Question:

A solution was prepared by dissolving 2moles of methanol in 5moles of water at 25°c. If the vapour pressure of pure water is 23.8mmHg calculate the partial pressure of water over the solution and depression of vapour pressure of pure water.

Solution:

Pi = P0*xi

Xi = 5/(5+2) = 5/7 = 0.7143 = 71.43%;

Pi = 23.8*0.7143 = 17 mmHg.

Answer: 17 mmHg.