Grams/Moles Calculations – Answer Key

Given the following, find the number of moles:

1) 30 grams of H₃PO₄  \[ 0.31 \text{ moles} \]
2) 25 grams of HF  \[ 1.25 \text{ moles} \]
3) 110 grams of NaHCO₃  \[ 1.31 \text{ moles} \]
4) 1.1 grams of FeCl₃  \[ 0.0068 \text{ moles} \]
5) 987 grams of Ra(OH)₂  \[ 3.80 \text{ moles} \]
6) 564 grams of copper  \[ 0.11 \text{ moles} \]
7) 12.3 grams of CO₂  \[ 0.28 \text{ moles} \]
8) 89 grams of Pb(CH₃COO)₄  \[ 0.20 \text{ moles} \]

Given the following, find the number of grams:

9) 4 moles of Cu(CN)₂  \[ 462 \text{ grams} \]
10) 5.6 moles of C₆H₆  \[ 436.8 \text{ grams} \]
11) 21.3 moles of BaCO₃  \[ 4202.5 \text{ grams} \]
12) 1.2 moles of (NH₄)₃PO₃  \[ 159.6 \text{ grams} \]
13) 9.3 \times 10^{-3} \text{ moles of SmO}  \[ 1.5 \text{ grams} \]
14) 6.6 moles of ZnO  \[ 537.2 \text{ grams} \]
15) 5.4 moles of K₂SO₄  \[ 941.2 \text{ grams} \]
16) 88.4 moles of Ni₃  \[ 34679.3 \text{ grams} \]
Mole Calculation Worksheet – Answer Key

1) How many moles are in 15 grams of lithium? 0.44 moles
2) How many grams are in 2.4 moles of sulfur? 77.0 grams
3) How many moles are in 22 grams of argon? 0.55 moles
4) How many grams are in 88.1 moles of magnesium? 2141 grams
5) How many moles are in 2.3 grams of phosphorus? 0.074 moles
6) How many grams are in 11.9 moles of chromium? 618.8 grams
7) How many moles are in 9.8 grams of calcium? 0.24 moles
8) How many grams are in 238 moles of arsenic? 17,826 grams

What are the molecular weights of the following compounds?

9) NaOH 40.1 grams
10) H_2O 18.0 grams
11) MgCl_2 95.3 grams
12) H_3PO_4 98.0 grams
13) Mn_2Se_7 663.0 grams
14) (NH_4)_2SO_4 132.1 grams
15) How many grams are in 4.5 moles of sodium fluoride, NaF? 189 grams
16) How many moles are in 98.3 grams of aluminum hydroxide, Al(OH)_3? 1.26 moles
17) How many grams are in 0.02 moles of beryllium iodide, BeI_2? 5.2 grams
18) How many moles are in 68 grams of copper (II) hydroxide, Cu(OH)_2? 0.70 moles
19) How many grams are in 3.3 moles of potassium sulfide, K_2S? 364.0 grams
20) How many moles are in 1.2 x 10^3 grams of ammonia, NH_3? 70.6 moles
21) How many grams are in 2.3 x 10^-4 moles of calcium phosphate, Ca_3(PO_4)_2? 0.064 grams
22) How many moles are in 3.4 x 10^-7 grams of silicon dioxide, SiO_2? 5.66 x 10^-9 moles
23) How many grams are in 1.11 moles of manganese sulfate, Mn_3(SO_4)_7? 929.5 grams