Answers (Kin and Eq test)

1. c 2. c 3. D 4. a 5. b 6. C 7. c 8. D 9. I 10. R 11. I

12. B 13. B 14. D 15. D 16. A 17. B 18. A

19. A. increases B. decreases C. Unchanged D. Unchanged

I. 2 NO + H2  N2O + H2O B. Rate = k[NO]2 , Rate = k[N2O2][H2] Or,

Rate = k[NO]2 [H2] for step 2.

C. N2O2 D. The second step is the slow step

II. a) A ⭢ E + F. b) Rate = k[A]/[C]

III. 27.7 seconds. ( use Ln 2 – Ln 0.5 = 0.0500 t)

IV. .0089 atm. V. Rate = k[HgCl2][C2O42-]2

V b. 3.3 x 10-3 M-2s-1 c. 2.5M d) 3.0 x 10-5M/s

VI. Should say 0.200 mol of H2O and 0.200 mol of N2 are placed in a 2.0 liter vessel.

 In that case, the initial concentrations would both be 0.100 molar.

 If the eq. conc. of NO is 0.062 molar, then the H2 is also 0.062 molar,

 the H2O is 0.038 molar, and the N2 is 0.069 molar. The Kc would then be

 6.7.

VII. 0.02 and 0.04 atm, using assumption that 2-x and 2- 2x are both approximately equal to 2.

VIII. a) 0.34 b) 5.04 c) Kp = Kc d) 0.87

e) 0.115 M