## MOLES, MOLECULES, & GRAMS WORKSHEET

Answer the following questions.

- 1) How much do  $7.4 \times 10^{23}$  molecules of AgNO<sub>3</sub> weigh?
- 2) How much do  $7.5 \times 10^{23}$  molecules of  $H_2SO_4$  weigh?
- 3) How much do  $4.5 \times 10^{22}$  molecules of Ba(NO<sub>2</sub>)<sub>2</sub> weigh?
- 4) How much do  $4.3 \times 10^{21}$  molecules of UF<sub>6</sub> weigh?
- 5) How much do  $1 \times 10^{24}$  molecules of BCl<sub>3</sub> weigh?
- 6) How much do  $3.3 \times 10^{23}$  molecules of  $N_2 I_6$  weigh?
- 7) How much do  $2.3 \times 10^{24}$  molecules of Ag weigh?

## MOLES, MOLECULES, & GRAMS WORKSHEET

Name:		
	Date:	

## **Answers**

1) How much do 7.4 x 10<sup>23</sup> molecules of AgNO<sub>3</sub> weigh?

Molar mass of  $AgNO_3 = 169.87 g/mol$ 

So, 7.4 x 10<sup>23</sup> molecules of AgNO<sub>3</sub> weigh 208.7 grams

2) How much do  $7.5 \times 10^{23}$  molecules of H<sub>2</sub>SO<sub>4</sub> weigh?

Molar mass of  $H_2SO_4 = 98$  g/mol

So,  $7.5 \times 10^{23}$  molecules of H<sub>2</sub>SO<sub>4</sub> weigh 122.03 grams

3) How much do  $4.5 \times 10^{22}$  molecules of Ba(NO<sub>2</sub>)<sub>2</sub> weigh?

Molar mass of  $Ba(NO_2)_2 = 229.35 \text{ g/mol}$ 

So,  $4.5 \times 10^{22}$  molecules of Ba(NO<sub>2</sub>)<sub>2</sub> weigh 17.13 grams

4) How much do  $4.3 \times 10^{21}$  molecules of UF<sub>6</sub> weigh?

Molar mass of  $UF_6 = 352.02 \text{ g/mol}$ 

So, 4.3 x 10<sup>21</sup> molecules of UF6 weigh 2.51 grams

5) How much do 1 x 10<sup>24</sup> molecules of BCl<sub>3</sub> weigh?

Molar mass of BCl<sub>3</sub> = 117.17 g/mol

So, 1 x 10<sup>24</sup> molecules of BCl<sub>3</sub> weigh 194.53 grams

6) How much do  $3.3 \times 10^{23}$  molecules of  $N_2 I_6$  weigh?

Molar mass of  $N_2I_6 = 789.44$  g/mol

So,  $3.3 \times 10^{24}$  molecules of  $N_2I_6$  weigh 432.53 grams

7) How much do  $2.3 \times 10^{24}$  molecules of Ag weigh?

Molar mass of Ag = 107.87 g/mol

So,  $2.3 \times 10^{24}$  molecules of Ag weigh 411.92 grams