

Name: _____
Period: _____

RULES FOR SIGNIFICANT FIGURES

1. Non-zero digits and zeros between non-zero digits are always significant.
2. Leading zeros are not significant.
3. Zeros to the right of all non-zero digits are only significant if a decimal point is shown.
4. For values written in scientific notation, the digits in the coefficient are significant.
5. In a common logarithm, there are as many digits after the decimal point as there are significant figures in the original number.

For the following measurements, list the number of significant figures shown.

Rule 1 Number of significant figures:

- | | |
|----------------|-------|
| 1. 34 m | _____ |
| 2. 304 m | _____ |
| 3. 784657 s | _____ |
| 4. 78400657 s | _____ |
| 5. 10000001 cm | _____ |

Rule 2 Number of significant figures:

- | | |
|-----------------|-------|
| 6. 0.1 km | _____ |
| 7. 0.03 m | _____ |
| 8. 0.004 s | _____ |
| 9. 0.00071 L | _____ |
| 10. 0.0000823 g | _____ |

Rule 3 Number of significant figures:

- | | |
|---------------|-------|
| 11. 10 m | _____ |
| 12. 10.0 s | _____ |
| 13. 100 kg | _____ |
| 14. 100.00 mm | _____ |
| 15. 0.030 g | _____ |

Rule 4Number of significant figures:

16. 1.2×10^3 s _____
17. 6.345×10^5 m _____
18. 4.30×10^2 g _____
19. 7.210×10^9 L _____
20. 1.111000×10^6 kg _____

Rule 5 Example

If the original number = 0.0034

Then use calculator to find the log.

Log (0.0034) = 2.468521083

The correct value to report is 2.47 (Don't worry about Rule 5 for now!)

How many significant figures are present? For each of the following, give the number of significant figures and which rules (1, 2, 3, and/or 4) you used to determine each example:

	# sig fig	which rules?		# sig fig	which rules?
21. 0.02	_____	_____	36. 90,100	_____	_____
22. 0.020	_____	_____	37. 4.7×10^{-8}	_____	_____
23. 501	_____	_____	38. 10,800.000	_____	_____
24. 501.0	_____	_____	39. 3.01×10^{21}	_____	_____
25. 5,000	_____	_____	40. 0.000410	_____	_____
26. 5,000.	_____	_____	41. 2500	_____	_____
27. 6,051.00	_____	_____	42. 2500.0	_____	_____
28. 0.0005	_____	_____	43. 0.002300	_____	_____
29. 0.1220	_____	_____	44. 7.500×10^8	_____	_____
30. 10,001	_____	_____	45. 2873.0	_____	_____
31. 8040	_____	_____	46. 0.189	_____	_____
32. 0.0300	_____	_____	47. 0.2560	_____	_____
33. 699.5	_____	_____	48. 1.00000×10^3	_____	_____
34. 2.000×10^2	_____	_____	49. 0.0657	_____	_____
35. 0.90100	_____	_____	50. 270.	_____	_____