

ELEMENTARY EQUATIONS

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Elements with atomic numbers 1 to 92 are the naturally occurring elements. For 86 of these I can offer mathematical proof of their atomic numbers by assigning alphabetical values to the letters of the element.

This is done by using one or more of the functions + - x ÷ √.

Only ERBIUM (68) and HAFNIUM (72) produce their atomic numbers by adding all their letters together.

1. HYDROGEN $(8 + 25 - 4 - 18) \div (-15 + 7 + 5 + 14) = 1$

2. HELIUM $-1 + 5 - (12 \times \sqrt{9}) + 21 + 13 = 2$

3. LITHIUM $(12 \times \sqrt{9}) - 20 - 8 + \sqrt{9} - 21 + 13 = 3$

4. BERYLLIUM $2 - 5 - 18 \times (25 - 12 - 12) - 9 + 21 + 13 = 4$

5. BORON $(2 - 15 + 18) \times (15 - 14) = 5$

6. CARBON $(- [3 \times 1] + [18 \div 2]) \times (15 - 14) = 6$

7. NITROGEN $(14 - 9 + 20 - 18) \times (-15 + 7 - 5 + 14) = 7$

8. OXYGEN $-15 + 24 + 25 - 7 - 5 - 14 = 8$

9. FLUORINE $-6 - 12 + 21 - 15 + (18 \div 9) + 14 + 5 = 9$

10. NEON $14 - 5 + 15 - 14 = 10$

11. SODIUM $19 - 15 - 4 + \sqrt{9} + 21 - 13 = 11$

12. MAGNESIUM $(13 \times [1 + 7]) - 14 - (5 \times 19) + 9 + 21 - 13 = 12$

13. ALUMINIUM $1 + 12 + 21 + 13 - 9 - 14 - \sqrt{9} - 21 + 13 = 13$

14. SILICON $19 + 9 - 12 + (9 \times 3) - 15 - 14 = 14$

15. PHOSPHORUS $16 + 8 - 15 + 19 + 16 + 8 - 15 + 18 - 21 - 19 = 15$

16. SULPHUR $(19 - 21) \times (-12 - 16 + 8 + 21) + 18 = 16$

17. CHLORINE $3 + 8 - 12 + 15 + ([18 - 9] \div [\sqrt{(14 - 5)}]) = 17$

18. ARGON $(1 \times [-18 + 7]) + 15 + 14 = 18$

19. POTASSIUM $16 - 15 + 20 - 1 - 19 + 19 - 9 + 21 - 13 = 19$

20. CALCIUM $3 + 1 + 12 + 3 + 9 - 21 + 13 = 20$

21. SCANDIUM $(19 - 3 - 1 - 14) \times (4 + 9 + 21 - 13) = 21$

22. TITANIUM $20 + 9 - (20 \times 1) + 14 - 9 + 21 - 13 = 22$

23. VANADIUM $22 + 1 + 14 + 1 - 4 - \sqrt{9} - 21 + 13 = 23$

24. CHROMIUM $3 + ([-8 + 18] \times [15 - 13]) + 9 - 21 + 13 = 24$

25. MANGANESE $13 - 1 + 14 - 7 + 1 - 14 - 5 + 19 + 5 = 25$

26. IRON $9 + 18 - 15 + 14 = 26$

27. COBALT $3 + 15 + 2 - 1 - 12 + 20 = 27$

28. NICKEL $(14 \times [\sqrt{9} - 3]) + 11 + 5 + 12 = 28$

29. COPPER $3 + 15 + \sqrt{16} - 16 + 5 + 18 = 29$

30. ZINC

31. GALLIUM $7 - 1 + 12 + 12 + 9 - 21 + 13 = 31$

32. GERMANIUM $(7 + 5 + 18 - 13 + 1 + 14) \times (9 - 21 + 13) = 32$

33. ARSENIC $1 - 18 + 19 + 5 + 14 + 9 + 3 = 33$

34. SELENIUM $19 + (5 \times 12) - (5 \times 14) - 9 + 21 + 13 = 34$

35. BROMINE $(2 \times 18) + (15 - 13) - (9 \div \sqrt{[14 - 5]}) = 35$

36. KRYPTON $(-11 + 18 + \sqrt{25} + \sqrt{16} + 20) \times (15 - 14) = 36$

37. RUBIDIUM $18 + 21 + 2 + 9 + 4 - 9 - 21 + 13 = 37$
38. STRONTIUM $(19 + 20 + 18 + 15 - 14 - 20) \times (9 - 21 + 13) = 38$
39. YTTRIUM $25 + (20 \div 20) + 18 + \sqrt{9} - 21 + 13 = 39$
40. ZIRCONIUM $26 + 9 + 18 + 3 + 15 - 14 - 9 - 21 + 13 = 40$
41. NIOBIUM $14 + \sqrt{9} + 15 - 2 + \sqrt{9} + 21 - 13 = 41$
42. MOLYBDENUM $13 - 15 + 12 + 25 + 2 + 4 - 5 + 14 - 21 + 13 = 42$
43. TECHNETIUM $\sqrt{(20 + 5)} \times (3 + 8) + 14 + 5 - 20 - \sqrt{9} - 21 + 13 = 43$
44. RUTHENIUM $18 + 21 + (20 \times 8) + 5 - (14 \times 9) - 21 - 13 = 44$
