

ANSWER KEY

EXTRA PRACTICE: Calculating Molar Mass

Name: _____

Calculate the molar mass of the following compounds. Be sure to include correct units.

1. KI $K = 1 \times 39.10 = 39.10$

$I = 1 \times 126.90 = 126.90$

$\rightarrow 166 \text{ g/mol}$

2. $Mg_3(PO_4)_2$

$Mg = 3 \times 24.31 = 72.93$

$P = 2 \times 30.97 = 61.94 \rightarrow 262.87 \text{ g/mol}$

$O = 8 \times 16.00 = 128$

3. NiO

$Ni = 1 \times 58.69 = 58.69$

$O = 1 \times 16.00 = 16.00 \rightarrow 74.69 \text{ g/mol}$

4. H_2O

$H = 2 \times 1.008 = 2.016$

$O = 1 \times 16.00 = 16.00 \rightarrow 18.016 \text{ g/mol}$

5. BaF_2

$Ba = 1 \times 137.38 = 137.38$

$F = 2 \times 19.00 = 19.00 \rightarrow 156.38 \text{ g/mol}$

6. NH_4NO_3

$N = 2 \times 14.01 = 28.02$

$H = 4 \times 1.008 = 4.032 \rightarrow 80.052 \text{ g/mol}$

$O = 3 \times 16.00 = 48.00$

7. CuS

$Cu = 1 \times 63.55 = 63.55$

$S = 1 \times 32.06 = 32.06 \rightarrow 95.61 \text{ g/mol}$

8. $ZnHCO_3$

$Zn = 1 \times 65.39 = 65.39$

$H = 1 \times 1.008 = 1.008$

$C = 1 \times 12.01 = 12.01$

$O = 3 \times 16.00 = 48.00$

$\rightarrow 126.408 \text{ g/mol}$

9. Li_3N

$Li = 3 \times 6.941 = 20.823$

$N = 1 \times 14.01 = 14.01 \rightarrow 34.833 \text{ g/mol}$

10. $PdSO_4$

$Pd = 1 \times 106.42 = 106.42$

$S = 1 \times 32.06 = 32.06 \rightarrow 202.48 \text{ g/mol}$

$O = 4 \times 16.00 = 64.00$

11. nickel (III) nitride

$Ni = 1 \times 58.69 = 58.69$

$NiN \rightarrow N = 1 \times 14.01 = 14.01 \rightarrow 72.7 \text{ g/mol}$

12. potassium phosphate

$K = 3 \times 39.10 = 117.3$

$K_3PO_4 \rightarrow P = 1 \times 30.97 = 30.97 \rightarrow 212.27 \text{ g/mol}$

$O = 4 \times 16.00 = 64.00$

13. iron (II) oxide

$Fe = 1 \times 55.85 = 55.85$

$FeO \rightarrow O = 1 \times 16.00 = 16.00 \rightarrow 71.85 \text{ g/mol}$

14. sodium hydroxide

$Na = 1 \times 22.99 = 22.99$

$NaOH \rightarrow O = 1 \times 16.00 = 16.00 \rightarrow 39.998 \text{ g/mol}$

$H = 1 \times 1.008 = 1.008$

15. aluminum fluoride

$Al = 1 \times 26.98 = 26.98$

$AlF_3 \rightarrow F = 3 \times 19.00 = 57.00 \rightarrow 83.98 \text{ g/mol}$

16. gallium carbonate

$Ga = 2 \times 69.72 = 139.44$

$Ga_2(CO_3)_3 \rightarrow C = 3 \times 12.01 = 36.03 \rightarrow 319.47 \text{ g/mol}$

$O = 9 \times 16.00 = 144$

17. copper (II) sulfate

$Cu = 1 \times 63.55 = 63.55$

$CuSO_4 \rightarrow S = 1 \times 32.06 = 32.06 \rightarrow 159.61 \text{ g/mol}$

$O = 4 \times 16.00 = 64.00$

18. zinc acetate

$Zn = 1 \times 65.39 = 65.39$

$Zn(C_2H_3O_2)_2 \rightarrow C = 4 \times 12.01 = 48.04 \rightarrow 183.478 \text{ g/mol}$

$H = 6 \times 1.008 = 6.048$

$O = 4 \times 16.00 = 64.00$

19. sodium iodide

$Na = 1 \times 22.99 = 22.99$

$NaI \rightarrow I = 1 \times 126.90 = 126.90 \rightarrow 149.89 \text{ g/mol}$

20. barium sulfate

$Ba = 1 \times 137.38 = 137.38$

$BaSO_4 \rightarrow S = 1 \times 32.06 = 32.06 \rightarrow 233.44 \text{ g/mol}$

$O = 4 \times 16.00 = 64.00$