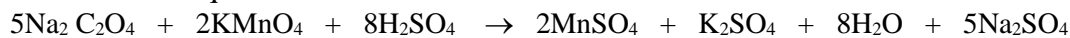


CHEM 100 EXAM III (Practice Test)

- In a solution the _____ is what the _____ is dissolved in.
a) solvent b) suspension c) substrate d) solute e) solution
- If the solubility of NaOH is 40g/100g H₂O, and I dissolve 10g of NaOH in 10g of H₂O, I would have a _____ solution.
a) unsaturated b) saturated c) supersaturated
- The solution in question 3 would be a _____ solution.
a) concentrated b) dilute
- Which of the answers below does not affect how much of a given substance will dissolve.
a) temperature b) particle size c) pressure d) solvent used e) solute used
- How fast a substance will dissolve is affected by all except
a) temperature b) pressure c) stirring d) particle size
- According to the rules of solubility you learned, which of the following compounds is not soluble?
a) ZnBr₂ b) Ag₂SO₄ c) Fe(C₂H₃O₂)₃ d) Sr(OH)₂ e) CdCl₂
- What is the concentration (m/v) of a solution which contains 10g of a salt in 50 mL of solution?
a) 10% b) 50% c) 15% d) 20% e) 25%
- How many mL of alcohol would be required to make 125mL of a 10% solution?
a) 1.25mL b) 12.5mL c) 125mL d) 10mL e) 25mL
- What is the molarity of a solution which contains 9.8 g of H₃PO₄ dissolved in enough water to make 100 mL of solution?
a) 0.01 M b) 0.10 M c) 1.0 M d) 10.0 M e) 100 M
- How many grams of NaCl (molar mass = 58.5g/mole) are required to make 250 mL of a 10 M solution?
a) 1462.5 g b) 1.4625 g c) 14625 g d) 14.625 g e) 146.25 g
- Which one of the following is not a characteristic of an acid?
a) changes indicators b) reacts with metals c) tastes bitter d) reacts with bases d) burns skin
- A “strong” acid would have (more, fewer) H⁺ ions than a “weak” acid . a) True b) False
- Which of the following compounds is a “strong” base?
a) RbOH b) Fe(OH)₃ c) Al(OH)₃ d) NH₄OH e) AgOH
- Which of the following compounds is not a “strong” acid?
a) HCl b) HI c) HClO₄ d) HCN e) H₂SO₄
- The theoretical pH of a strong acid is directly related to its concentration. True or False.
- Which of these solutions would have a “lower” pH? A) 0.01 M NaOH b) 0.01 M NH₄OH
- Consider the following buffer system: HC₂H₃O₂ and KC₂H₃O₂ in water. The particle which would react with added H⁺ would be:
a) K⁺ b) HC₂H₃O₂ c) C₂H₃O₂⁻ d) OH⁻ e) KC₂H₃O₂
- Which one of the following compounds is a “strong” electrolyte?
a) HC₂H₃O₂ b) Al(OH)₃ c) PbCl₂ d) K₂C₂O₄ e) HIO₃
- Which of the following compounds is a nonelectrolyte?
a) HI b) NaNO₃ c) LiOH d) CCl₄ e) CaCl₂
- All of the following affect reaction rate except.
a) size of particles b) concentration of reactants c) substance dissolved
d) temperature e) catalyst
- Consider this equation which is in equilibrium: A + B = C + D
The addition of more “C” would shift the direction of the reaction to the (left) (right).
- A replacement reaction will occur if the element reacting is (more, less) active than the element produced. _____.
- We say a double replacement reaction will occur if we produce:
a) an insoluble salt b) a weak acid or weak base c) water d) an insoluble gas

26. Consider this equation:



Match the following:

The 2 in H_2SO_4

→



+



The 2 in 2MnSO_4

and

yields/produces

reactant

product

coefficient

subscript

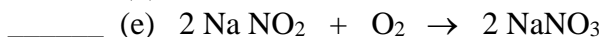
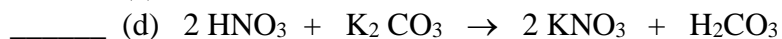
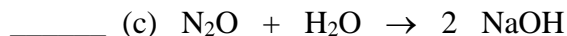
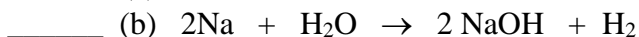
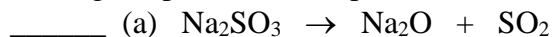
27. Identify the following equations as to type:

(a) combination

(b) decomposition

(c) single replacement (displacement)

(d) double replacement (ion exchange)



28. Look at the equations below and circle the substance that is produced that causes the reaction to “go to completion”. If there is no reaction, put an “e”.

