

NAME: _____

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CHEMISTRY: COUNTING ATOMS IN COMPOUNDS WORKSHEET #7.0.1

INSTRUCTIONS: Write the quantity of atoms of each element opposite the formula of the compound for the quantity of formula units and molecules shown:

For example: $5\text{P}_2\text{O}_3$ $\text{P} = (5 \times 2 =) 10$ $\text{O} = (5 \times 3 =) 15$

For example: $4\text{Zn}(\text{NO}_3)_2$ $\text{Zn} = (4 \times 1 =) 4$ $\text{N} = (4 \times 1 \times 2 =) 8$ $\text{O} = (4 \times 3 \times 2 =) 24$

1. $4\text{K}_2\text{CO}_3$ $\text{K} = 8$ $\text{C} = 4$ $\text{O} = 12$
2. $2\text{Sr}_3(\text{PO}_4)_2$ $\text{Sr} = 6$ $\text{P} = 4$ $\text{O} = 16$
3. $3\text{N}_4\text{O}_{10}$ $\text{N} = 12$ $\text{O} = 30$
4. $2(\text{NH}_4)_3\text{N}$ $\text{N} = 8$ $\text{H} = 24$
5. $8\text{Cl}_2\text{O}$ $\text{Cl} = 16$ $\text{O} = 8$
6. $\text{Ca}(\text{C}_2\text{H}_3\text{O}_2)_2$ $\text{Ca} = 1$ $\text{C} = 4$ $\text{H} = 6$ $\text{O} = 4$
7. 12NaBr $\text{Na} = 12$ $\text{Br} = 12$
8. $4\text{Al}(\text{OH})_3$ $\text{Al} = 4$ $\text{O} = 12$ $\text{H} = 12$
9. 3NaHCO_3 $\text{Na} = 3$ $\text{H} = 3$ $\text{C} = 3$ $\text{O} = 9$
10. $5\text{Ga}_2(\text{Cr}_2\text{O}_7)_3$ $\text{Ga} = 10$ $\text{Cr} = 30$ $\text{O} = 105$
11. $7\text{C}_2\text{S}_2$ $\text{C} = 14$ $\text{S} = 14$
12. $4\text{Fe}_2\text{O}_3$ $\text{Fe} = 8$ $\text{O} = 12$
13. $6\text{Ba}(\text{MnO}_4)_2$ $\text{Ba} = 6$ $\text{Mn} = 12$ $\text{O} = 48$
14. $3\text{V}_2\text{O}_5$ $\text{V} = 6$ $\text{O} = 15$
15. 2KNO_3 $\text{K} = 2$ $\text{N} = 2$ $\text{O} = 6$
16. 9MgSO_4 $\text{Mg} = 9$ $\text{S} = 9$ $\text{O} = 36$
17. $5\text{Al}_2(\text{SiO}_3)_2$ $\text{Al} = 10$ $\text{Si} = 10$ $\text{O} = 30$
18. $4\text{Au}(\text{IO}_3)_3$ $\text{Au} = 4$ $\text{I} = 12$ $\text{O} = 36$

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- 2 -

INSTRUCTIONS: Write the quantity of atoms of each element opposite the formula of the compound for the quantity of formula units and molecules shown:

For example: $5P_2O_3$ P = $(5 \times 2 =) 10$ O = $(5 \times 3 =) 15$

For example: $4Zn(NO_3)_2$ Zn = $(4 \times 1 =) 4$ N = $(4 \times 1 \times 2 =) 8$ O = $(4 \times 3 \times 2 =) 24$

19. $8SnCl_4$ Sn = 8 Cl = 32
20. $6Cu_2SeO_4$ Cu = 12 Se = 6 O = 24
21. $3AsBr_3$ As = 3 Br = 9
22. $2H_2SO_4$ H = 4 S = 2 O = 8
23. SBr_2 S = 1 Br = 2
24. $4Ca(OH)_2$ Ca = 4 O = 8 H = 8
25. $5Mg_3(PO_4)_2$ Mg = 15 P = 10 O = 40
26. $12H_2O$ H = 24 O = 12
27. $5N_2O_4$ N = 10 O = 20
28. $3ClF$ Cl = 3 F = 3
29. $7P_2O_5$ P = 14 O = 35
30. $2KrCl_6$ Kr = 2 Cl = 12
31. $5Al(C_2H_5O_2)_2$ Al = 5 C = 20 H = 30 O = 20
32. $3(NH_4)_2Cr_2O_7$ N = 6 H = 24 Cr = 6 O = 21
33. $5Fe_3(PO_4)_2$ Fe = 15 P = 10 O = 40
34. $2NH_4NO_3$ N = 4 H = 8 O = 6
35. $5BaC_4H_4O_6$ Ba = 5 C = 20 H = 20 O = 30
36. $4Cu(HSO_3)_2$ Cu = 4 H = 8 S = 8 O = 24
37. $9Au(NO_2)_2$ Au = 9 N = 18 O = 36
38. $3K_2ZnO_2$ K = 6 Zn = 3 O = 6
39. $3Sr(MnO_4)_2$ Sr = 3 Mn = 6 O = 24
40. $4Al_2(CO_3)_3$ Al = 8 C = 12 O = 36