Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Assignment: Kinetic Molecular Theory

*Use the following information to answer the next question.*

**Changes to a Gaseous System**

1. Increase volume of container
2. Decrease volume of container
3. Add more gas molecules to container
4. Remove some gas molecules from container
5. Increase temperature of container
6. Decrease temperature of container

Numerical Response #1

Which of the following changes to a gaseous system will **not** result in an increase in pressure?



*Use the following to answer the next question.*



1. Each flask contains the same number of molecules. In which flask is the pressure the highest?
2. Flask 1
3. Flask 2
4. Flask 3
5. Flask 4

*Use the following information to answer the next question.*



1. Each flask contains the same number of gas molecules. In which flask would the pressure be the highest?
	1. Flask 1
	2. Flask 2
	3. Flask 3
	4. Flask 4
2. Ideal gases move in \_\_i\_\_ while real gases differ in motion because the gas molecules \_\_ii\_\_.

The row that correctly completes the sentence above is

|  |  |  |
| --- | --- | --- |
| **Row** | **i** | **ii** |
|  | straight lines | are point masses |
|  | straight lines | have mass and interact with each other |
|  | spiral motion  | are point masses |
|  | spiral motion | have mass and interact with each other |

*Use the following information to answer the next question.*

Numerical Response #2

**Properties of a Substance**

1. fluid
2. always miscible
3. very compressible
4. takes on the shape of the container
5. volume increases greatly when temperature increases

List all the properties that are similar for both gases and liquids

 

1. Pressure is caused by \_\_i\_\_ and the pressure of a system can be increased by \_\_ii\_\_.

The row that correctly completes the statement above is

|  |  |  |
| --- | --- | --- |
| **Row** | **i** | **ii** |
|  | particles colliding with other particles | increasing temperature when volume is kept constant |
|  | particles colliding with other particles | decreasing temperature when volume is kept constant |
|  | particles colliding with the container walls | increasing temperature when volume is kept constant |
|  | particles colliding with the container walls | decreasing temperature when volume is kept constant |

1. At extremely high pressures, real gases no longer behave like ideal gases because real gases \_\_\_i\_\_\_. At extremely low temperatures, real gases no longer behave like ideal gases because real gases \_\_\_ii\_\_\_.

The row that correctly completes the statement above is

|  |  |  |
| --- | --- | --- |
| **Row** | **i** | **ii** |
|  | have a volume | intramolecular forces |
|  | have a volume | intermolecular forces |
|  | have a mass | intramolecular forces |
|  | have a mass | intermolecular forces |

*Use the following information to answer the next question.*

A burning piece of tissue is placed in a glass bottle and a water balloon is placed over the mouth of the bottle (as shown in the diagram. When the tissue burns out, the water balloon will eventually get pulled into the glass bottle.

1. The main reason the water balloon gets pulled into the glass bottle is because gases
	1. are compressible.
	2. have a low viscosity.
	3. expand when heated.
	4. are miscible with each other.