Chemistry PracTest: Energy

1. Write the correct answer in the space.

a.) _**Joule**_____ Unit for energy which is derived from $kg.m^2/s^2$.

b.) __**Water**_____ Substance used in calorimeter to absorb heat.

c.) __**4.18 J**_____ How much energy in Joules is needed to raise 1 gram of water 1°C?

d.) __**0 K or -273°C**____ At what **Kelvin** temperature does all kinetic energy (motion) stop?

e.) _295-273= **22°C**__ Room temperature is 295 K. What is this temperature in degrees Celsius?

f.) __**Potential**_____ Gasoline and food are examples of (potential / kinetic) energy.

g.) __**B. Some**____ Solid ice at 0°C contains (A. No kinetic energy or B. some kinetic energy)

h.) _50°C + 273 = **323K**_ What **Kelvin** temperature corresponds to the half-way point between freezing and boiling point of water?

i.) __**equal to**_____ A ΔT of 25°C is (greater than / equal to / less than) a 25 ΔT Kelvin.

j.) __**- 273°C** _____ What **Celsius** temperature corresponds to absolute zero?

k.) __**273 K**_____ At what **Kelvin** temperature does water freeze?

l.) ___**25°C**_____ 100 cm^3 of water at 30°C is mixed with 100cm^3 of water at 20°C. What will the final temperature of the mixture be?

m.) __**Mo,** lower Cp___ Mo has a specific heat of 0.248 J/g°C. Cr has a specific heat of 0.448 J/g°C. If both at are at the same temperature and each absorbs 10 kJ of heat which will have the higher final temperature?

n.) ___**0.900 J**_____ The specific heat of Al is 0.900 J/g°C. How much energy is needed to heat 1 gram of Al by 1°C?

o.) ___**lower**_____ Metals have (lower / higher) specific heats than water.

p.) __**the sun**  _____ What is the ultimate source (beginning) of all food energy?

2. Define *TEMPERATURE*.

The measurement of the average kinetic energy.

3. List in order of **decreasing kinetic** energy. Use code letters to rank.

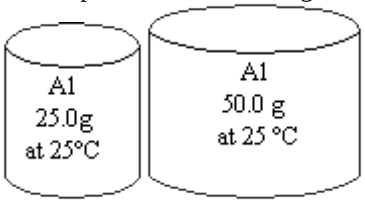
A- 10g liquid Cs at 28°C **B**- 10 g solid Cs at 28°C **C**- 100 g solid Cs at 0°C **D**- 1 g liquid Cs at 100°C

D, A, B, C

4. Indicate if the listed changes are (Exo)thermic or (Endo)thermic.

a.) __**Exo** __ burning wax
b.) _**Endo**___ photosynthesis
c.) __**Exo** __ freezing of water
d.) _**Endo**___ evaporation
e.) __**Exo** _ condensation
f.) __**Exo**____ reaction is hot
g.) __**Endo** __ reaction produces substance with more potential energy
h.) __**Endo**__ decomposing water into its elements
i.) __**Endo** _ melting
j.) __**Endo** __ boiling

5. Compare: Which has the greater, or same …

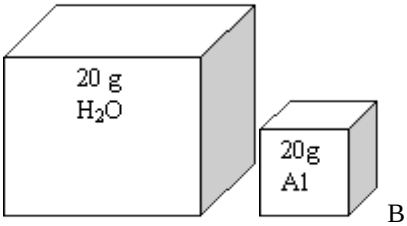


A. B.

a.) ___**B** ___ mass
b.) __**B** ____ volume
c.) __**Same**___ density
d.) _**Same**___ kinetic energy
e.) __**A** _ final temperature if each absorbed 1kJ heat

6. Compare: Which has the greater, or same …

Both at 25°C



A. B

a.) _**same**_ _ mass
b.) _**A**, less dense _ volume
c.) _**B** _____ density
d.) _**same**__ kinetic energy
e.) _**B.** lower Cp_ final temperature if each absorbed 1kJ heat. (See #1,n.)