Chemistry PracTest: Energy

1. Write the correct answer in the space. (15 pts.)

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

b.) b.) _____ Substance used in calorimeter to absorb heat.

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

d.) d.) _____ At what **Kelvin** temperature does all kinetic energy (motion) stop?

e.) e.) _____ Room temperature is 295 K. What is this temperature in degrees Celsius?

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

g.) g.) _____ Solid ice at 0°C contains (A. No kinetic energy or B. some kinetic energy)

h.) h.) _____ What **Kelvin** temperature corresponds to the half-way point between freezing and boiling point of water?

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

j.) j.) _____ What **Celsius** temperature corresponds to absolute zero?

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

l.) l.) _____ 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.) m.) _____ 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.) n.) _____ 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.) o.) _____ Metals have (lower / higher) specific heats than water.

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

2. Define *TEMPERATURE*. (2 pts.)

_____

3. List in order of **decreasing kinetic** energy. Use code letters to rank. (4 pts.)

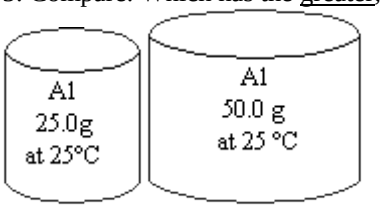
A- 10g liquid Cs at 28°C **B**- 10 g solid Cs at 28°C **C**- 100 g solid Cs at 0°C **D**- 1 g liquid Cs at 100°C

_____

4. Indicate if the listed changes are (Exo)thermic or (Endo)thermic. (10 pts.)

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

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

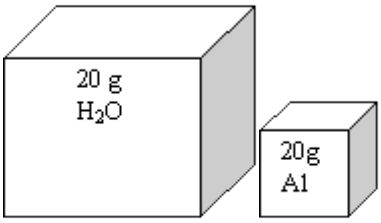


A. B.

a.) a.)
b.) b.) _____ mass
c.) c.) _____ volume
d.) d.) _____ density
e.) e.) _____ kinetic energy
f.) f.) _____ final temperature if each absorbed 1kJ heat

6. Compare: Which has the greater, or same … (5 pts.)

Both at 25°C



A.

B.

a.) a.) _____ mass
b.) b.) _____ volume
c.) c.) _____ density
d.) d.) _____ kinetic energy
e.) e.) _____ final temperature if each absorbed 1kJ heat. (See #1,n.)