

Name _____
Date _____

Significant Figures

How many sig figs are in each number listed below?

- | | |
|---------------------------------|----------------------------------|
| 1. 5.40 _____ | 16. 2.010×10^{-9} _____ |
| 2. 210 _____ | 17. 18 _____ |
| 3. 801.5 _____ | 18. 2001.001000 _____ |
| 4. 1000 _____ | 19. 0.00120010 _____ |
| 5. 101.0100 _____ | 20. 900100 _____ |
| 6. 205.32000 _____ | 21. 1.0×10^3 _____ |
| 7. 0.00120 _____ | 22. 20500000 _____ |
| 8. 0.0102 _____ | 23. 205000110111000 _____ |
| 9. 10102000 _____ | 24. 150000 _____ |
| 10. 2370.0 _____ | 25. .0000361 _____ |
| 11. 0.0025600 _____ | 26. 2.500×10^{-4} _____ |
| 12. 1.25×10^{23} _____ | 27. 911 _____ |
| 13. 10000000000 _____ | 28. 588400 _____ |
| 14. 0.000000001 _____ | 29. 0.0221 _____ |
| 15. 10.1005 _____ | 30. 111.0000 _____ |

31. Using two different instruments. He measured the length of his foot to be 27 centimeters and 27.00 centimeters. Explain the difference between these two measurements.

Rounding: Round the following numbers to the indicated number of sig figs

- | | |
|---------------------------|---------------------------|
| 1. 98700 to 2 sf _____ | 2. 0.002759 to 3 sf _____ |
| 3. 0.000349 to 2 sf _____ | 4. 256900 to 1 sf _____ |

Math Review with Sig Figs

Benchmark:

1.4 Understands how to measure to the correct precision (significant figures) and use those measured values in calculations.

Determine the number of significant digits in each of the following:

1. 23.30 cm 4. 1,843.02 L 7. 2.00012 km 10. 0.0001010450 sec

2. 3.65 kg 5. 8.701°C 8. 0.5 mL

3. 365 kg 6. 2000.12 mm 9. 704,000 h

Report answers to the following using proper significant figures:

11. $3.414 \text{ s} + 10.02 \text{ s} + 58.325 \text{ s} + 0.00098 \text{ s}$ _____

12. $2.326 \text{ h} - 0.10408 \text{ h}$ _____

13. $10.19 \text{ m} \times 0.013 \text{ m}$ _____

14. $140.01 \text{ cm} \times 26.042 \text{ cm} \times 0.0159 \text{ cm}$ _____

15. $80.23 \text{ m} / 2.4 \text{ s}$ _____

16. $4.301 \text{ kg} / 1.9 \text{ cm}^3$ _____

17. $12 \text{ mm} + 10 \text{ mm}$ _____

18. $0.0025 \text{ g} \times 12.36 \text{ g} \times 0.0010 \text{ g}$ _____

19. $156 \text{ miles} - 120.025 \text{ miles}$ _____

20. An experiment calls for 16.156 g of substance A, 28.2 g of substance B, 0.0058 g of substance C, and 9.44 g of substance D.

a) How many significant digits are there in each measurement?

b) What is the total mass of substances in this experiment?

c) How many significant digits are there in the answer to part b?