Mass/ Mole/ Particle Conversions Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Write out the mass/mole/particle equation:

Convert mass to moles:

1. How many moles are in 12g of Helium? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. How many moles are in 50g of Oxygen? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Convert moles to mass:

1. 23 moles of Sodium have a mass of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. 6.5 moles of Magnesium have a mass of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Convert moles to particles:

1. How many Silver atoms are found in 7 moles of Silver? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. How many Iron atoms are in 12.75 moles of Iron? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Convert particles to moles:

1. How many moles of K are in 5.7 x 1023 atoms? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. How many moles of osmium are in 3.5 x 1023 atoms? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Fill out the conversion chart below:

|  |  |  |
| --- | --- | --- |
| **Mass** | **Moles** | **# of Particles** |
| 2.5 g Au |  |  |
|  | 4.95 mol Zn |  |
|  |  | 3.95 x10²³ atoms C |
|  | 12.5 mol Cu |  |
|  |  | 8.75 x 10²¹ atoms Sc |
| 49.6 g Se |  |  |