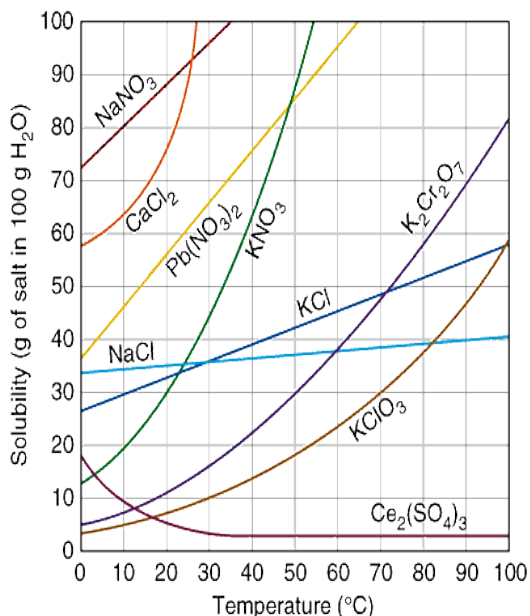


Use the provided solubility graph to answer the following questions:



For questions 1 - 4 an amount of solute is given, and a temperature is stated. *If all of the solute could be dissolved in 100 g of water at the given temperature, would the resulting solution be unsaturated, saturated, or supersaturated?*

1. 60 g KCl at 70 °C _____
2. 10 g KClO₃ at 60 °C _____
3. 80 g NaNO₃ at 10 °C _____
4. 70 g CaCl₂ at 20 °C _____

For questions 5 - 8 a solute and temperature are given. Tell how many grams of each solute must be added to 100 g of water to form a saturated solution at the given temperature.

5. Pb(NO₃)₂ at 10 °C _____
6. Ce₂(SO₄)₃ at 50 °C _____
7. NaCl at 20 °C _____
8. K₂Cr₂O₇ at 50 °C _____

For questions 9 and 10 underline the solution that is more concentrated.

9. At 10 °C: a saturated solution of KNO₃ or a saturated solution of CaCl₂.
10. At 50 °C: a saturated solution of KNO₃ or an unsaturated solution of NaNO₃ consisting of 90 g of the solute dissolved in 100 g of water.

For questions 11 - 12, show your work and circle your final answer.

11. If 115 g KNO₃ are added to 100 g of water at 35 °C, how many grams do not dissolve?
12. What mass of KCl would be needed to form a saturated solution if the KCl was dissolved in 200 g of water at 80 °C?