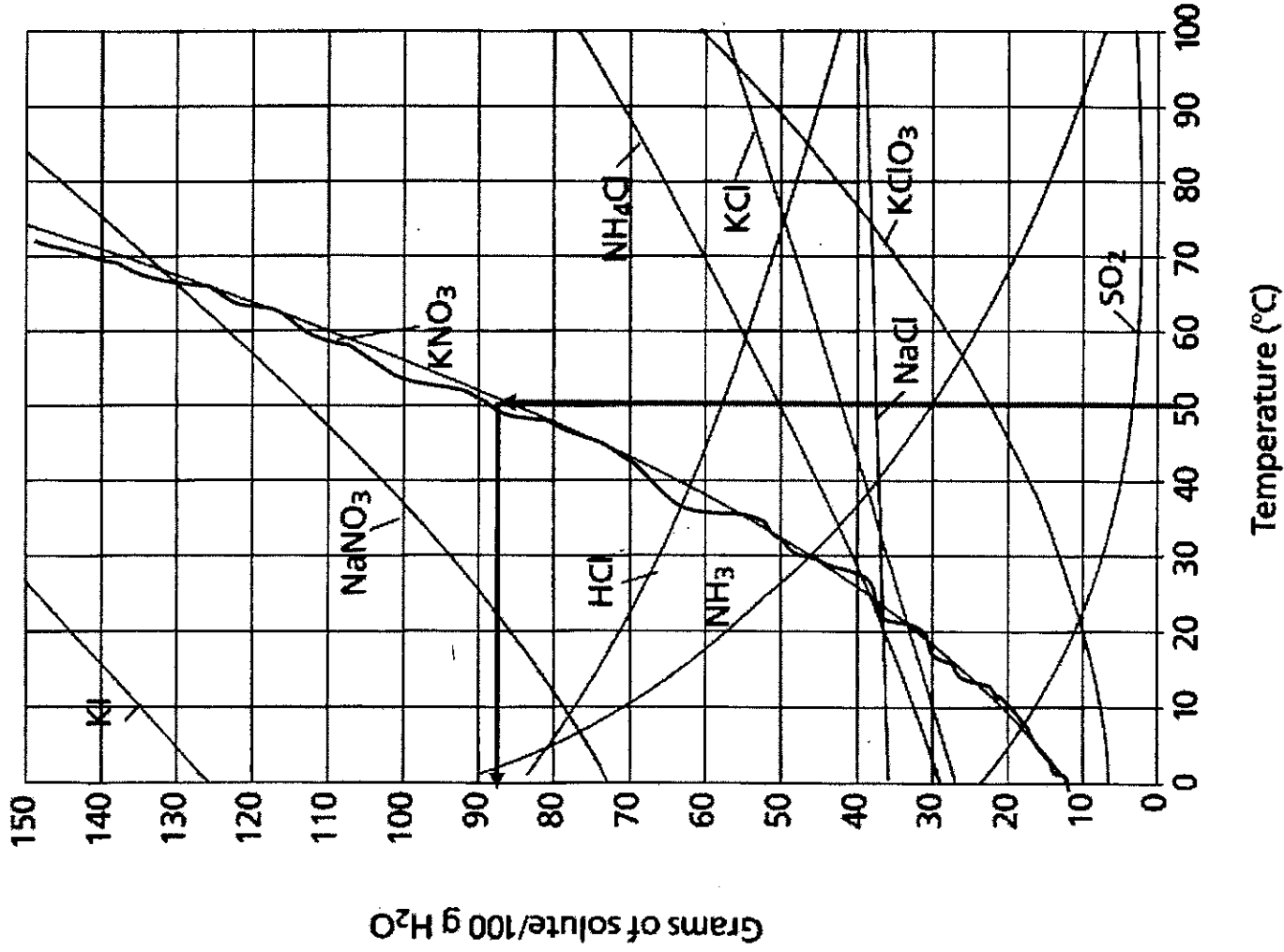


How much KNO_3 dissolves in 100g H_2O at 50°C ?

1. Find the line (red)
2. Find the temperature and follow up to the line. (green)
3. Read across to the y-axis and this is the answer. (blue)
4. Since it is above the $\frac{1}{2}$ -way between 80 and 90, it is 87.



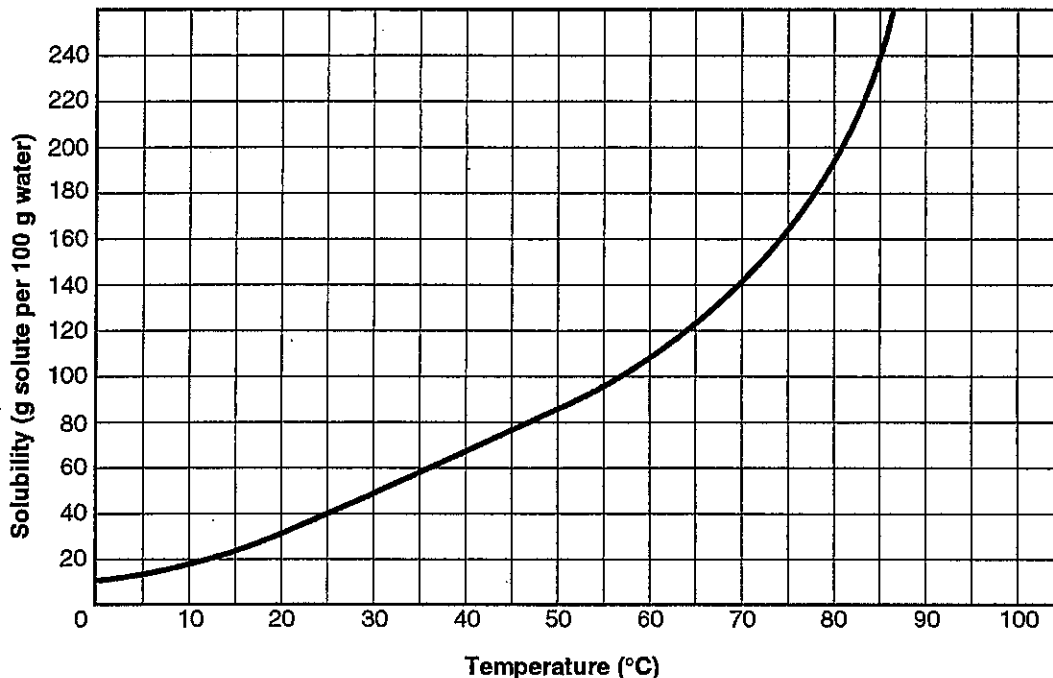
Solubility of Potassium Nitrate

Enrichment Activity for Lessons 5-4 and 5-5

Skills: interpreting graphs, applying concepts, calculating

Temperature is one factor that affects how fast a substance dissolves. Temperature can also affect how much of a substance dissolves. The amount of a substance that will dissolve in a solute is called its solubility. A graph that shows solubility is called a solubility curve. The graph below is a solubility curve for potassium nitrate in water. Refer to the graph as you answer the questions.

Solubility of Potassium Nitrate (KNO₃)



1. What variable is plotted along the horizontal axis of the graph? In what units is this variable measured? _____
2. What variable is plotted along the vertical axis? In what units is this variable measured? _____
3. How much potassium nitrate will dissolve in 100 grams of water that is just at the freezing point? That is just at the boiling point? _____
4. In general, how does temperature affect the amount of potassium nitrate that will dissolve in water? _____
5. Suppose you have 100 grams of water. How much potassium nitrate could you dissolve in the water at 80°C? _____