

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|---------------|--|----------------|--|
| 11. 0.0452 mm | <u>$4.52 \times 10^{-2} \text{ mm}$</u> | 13. 0.00000314 | <u>3.14×10^{-6}</u> |
| 12. 90000 L | <u>$9.00 \times 10^4 \text{ L}$</u> | 14. 13.5 s | <u>$1.35 \times 10^1 \text{ s}$</u> |

Convert each number to standard form. DO NOT FORGET UNITS!

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|-----------------------------------|---------------------|-------------------------------------|----------------|
| 15. $9.98 \times 10^4 \text{ kg}$ | <u>99800 kg</u> | 17. $2.15 \times 10^{-1} \text{ g}$ | <u>0.215 g</u> |
| 16. $6.67 \times 10^8 \text{ mi}$ | <u>667000000 mi</u> | 18. $8.52 \times 10^2 \text{ L}$ | <u>852 L</u> |

Solve the following using significant figures and place in scientific notation. DO NOT FORGET UNITS!

19. $3.76 \times 10^9 \text{ m} * 4.14 \times 10^{-9} \text{ m} = \underline{1.56 \times 10^1 \text{ m}^2}$
20. $\frac{5.00 \times 10^{16} \text{ km}^2}{2.00 \times 10^{14} \text{ km}} = \underline{2.50 \times 10^2 \text{ km}}$
21. $5.50 \times 10^{-6} \text{ m} * 1.15 \times 10^6 \text{ m} * 1.00 \times 10^1 \text{ m} = \underline{6.33 \times 10^1 \text{ m}^3}$
22. $\frac{6.25 \times 10^{-4} \text{ m}^2}{2.25 \times 10^9 \text{ m}} = \underline{2.78 \times 10^{-13} \text{ m}}$