

Name: _____

Band: _____

HW 9.1

Please Answer in Complete Sentences.

Kinetic-Molecular Theory of Gases:

1. Why is an elastic collision an important consideration of how gases behave (book: 9.1)? Part II: What might happen if elastic collisions did not happen?

2. If more energy is added to a gas, describe what changes the gas molecules undergo as a system because of the additional energy (both how the molecules behave, and how the "entire gas" behaves). Discuss: elastic collision, particles, energy, motion, random motion, molecule. Part II: How might energy be added to the gas? (book: 9.1). [1.5 points]

3. How fast are gas molecules moving, and in what direction? (book: 9.1)

4. a. What are the units for STP? _____
b. How many mm Hg, ATM at STP? _____ mm Hg _____ ATM

Kelvin Temperature and Energy:

5. If a scientist said that it is not possible to reach zero Kelvin, why might this be a reasonable theory? (book:9.3).

6. Why does evaporation lower the temperature of a liquid? (book: 9.5)

7. When discussing vapor pressure, why must we consider the liquid to be in a closed container? (book: 9.5)

8. Look at figure 9.12, on page 248. Draw this graph (a crude drawing is fine) using the box below, with only the water data. Draw a line that would explain the boiling point of the water at Denver. Keep in mind how vapor pressure relates to boiling point! Label the axis of your graph. *How does vapor P relate to the atmospheric pressure and the boiling point?*



[1.5 points]

9. If the vapor pressure of liquid A is greater than liquid B, which liquid is more likely to evaporate, and why? Part II: which liquid is easier to boil? (book: 9.4, 9.6). (reference figure 9.12, also).
