CHMA11 Term Test 1 - Practice Qeustions

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) For which of the following reactions will $K_c = K_p$? 1) _____

A) $4NH_3(g) + 3O_2(g) = 2N_2(g) + 6H_2O(g)$

B) $SO_3(g) + NO(g) = SO_2(g) + NO_2(g)$

C) $2N_2(g) + O_2(g) = 2N_2O(g)$

D) $2SO_2(g) + O_2(g) = 2SO_3(g)$

E) $PCl_{3(g)} + 1/2\ O_{2(g)} = PCl_3O_{(g)}$

2) Place the following solutions in order of increasing osmotic pressure. 2) _____

I. 0.15 mol L^{-1} $C_2H_6O_2$ II. 0.15 mol L^{-1} $MgCl_2$ III. 0.15 mol L^{-1} NaCl

A) II < III < I B) II < I < III C) III < I < II D) I < II < III E) I < III < II

3) At elevated temperatures, methylisonitrile (CH_3NC) isomerizes to acetonitrile (CH_3CN): 3) _____

$CH_3NC\ (g) \rightarrow CH_3CN\ (g)$

The reaction is first order in methylisonitrile. The attached graph shows data for the reaction obtained at 198.9 °C.