

# [Final review study guide](https://assignbuster.com/final-review-study-guide/)

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Quiz 1- 4, 5, 12 Quiz 3- 14, 16, 18 14. What is the electron configuration for aluminum? 1s22s22p63s23p1 16. The number of electron levels in a magnesium atom is 3, because magnesium is in period number 3. 18.

What is the abbreviated electron configuration for nickel (atomic number 28)? [Ar]4s23d8 Quiz 5- 4, 14, 18 5. The ion of aluminum is Answer:   Al3+. 14. How many valence electrons are in the electron-dot structure of H2O? Answer: The number of valence electrons in H2O is = (2 x 1) + (1 x 6) = 8 electrons. 18. The shape of the carbon tetrachloride molecule is Answer: tetrahedral Quiz 6- 1, 3, 18 1.

What coefficient is placed in front of O2 to complete the balancing of the following equation? C5H8 +? O2 > 5CO2 + 4H2O Answer: 7 3. What is oxidized and what is reduced in the following reaction? 2Al(s) + 3Br2(g) > 2AlBr3(s). Answer: Al (goes from oxidation state 0 to +3) is oxidized and Br2 (goes from oxidation state 0 to -1) is reduced. 18. How many grams of CO2 are produced from 125 g of O2 and excess CH4 ? CH4 + 2O2 > CO2 + 2H2O Answer: 85. 9 g of CO2 Quiz 8- 10, 15, 19 8.

When solutions of KCl and Pb(NO3) 2 are mixed, a precipitate forms. Which of the following is the balanced equation for the double replacement reaction that occurs? 2KCl (aq) + Pb(NO3) 2(aq) > 2 KNO3(aq) + PbCl2 (s) 15. What is the molarity of a solution that contains 17 g of NH3 in 0. 50 L of solution? 2. 0 M 19. What volume of 0.

10 M NaOH can be prepared from 250. mL of 0. 30 M NaOH? 0. 75 L Quiz 9- 3, 9, 12 3. For the following equilibrium reaction, which cause and effect are correctly matched? CO(g) + 2H2(g) CH3OH(g) + heat remove H2, shift left 9. Which of the following equilibrium constants indicates the reaction that gives the smallest amount of product? Kc = 5 ? 10-10 12.

The reaction for the decomposition of PCl5 to chlorine and PCl3 is shown below. PCl5(g) PCl3(g) + Cl2(g) If the equilibrium concentrations are [PCl5] = 1. 0 M, [PCl3] = 0. 10 M, [Cl2] = 0. 10 M, what is the value of the equilibrium constant? . 0 ? 10-2 Quiz 10- 4, 7, 15 4.

The conjugate base of HClO3 is Answer: ClO3 – 7. What is the pH of a solution with [H3O+] = 1 x 10-9 M? Answer: 15. 25. 0 mL of 0. 212 M NaOH is neutralized by 13.

6 mL of an HCl solution. The molarity of the NaOH solution is Answer: Quiz 7- 5, 9, 17 5. The temperature of a 500. mL sample of gas increases from 150. K to 350. K.

What is the final volume of the sample of gas, if the pressure in the container is kept constant? 1170ml| 9. A gas sample contains 4. 0 g of CH4 and 2. g of He. What is the volume of the sample at STP? 17L 17.

At STP, what is the volume of 4. 50 moles of nitrogen gas? 101 L Quiz 4- 9, 15, 16 9. When aluminum-27 is bombarded with a neutron, a gamma ray is emitted. What radioactive isotope is produced? aluminum-28 15. The half-life of bromine-74 is 25 min.

How much of a 4. 0 mg sample is still active after 75 min? 0. 50 mg 16. In the sun, nuclei of hydrogen combine to form a larger nucleus and release a great amount of energy. The process is known as fusion.