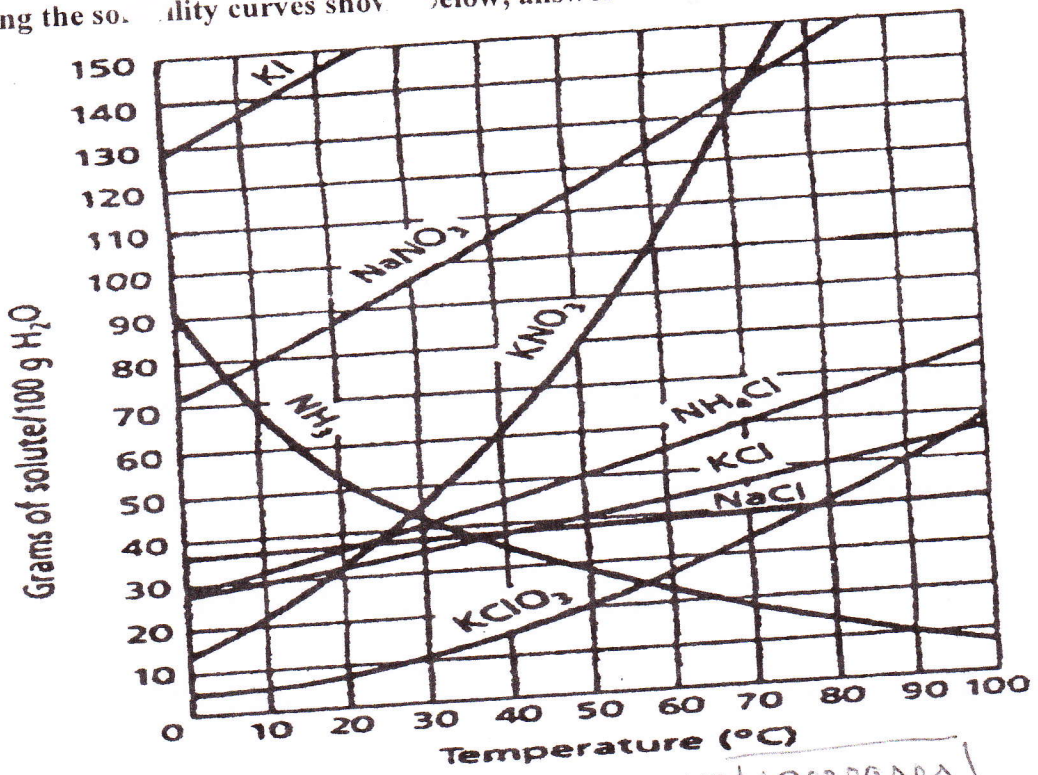


Using the solubility curves shown below, answer the following questions (2pts)



39. For most substances if temperature increases, solubility increases
40. Based on question 31, which one of these substances is an exception? NH₃/gases
41. Which substance is most temperature dependent? KNO₃
42. At what temperature will 100g of water hold 60g of NH₄Cl? 70°C
43. How many grams of KClO₃ is required to prepare a saturated solution with 300g of water at 90°C?
44. At what temperature will the same amount of NaNO₃ and KNO₃ both hold the same amount of solute?
 $\frac{50g}{100g} = \frac{x}{300g}$ $x = 150g$ Approx 72°C
45. How many grams of KI will 500g of water hold at 20°C? $\frac{145}{100g} = \frac{x}{500g}$ $x = 725g$ 725g KI
46. Which substance is least temperature dependent? NaCl
47. A saturated solution of KNO₃ in 200g of water at 50°C is cooled to 40°C, how many grams of solute will come out of solution?
 $\frac{80}{100g} = \frac{160}{200g}$ @ 50°C $\frac{60}{100g} = \frac{120}{200g}$ @ 40°C $160 - 120 = 40g$ 40g KNO₃
48. 1.00kg of water is used to prepare a saturated solution of KCl at 10°C. How many more grams of KCl could be dissolved if the temperature was raised to 80°C?
 $\frac{30}{100g} = \frac{300}{1000g}$ @ 10°C $\frac{50g}{100g} = \frac{500g}{1000g}$ @ 80°C $500 - 300 = 200g$ 200g KCl