Chemistry Colligative Properties Review Name:

Carefully complete the following problems involving colligative properties. Show all work and label answers.

1. Determine the freezing point of a solution containing 35.2 g of glucose (C₆H₁₂O₆) dissolved in 85.0 g of water.
2. A solution is created by dissolving 21.5 g of methanol (CH₃OH) in 175.0 g of phenol. What would the freezing point of this solution be?
3. Identify the molality of an acetic acid solution if the boiling point is 119.5ᵒC.
4. What mass of antifreeze, also known as ethylene glycol (C₂H₆O₂) dissolved in 62.5 g of water is needed to depress the freezing point 1.25ᵒC?
5. What is the boiling point of an electrolytic solution created by dissolving 145 g of lithium chloride in 75.0 g of water?