**Topics: Quarter Three Bonus Quiz**

If you score higher on this quiz than on another quiz you took this quarter, you can replace that grade with this one. There is no way you can reduce your grade with this quiz – it can only help!

1. What is the structure of ionic compounds? In other words, how are the particles in an ionic compound bonded to one another? (4 pt)
2. What is the structure of covalent compounds? In other words, how are the particles in a covalent compound stuck to one another? (4 pt)
3. Why do ionic compounds have such different properties than covalent compounds? Your answer should include information about the structures of these compounds. (4 pt)
4. Why do polar compounds have higher melting and boiling points than nonpolar compounds? (4 pt)
5. In each space in the table below, you should circle the answer that best describes the properties of that kind of compound. (1 pt per blank):

|  |  |  |
| --- | --- | --- |
| **Property** | **What it is in ionic compounds** | **What it is in covalent compounds** |
| melting point | **Low** or **high** (circle one) | **Low** or **high** (circle one) |
| hardness | **Hard** or **squishy** (circle one) | **Hard** or **squishy** (circle one) |
| solubility in water | **Low** or **high** (circle one) | **Low** or **high** (circle one) |
| flammability | **Low** or **high** (circle one) | **Low** or **high** (circle one) |

1. How many moles are there in 25 grams of LiBr? (5 pt)
2. How many grams are there in 25 moles of NaNO3? (5 pt)
3. Balance the following equations: (1 pt per equation)

\_\_\_\_\_ P4 + \_\_\_\_\_ I2 → \_\_\_\_\_ PI5

\_\_\_\_\_ NaBr + \_\_\_\_ CaO → \_\_\_\_ Na2O + \_\_\_\_ CaBr2

\_\_\_\_\_ C3H8O + \_\_\_\_ O2 → \_\_\_\_ H2O + \_\_\_\_ CO2

\_\_\_\_\_ Na2SO4 + \_\_\_\_ Ca3(PO4)2 → \_\_\_\_ CaSO4 + \_\_\_\_ Na3PO4

\_\_\_\_\_ H2 + \_\_\_\_ N2 → \_\_\_\_ NH3