**Physics Unit 7: Heat MeasurementsTest Review**

**Test Setup:**

Multiple Choice: 14 (2 pt each ) Short Answers: 8 (3 pt each) Problems: 8 ( 7 will count 6 pt each )(# 8 Latent heat problem counts 10pts )

**Short Answers:**

1. What is the specific heat capacit of a substance?
2. Describe how temperature is related to the kinetic energy of the particles of a gas.
3. A pan of water at a temperature of 80C is placed on a block of porcelain at a temperature of 15C. What can you state about the temperatures of the obects when they are thermal equilibrium?
4. If energy is transferred as heat from a closed metal container to the air surrounding it, what is true of the initial temperatures of each?
5. Two bottles are immersed in tubs of water. In one case, the bottle’s temperature is 40C, and the water’s temperature is 20C. In the other case, the bottle’s temperature is 55C, and the water’s temperature is 35C How does the energy transfer between the bottles and the water differ for the two cases?
6. Three questions come from reading a chart dealing with phase changes of water.

**Multiple Choice:**

1. Know the formula for kinetic energy
2. Know the definition of: vibrational kinetic energy
3. Define:
4. Thermal equilibrium
5. Therma energy
6. Thermal expansion
7. Thermal contraction
8. Temperature
9. Heat
10. Density
11. Specific heat
12. Conduction
13. Radiation
14. Convection
15. vaporization
16. Be able to convert between celsius and kelvin
17. In substances undergoing a change of state of matter, what happens to the temperature and pressure of the substance?

**Problems:**

* Boyles Law Problems: 1
* Ideal Gas Law Problems: 2
* Specific Heat Problems: 2
* Charles Law Problems: 1
* Gay-Lussacs Law Problem: 1
* Latent Heat problem: 1 ( counts 10 points)

Example Latent Heat Problem:

1. How much heat is absorbed by 100g of ice at -10C to become water at 20C?
2. A 200g sample of water at 80C is heated to steam at 120C. How much heat does it absorb?