**Multiple Choice**

1. A 250.0 g of gold (Au) absorbs 8.912 L atm of heat energy as its temperature rises from 25oC to 53.0oC. The spesific heat of gold (in J/g oC) is:

 A) 0.299 B) 0.219 C) 0.921 D) 0.129

1. Given the following thermal equation for the combustion of acetone "C3H6O":

*C3H6O(l) + 4O2(g) → 3CO2(g) + 3H2O(l)* $∆H\_{comb}^{o}$ *= –1789.9 kJ*

And knowing that:

C(gr) + O2(g) → CO2(g) $∆H°= -393.5 $kJ/mol

H2(g) + ½ O2(g) → H2O(l) $∆H°= -285.8 $kJ/mol

the heat of formation (in kJ) of acetone, $∆H\_{f}^{o}$[(C3H6O)*l*] is:

A) –226 B) +226 C) –248 D) –328

1. From the enthalpies of the following reactions:

H2(g) + F2(g) ⎯→ 2HF(g) H = –537 kJ

C(gr.) + 2F2(g) ⎯→ CF4(g) H = –680 kJ

2C(gr.) + 2H2(g) ⎯→ C2H4(g) H = +52 kJ

The magnitude of H (in kJ) for the reaction of ethylene with fluorine is:

C2H4(g) + 6F2(g) ⎯→ 2CF4(g) + 4HF(g)

A) –2486 B) –2382 C) –2330 D) –2538

1. The combustion of 12g of sucrose "C12H22O11" releases 198.0 kJ

(C12H22O11(s) + 12O2(g) ⎯→ 12CO2(g) + 11H2O(*l*) )

$∆H\_{comb}^{o}$ in kJ/mol is

A) -5056.0 B) -5050.0 C) -5650.0 D) -6550.0

1. A certain gas absorbs 1555.9 J of heat energy as it expands in volume from 2.0 L to 10.0 L against a pressure of 1.5 atm. The change in the internal energy E "U" (in J) of this gas system is:

A) –275 B) –36 C) +36 D) +340