

### Rotation A.

1. If you have 2.45 mol of  $\text{CCl}_4$ , how many molecules do you have?
2. How many moles are in 34.78 g  $\text{Mg}_3(\text{PO}_3)_2$ ?
3. What volume of fluorine gas do you have if you have 0.087 moles of fluorine gas at STP?
4. How many grams of nitrogen are in  $3.45 \times 10^{22}$  molecules of  $\text{NF}_3$ ?

### Rotation B

5. How many molecules of sulfuric acid do you have if you have 5.7 moles of sulfuric acid?
6. What is the mass of 9.56 moles of hydrogen?
7. How many grams are in  $3.12 \times 10^{24}$  molecules  $\text{NH}_3$ ?
8. If you have a 123 g sample of  $\text{K}_2\text{CO}_3$ , how many formula units of  $\text{K}_2\text{CO}_3$  are in the sample?

### Rotation C

9. How many moles of sulfate ions are in 3.5 moles of  $\text{Al}_2(\text{SO}_4)_3$ ?
10. What is the molar mass of magnesium phosphite?
11. Given 1.78 mol of ammonia, how many grams would you have?
12. What is the mass of 1.65 L of chlorine gas at STP?

### Rotation D

13. How many moles are in  $1.9 \times 10^{24}$  formula units of cadmium fluoride?
14. How many moles are in 34.7 g of helium?
15. How many atoms of oxygen do you have if you have 1.67 moles of sulfur dioxide?
16. If you have  $7.54 \times 10^{23}$  formula units of magnesium nitride, how many moles of magnesium ions do you have?