

### Mole Practice Problem Set #3A Mole-Atoms-Formula Unit-Molecule Calculations

You must show work on a separate sheet of paper in order to get credit

1.  $3.01 \times 10^{23}$  atoms of Sodium = \_\_\_\_\_ moles of Sodium
2.  $2.41 \times 10^{24}$  molecules of Carbon Dioxide = \_\_\_\_\_ moles of Carbon Dioxide
3. 2.56 moles of Calcium = \_\_\_\_\_ atoms of Calcium
4. 0.75 moles of Aluminum Chloride = \_\_\_\_\_ formula units of Aluminum Chloride
5.  $7.43 \times 10^{30}$  formula units of Potassium Cyanide = \_\_\_\_\_ moles of Potassium Cyanide
6.  $2.41 \times 10^{24}$  molecules of Carbon Tetrachloride = \_\_\_\_\_ moles of Carbon Tetrachloride
7. 1.2 moles of Zinc Oxide = \_\_\_\_\_ formula units of Zinc Oxide
8.  $2.41 \times 10^{24}$  formula units of Iron (III) Bromide = \_\_\_\_\_ moles of Iron (III) Bromide
9. 0.25 moles of Barium Nitrate = \_\_\_\_\_ formula units of Barium Nitrate
10. 6.15 moles of Silver = \_\_\_\_\_ atoms of Silver
11. 72 grams of Zinc Sulfate = \_\_\_\_\_ formula units of Zinc Sulfate
12. 98.4 grams of Dinitrogen Pentoxide = \_\_\_\_\_ molecules of Dinitrogen Pentoxide
13.  $1.45 \times 10^{25}$  molecules of Sulfur Dioxide = \_\_\_\_\_ grams of Sulfur Dioxide
14.  $4.47 \times 10^{23}$  formula units of Titanium (IV) oxide = \_\_\_\_\_ grams of Titanium (IV) oxide
15.  $1.45 \times 10^{24}$  atoms of Tungsten = \_\_\_\_\_ grams of Tungsten

### Mole Practice Problem Set #3B Moles-Volume Calculations

You must show work on a separate piece of paper to receive credit.

1. 7 moles of Carbon Monoxide = \_\_\_\_\_ Liters of Carbon Monoxide
2. 0.8 moles of Nitrogen Monoxide = \_\_\_\_\_ Liters of Nitrogen Monoxide
3. 9.5 moles of Hydrogen gas = \_\_\_\_\_ Liters of Hydrogen Gas
4. 0.985 moles of Chlorine gas = \_\_\_\_\_ Liters of Chlorine Gas
5. 0.245 moles of Carbon Tetrahydride = \_\_\_\_\_ Liters of Carbon Tetrahydride
6. 2.5 liters of Sulfur Dioxide = \_\_\_\_\_ moles of Sulfur Dioxide
7. 9.7 liters of Helium Gas = \_\_\_\_\_ moles of Helium Gas
8. 20.4 liters of Ammonia ( $\text{NH}_3$ ) = \_\_\_\_\_ moles of ammonia ( $\text{NH}_3$ )
9. 8.4 liters of Carbon Dioxide = \_\_\_\_\_ moles of Carbon Dioxide
10. 12.75 liters of Nitrogen Gas = \_\_\_\_\_ moles of nitrogen Gas
11. 9.95 liters of Dihydrogen Monoxide = \_\_\_\_\_ grams of Dihydrogen Monoxide
12. 74.35 liters of ethanol ( $\text{C}_2\text{H}_6\text{O}$ ) = \_\_\_\_\_ grams of ethanol ( $\text{C}_2\text{H}_6\text{O}$ )
13. 65.4 grams of Dinitrogen Pentoxide = \_\_\_\_\_ liters of Dinitrogen Pentoxide
14. 125.6 grams of Dinitrogen Trisulfide = \_\_\_\_\_ liters of Dinitrogen Trisulfide
15. 42.5 liters of Argon = \_\_\_\_\_ atoms of Argon
16.  $2.65 \times 10^{24}$  atoms of Xenon = \_\_\_\_\_ liters of Xenon