45. RHODIUM $18 + ([-8 + 15] \times 4) - 9 + 21 - 13 = 45$
46. PALLADIUM $16 + 1 + 12 + (12 \times 1) + 4 + 9 - 21 + 13 = 46$
47. SILVER $-19 + 9 + 12 + 22 + 5 + 18 = 47$
48. CADMIUM $-(3 \div 1) + (4 \times 13) - 9 + 21 - 13 = 48$
49. INDIUM $-9 - 14 - 4 + (\sqrt{9} \times 21) + 13 = 49$
50. TIN
51. ANTIMONY $-1 + 14 - 20 - 9 + 13 + 15 + 14 + 25 = 51$
52. TELLURIUM $20 + 5 + 12 - 12 + 21 - (18 \div 9) + 21 - 13 = 52$
53. IODINE $\sqrt{9} - 15 + 4 - 9 + (14 \times 5) \nu = 53$
54. XENON
55. CAESIUM $-3 + 1 - 5 + 19 + 9 + 21 + 13 = 55$
56. BARIUM $([-2 \times 1] + 18 - 9) \times (21 - 13) = 56$
57. LANTHANUM $(12 \times 1) - 14 + 20 - 8 - 1 + 14 + 21 + 13 = 57$

58. CERIUM $(3 \times 5) + 18 - 9 + 21 + 13 = 58$
59. PRASEODYMIUM $16 - 18 + 1 - 19 + 5 + 15 + 4 + 25 - 13 + 9 + 21 + 13 = 59$
60. NEODYMIUM $(\sqrt{[14 - 5]} + 15 + 4 + 25 + 13) \times (9 - 21 + 13) = 60$
61. PROMETHIUM $([16 + 18]) \times [15 - 13] + 5 - 20 + 8) \times (9 - 21 + 13) = 61$
62. SAMARIUM $19 + 1 + (13 \times 1) + 18 + \sqrt{9} + 21 - 13 = 62$
63. EUROPIUM $5 + 21 + 18 - 15 - 16 + (\sqrt{9} \times 21) - 13 = 63$
64. GADOLINIUM $7 - 1 - 4 - 15 + (12 \times 9) - 14 - 9 - 21 + 13 = 64$
65. TERBIUM $(20 \times 5) - (18 \times 2) + 9 - 21 + 13 = 65$
66. DYSPROSIUM $(4 - 25 + 19 + 16 + 18 + 15 + 19) \times (9 - 21 + 13) = 66$
67. HOLMIUM $8 + 15 - 12 + 13 + 9 + 21 + 13 = 67$
68. ERBIUM $5 + 18 + 2 + 9 + 21 + 13 = 68$
69. THULIUM $20 - 8 + 21 + 12 + (\sqrt{9} \times [21 - 13]) = 69$
70. YTTERBIUM $(25 + 20 + \sqrt{[20 + 5]} + 18 + 2) \times (9 - 21 + 13) = 70$
71. LUTETIUM $- 12 - 21 + (20 \times 5) - 20 + (\sqrt{9} \times [21 - 13]) = 71$
72. HAFNIUM $8 + 1 + 6 + 14 + 9 + 21 + 13 = 72$
73. TANTALUM $20 - 1 + 14 + (20 \times 1) + 12 + 21 - 13 = 73$
74. TUNGSTEN $20 + 21 + (14 \div 7) - 19 - 20 + (5 \times 14) = 74$
75. RHENIUM $18 - 8 + (5 \times 14) + \sqrt{9} - 21 + 13 = 75$
76. OSMIUM $([- 15 + 19] \times 13) + ([\sqrt{9} \times (21 - 13)]) = 76$
77. IRIDIUM $9 - 18 + (9 \times 4) + (\sqrt{9} \times 21) - 13 = 77$
78. PLATINUM $16 + 12 + 1 + 20 + 9 - 14 + 21 + 13 = 78$

79. GOLD

$$80. \text{MERCURY} \quad - 13 + 5 + (18 \times 3) + 21 + 18 - \sqrt{25} = 80$$

$$81. \text{THALLIUM} \quad 20 + 8 + 1 - 12 - 12 + (\sqrt{9} \times 21 + 13) = 81$$

82. LEAD

$$83. \text{BISMUTH} \quad (2 \times 9) + 19 + 13 + 21 + 20 - 8 = 83$$

$$84. \text{POLONIUM} \quad 16 + 15 + ([-12 + 15] \times 14) + \sqrt{9} + 21 - 13 = 84$$

$$85. \text{ASTATINE} \quad -1 + 19 + 20 - 1 + 20 + 9 + 14 + 5 = 85$$

86. RADON

$$87. \text{FRANCIUM} \quad 6 + 18 + ([-1 + 14] \times 3) + (\sqrt{9} \times [21 - 13]) = 87$$

$$88. \text{RADIUM} \quad (18 \times 1) + (4 \times 9) + 21 + 13 = 88$$

$$89. \text{ACTINIUM} \quad ([-1 + 3] \times [20 + 9]) + 14 + 9 + 21 - 13 = 89$$

$$90. \text{THORIUM} \quad (20 \times 8) - 15 - 18 - \sqrt{9} - 21 - 13 = 90$$

$$91. \text{PROTACTINIUM} \quad 16 + 18 + 15 + 20 + 1 - 3 + 20 - 9 + 14 - 9 + 21 - 13 = 91$$

$$92. \text{URANIUM} \quad ((\{21 - 18\} \times 1) \times 14) + (\sqrt{9} \times 21) - 13 = 92$$