

Using Scientific Notation

(Honors Chemistry)

Write the following numbers in scientific notation:

1. 1001	1.001×10^3	2. 0.0000672	6.72×10^{-5}
3. 52	5.2×10^1	4. 0.195	1.95×10^{-1}
5. 6,926,300,000	6.9263×10^9	6. 26.1	2.61×10^1
7. 0.00361	3.61×10^{-3}	8. 7,790	7.79×10^3
9. 0.13592	1.3592×10^{-1}	10. 0.00000000833	8.33×10^{-9}
11. 1.930	1.930×10^0	12. 0.00000134	1.34×10^{-6}
13. 262,000	2.62×10^5	14. 55.6000	5.56000×10^1
15. 93,100,000	9.31×10^7	16. 2.940	2.940×10^0
17. 704	7.04×10^2	18. 0.00621	6.21×10^{-3}
19. 0.0713	7.13×10^{-2}	20. 0.00000013	1.3×10^{-7}

Write the following numbers in decimal form:

21. 1.92×10^3	1920	22. 1.03×10^{-2}	.0103
23. 3.051×10^1	30.51	24. 8.862×10^{-1}	.8862
25. 6.251×10^9	6 251 000 000	26. 9.512×10^{-8}	.00000009512
27. 8.317×10^6	8 317 000	28. 3.159×10^2	315.9

Solve the following equations using scientific notation only:

29. $(2.0 \times 10^{-1}) \times (8.5 \times 10^5) = 1.7 \times 10^5$
30. $(1.695 \times 10^4) \div (1.395 \times 10^2) = 1.215 \times 10^2$
31. $(4.367 \times 10^5) \times (1.96 \times 10^{11}) = 8.56 \times 10^{16}$
32. $(6.97 \times 10^3) \times (2.34 \times 10^{-6}) + (3.2 \times 10^{-2}) = 4.8 \times 10^{-2}$
33. $(5.16 \times 10^{-4}) \div (8.65 \times 10^{-8}) + (9.68 \times 10^4) = 1.03 \times 10^5$

34. $(2.87 \times 10^5) \times (3.514 \times 10^9) =$

$$1.01 \times 10^{15}$$

35. $(5.0 \times 10^{-2}) \times (7.85 \times 10^4) =$

$$3.9 \times 10^3$$

36. $(1.042 \times 10^{-1}) \times (4.002 \times 10^{-5}) =$

$$4.170 \times 10^{-6}$$

37. $(2.21 \times 10^5) \times (1.807 \times 10^{-7}) =$

$$3.99 \times 10^{-2}$$

38. $(1.92 \times 10^{-2}) \div (2.3 \times 10^6) =$

$$8.3 \times 10^{-9}$$

39. $(9.4 \times 10^2) \div (1.24 \times 10^{-5}) =$

$$7.6 \times 10^7$$

40. $(3.95 \times 10^5) + (7.8 \times 10^3) =$

$$4.0 \times 10^5$$

41. $(2 \times 10^{-3}) + (8 \times 10^{-4}) =$

$$3 \times 10^{-3}$$

42. $(6.0423 \times 10^1) + (5.001 \times 10^{-1}) =$

$$6.092 \times 10^1$$

43. $(4.54 \times 10^7) - (1.01 \times 10^8) =$

$$-5.56 \times 10^7$$

44. $(7.83 \times 10^{-2}) - (2.20 \times 10^{-3}) =$

$$7.61 \times 10^{-2}$$

45. $(8.23 \times 10^4) - (3.02 \times 10^3) =$

$$7.93 \times 10^4$$

46. $(6.8 \times 10^3) \times (4.054 \times 10^6) =$

$$2.8 \times 10^{10}$$

47. $(2.0 \times 10^{-1}) \times (8.5 \times 10^5) =$

$$1.7 \times 10^5$$

48. $(4.42 \times 10^{-3}) \times (4 \times 10^{-2}) =$

$$2 \times 10^{-4}$$

49. $(3 \times 10^6) \times (8.5 \times 10^{-7}) =$

$$3$$

50. $(9.2 \times 10^{-3}) \div (6.3 \times 10^6) = 1.5 \times 10^{-9}$

51. $(2.4 \times 10^6) \div (5.49 \times 10^{-9}) =$

$$4.4 \times 10^{14}$$