Chemistry 141 Name

Dr. Cary Willard

Quiz 9A (20 points) November 20, 2007

All work must be shown to receive credit.

1. (4 points) Draw two molecules of ammonia (NH3) and show the hydrogen bonding interaction between them.
2. (3 points) When a thin glass tube is put into water, the water rises 1.4 cm. When the same tube is put into hexane, the hexane rises only 0.4 cm. Explain this difference.
3. ( 4 points) For each pair of substances, choose the one with the higher boiling point and give a reason for your choice.
   1. CH3OCH3 or CH3CH2OH
   2. CH4 or CH3CH2CH3
4. (9 points) A solution is prepared by dissolving 28.4 g of glucose (C6H12O6) in 355 g of water. The final volume of the solution is 378 mL. For the solution calculate
   1. Molarity
   2. Percent
   3. Mole fraction

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Quiz 9B (20 points) November 20, 2007

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1. (4 points) Draw two molecules of ammonia (NH3) and show the hydrogen bonding interaction between them.
2. (3 points) When a thin glass tube is put into water, the water rises 1.4 cm. When the same tube is put into hexane, the hexane rises only 0.4 cm. Explain this difference.
3. ( 4 points) For each pair of substances, choose the one with the higher boiling point and give a reason for your choice.
   1. CH3OCH3 or CH3CH2OH
   2. CH4 or CH3F
4. (9 points) A solution is prepared by dissolving 31.4 g of glucose (C6H12O6) in 387 g of water. The final volume of the solution is 415 mL. For the solution calculate
   1. Molarity
   2. Percent
   3. Mole fraction