Name Period Date

**Molar Conversions – Ch. 10**

\*\*\*FOR ALL CALCULATIONS, SHOW YOUR WORK AND INCLUDE UNITS\*\*\*

**Part A – Molar Mass**

1. Calculate the molar mass for each of the following compounds. Include units!

|  |  |  |  |
| --- | --- | --- | --- |
| **calcium nitrate** | Formula: | **lead(II) iodide**  | Formula: |
|  |  |
| Molar mass: | Molar mass: |

**Part B – Molar Conversions** (Show your work and include units!)

1. How many moles of ammonia (NH3) are in 1.20 × 1025 molecules of ammonia?

|  |  |
| --- | --- |
| Formula: | Molar mass: |
|  |
| Answer: |

1. You need 2.5 moles of aluminum for an experiment. How many atoms of aluminum is this?

|  |  |
| --- | --- |
| Formula: | Molar mass: |
|  |
| Answer: |

1. 380 g of sucrose (C12H22O11) are required to make 2 quarts of Kool-Aid. How many molecules of sucrose are used in this recipe?

|  |  |
| --- | --- |
| Formula: | Molar mass: |
|  |
| Answer: |

1. There are 3.20 × 1022 atoms of copper in the outer shell of pennies. How many grams of copper is this?

|  |  |
| --- | --- |
| Formula: | Molar mass: |
|  |
| Answer: |

1. If you pump 40.88 kg of octane (C8H18­) into your gas tank, how many molecules of octane are you pumping?

|  |  |
| --- | --- |
| Formula: | Molar mass: |
|  |
| Answer: |