CONCEPT: OSMOTIC PRESSURE

Recall, it is the force that drives the movement of water from a _____ concentration to a _____ concentration.
The osmotic pressure of a solution can be influenced by its _____ and ____.

Osmotic Pressure Formula	
	□ <u>Π</u> = Osmotic Pressure in
	□ = Van't Hoff Factor
=••	□ = Solubility or Concentration in
	□ = Gas constant:
	□ = Temperature in

EXAMPLE: Calculate the osmotic pressure of a solution containing 18.30 mg of LiBr in 15.1 mL of solution at 26°C.

PRACTICE: The osmotic pressure of blood is 5950.8 mmHg at 41 $^{\circ}$ C. What mass of glucose, C₆H₁₂O₆, is needed to prepare 5.51 L of solution. The osmotic pressure of the glucose solution is equal to the osmotic pressure of blood.

a) 54.7 g

b) 0.304 g

c) 419 g

d) 302 g

PRACTICE: The osmotic pressure of a solution containing 7.0 g of insulin per liter is 23 torr at 25°C. What is the molar mass of insulin? (1 atm = 760 torr)

- a) 474.5 g/mol
- b) 6 x 10³ g/mol
- c) 5.2 x 10³ g/mol
- d) 5.7 x 10³ g/mol