

**Vasquez High School -- Chemistry B -- Quest #2 -- Chapter 10 -- 65 points**

Write TRUE if the statement is true OR write the word(s) that substitutes for the underlined word(s) that would make it true. Writing false earns partial credit. Three points each.

- \_\_\_\_\_ 1) Another name for stored energy is potential energy.
- \_\_\_\_\_ 2) The experimental device we use to measure the heat of a chemical reaction is called a thermometer.
- \_\_\_\_\_ 3) The lightest component of crude oil is methane.
- \_\_\_\_\_ 4) Ozone is mainly responsible for the greenhouse effect.
- \_\_\_\_\_ 5) The first law of thermodynamics enables the calculation of the heat for a given reaction from known heats of related reactions.

Short Answer/Fill-in. Be clear, neat and complete. Three points apiece.

- 6) What is the difference between heat and temperature? \_\_\_\_\_  
\_\_\_\_\_.
- 7) The word thermodynamics literally means \_\_\_\_\_.
- 8) The three types of coal are \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.  
\_\_\_\_\_. (Do your best in spelling them.)
- 9) One food calorie is how many joules? \_\_\_\_\_
- 10) Give an example of the second law of thermodynamics: \_\_\_\_\_  
\_\_\_\_\_.
- 11) Given three examples of products obtained from crude oil **not** already mentioned somewhere on this test:  
\_\_\_\_\_
- 12) Aside from petroleum, the other two main families of fossil fuels are what? Burning them produces excess what into the atmosphere? \_\_\_\_\_  
\_\_\_\_\_.
- 13) Define specific heat capacity (precisely): \_\_\_\_\_  
\_\_\_\_\_.

Calculation Section. Five points each. Write the appropriate equation. Always give proper units.

14) How much heat is needed to raise 6.4 kg of water from 18 °C to 73 °C?

15) Given the equation below, how much heat is given off when 175 grams of oxygen is used?



16) An unknown metal of mass 309.4 g requires 9785 J to heat it from 215.0 K to 384.0 K. What is the specific heat of the metal?

17) If it takes 3780 J of energy to warm 75 g of butanol by 29 °C, how much energy would be needed to warm 125 g of butanol by 38 °C?

18) Sulfur hexafluoride, one of the heaviest known gases, is used to insulate circuit breakers, transformers, and other electrical equipment including high voltage power lines.



Using the equations shown, determine the heat of reaction for the formation of sulfur hexafluoride.

Six points on this one.

