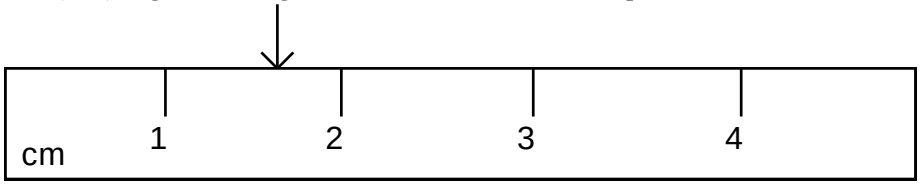
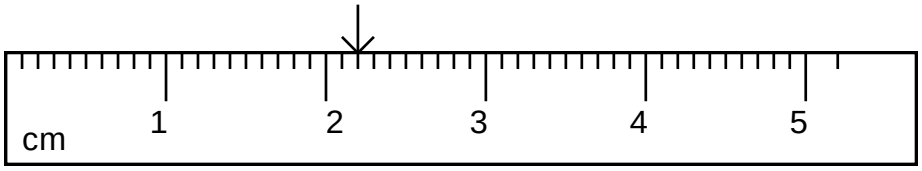
Name:_____ Period:_____

Significant Figures Practice

1. _____ (T/F) Significant figures include all the digits that can be known precisely and the last digit which must be estimated.
2. _____ (T/F) Significant figures are an indication of the precision of a measurement.



3. _____ The best measurement, using significant figures, at the arrow above would be a. 1.6 cm b. 1.60 cm c. 1.600 cm d. 1.6000 cm



4. _____ The best measurement, using significant figures, at the arrow above would be a. 2.0 cm b. 2.2 cm c. 2.20 cm d. 2.200 cm
5. _____ (T/F) The ruler drawn in number 3 has a greater degree of precision than the ruler in number 4 and therefore the measurements determined by the ruler in number 3 have a greater number of significant figures.
6. _____ If a ruler was used to measure an object and the measurement obtained was 5.555 cm, what were the smallest divisions marked on the ruler? a. .1 cm b. .01 cm c. .001 cm d. .0001 cm.
7. _____ (T/F) All nonzero digits recorded in a measurement are significant.

8. _____ (T/F) All zeros recorded in a measurement are significant.

9. _____ (T/F) All zeros appearing between nonzero digits are significant.

10. _____ (T/F) Zeros in front of nonzero digits are always significant.

11. _____ (T/F) All zeros to the right of nonzero digits are significant.

12. _____ (T/F) Zeros to the right of nonzero digits and a decimal point are significant.

13. _____ (T/F) Writing measurements in standard exponential for is a way to avoid confusion as to which zeros are significant.

B. Determine the number of significant figures in each of the following numbers (Follow ex. on p. 58).

14. _____ 123.00
15. _____ 1 002
16. _____ 0.00506
17. _____ 502 000
18. _____ 0.07080
19. _____ 3 000 000
20. _____ 3.400
21. _____ 510.005
22. _____ 210 000
23. _____ 0.0002302

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C. Round off the following numbers to the number of significant figures indicated in parentheses.

24. 2.3355 (4) _____

25. 3.999 (2) _____

26. 4.401 (2) _____

27. 555 005 (3) _____

28. 8775 (3) _____

29. 314.005 (4) _____

D. Addition and subtraction : Determine the sum or difference of the following and express the final answer with the correct number of significant figures.

30. _____ 2.225 + 5.55

31. _____ 3.1000 - 1.99

32. _____ 5.555 + 4.445

33. _____ 3.3339 - 1.000

34. _____ 2.22 + 8.8

E. Multiplication and division: Determine the product or quotient of the following and express the final answer with the correct number of significant figures.

35. _____ 25.00/5.0

36. _____ 4.00 x 2.0

37. _____ 2.55 x 3.368

38. _____ 30.0/6.000

39. _____ 25.56 x 2.0

40. _____ 500.0/1.0

41. _____ 44.5 x 2.000

42. _____ 100.0/10