**Molar Calculation Worksheet**

1) How many moles are in 15 grams of lithium?

2) How many grams are in 2.4 moles of sulfur?

3) How many moles are in 22 grams of argon?

4) How many grams are in 88.1 moles of magnesium?

5) How many moles are in 2.3 grams of phosphorus?

6) How many grams are in 11.9 moles of chromium?

7) How many moles are in 9.8 grams of calcium?

8) How many grams are in 238 moles of arsenic?

*What are the molecular masses of the following compounds?*

9) NaOH 12) H3PO4

10) H2O 13) Mn2Se7

11) MgCl2 14) (NH­4)2SO4

15) How many grams are in 4.5 moles of sodium fluoride, NaF?

16) How many moles are in 98.3 grams of aluminum hydroxide, Al(OH)3?

17) How many grams are in 0.02 moles of beryllium iodide, BeI2?

18) How many moles are in 68 grams of copper (II) hydroxide, Cu(OH)2?

19) How many grams are in 3.3 moles of potassium sulfide, K2S?

20) How many moles are in 1.2 x 103 grams of ammonia, NH3?

21) How many grams are in 2.3 x 10-4 moles of calcium phosphate, Ca3(PO3)2?

22) How many moles are in 3.4 x 10-7­ grams of silicon dioxide, SiO2?

23) How many grams are in 1.11 moles of manganese sulfate, Mn3(SO4)7?

**Moles of Compounds**

to moles

1) How many moles of hydrogen ions are in 5.6 moles of C6H6?

2) How many moles of oxygen atoms are in 21.3 moles of BaCO3?

3) How many moles of oxygen are in 9.3 x 10-3 moles of SmO?

4) How many moles of zinc are in 6.6 moles of ZnO?

5) How many moles of iodine atoms are in 88.4 moles of NI3?

6) How many moles of potassium are in 5.4x10-5 moles of K2SO4?

7) How many moles of cyanide ions are in 4 moles of Cu(CN)2?

8) How many moles of acetate ions are in 5.4 moles of Pb(CH­3COO)4?

9) How many moles of hydroxide ions are in 2.3x10-4 moles of Ra(OH)2?

10) How many moles of hydrogen atoms are in 1.2 moles of (NH­4)3PO3?

**Moles of Compounds**

(to grams)

11) How many grams of hydrogen ions are in 5.6 moles of C6H6?

12) How many grams of oxygen atoms are in 21.3 moles of BaCO3?

13) How many grams of oxygen are in 9.3 x 10-3 moles of SmO?

14) How many grams of zinc are in 6.6 moles of ZnO?

15) How many grams of iodine atoms are in 88.4 moles of NI3?

16) How many grams of potassium are in 5.4x10-5 moles of K2SO4?

17) How many grams of cyanide ions are in 4 moles of Cu(CN)2?

18) How many grams of acetate ions are in 5.4 moles of Pb(CH­3COO)4?

19) How many grams of hydroxide ions are in 2.3x10-4 moles of Ra(OH)2?

20) How many grams of hydrogen atoms are in 1.2 moles of (NH­4)3PO3?

**Mole Calculation Worksheet – Answer Key**

1) How many moles are in 15 grams of lithium? **2.2 moles**

2) How many grams are in 2.4 moles of sulfur? **77 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? **2140 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? **619 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? **17,800 grams**

*What are the molecular masses of the following compounds?*

9) NaOH **40.00 g/mol** 12) H3PO4 **98.00 g/mol**

10) H2O **18.01 g/mol**  13) Mn2Se7 **662.6 g/mol**

11) MgCl2 **93.21 g/mol** 14) (NH­4)2SO4 **132.1 g/mol**

15) How many grams are in 4.5 moles of sodium fluoride, NaF? **190 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, BeI2? **5 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, K2S? **360 grams**

20) How many moles are in 1.2 x 103 grams of ammonia, NH3? **71 moles**

21) How many grams are in 2.3 x 10-4 moles of calcium phosphate, Ca3(PO3)2? **0.064 g**

22) How many moles are in 3.4 x 10-7­ grams of silicon dioxide, SiO2? **5.7 x 10-9 mols**

23) How many grams are in 1.11 moles of manganese sulfate, Mn3(SO4)7? **9.30x102 g**

**Moles of Compounds KEY**

to moles

1) How many moles of hydrogen ions are in 5.6 moles of C6H6? **33.6 mol H**

2) How many moles of oxygen atoms are in 21.3 moles of BaCO3? **63.9 mol O**

3) How many moles of oxygen are in 9.3 x 10-3 moles of SmO? **9.3x10-3 mol O**

4) How many moles of zinc are in 6.6 moles of ZnO? **6.6 mol Zn**

5) How many moles of iodine atoms are in 88.4 moles of NI3? **265 mol I**

6) How many moles of potassium are in 5.4x10-5 moles of K2SO4? **21.6 mol CH3COO-**

7) How many moles of cyanide ions are in 4 moles of Cu(CN)2? **8 mol CN-**

8) How many moles of acetate ions are in 5.4 moles of Pb(CH­3COO)4? **21.6 mol CH3COO-**

9) How many moles of hydroxide ions are in 2.3x10-4 moles of Ra(OH)2? **4.6x10-4 mol O**

10) How many moles of hydrogen atoms are in 1.2 moles of (NH­4)3PO3? **14.4 mol H**

**Moles of Compounds KEY**

(to grams)

11) How many grams of hydrogen ions are in 5.6 moles of C6H6? **34 g H**

12) How many grams of oxygen atoms are in 21.3 moles of BaCO3? **1020 g O**

13) How many grams of oxygen are in 9.3 x 10-3 moles of SmO? **.15 g O**

14) How many grams of zinc are in 6.6 moles of ZnO? **430 g Zn**

15) How many grams of iodine atoms are in 88.4 moles of NI3? **3.37x104 g I**

16) How many grams of potassium are in 5.4x10-5 moles of K2SO4? **0.0042 g K**

17) How many grams of cyanide ions are in 4 moles of Cu(CN)2? **200 g CN-**

18) How many grams of acetate ions are in 5.4 moles of Pb(CH­3COO)4? **1300 g CH3COO-**

19) How many grams of hydroxide ions are in 2.3x10-4 moles of Ra(OH)2? **0.0075 g OH-**

20) How many grams of hydrogen atoms are in 1.2 moles of (NH­4)3PO3? **15 g H**