



Standardized Test Prep

Answer the following items on a separate piece of paper.

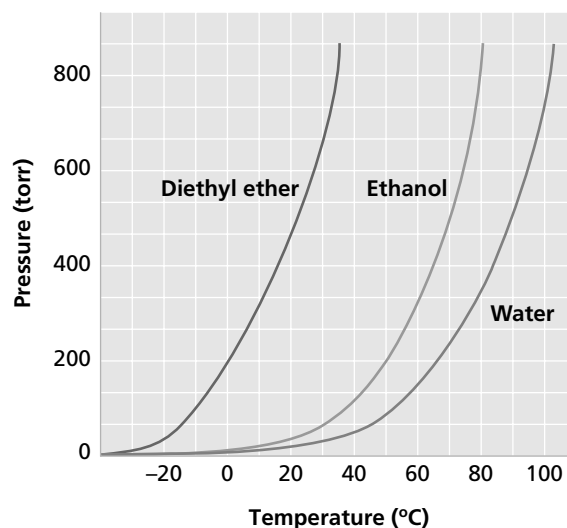
MULTIPLE CHOICE

- Surface tension is
 - skin on the surface of a liquid.
 - the tendency of the surface of liquids to decrease the area.
 - the spontaneous mixing of two substances.
 - the same as vapor pressure.
- Pure liquids boil at higher temperatures under high pressures than they do under low pressures, because
 - the molecules of liquid are closer together under higher pressures.
 - it takes a higher temperature for the vapor pressure to equal the higher external pressure.
 - the molecules of vapor are farther apart under higher pressures.
 - the vapor diffuses more rapidly at higher pressures.
- The formation of frost is an example of
 - condensation.
 - evaporation.
 - deposition.
 - melting point.
- The graph that shows the pressure and temperature conditions under which the phases of a substance exist is called
 - a phase diagram.
 - a vapor pressure curve.
 - a unit cell.
 - the kinetic-molecular theory of matter.
- Water boils at 100°C . Ethanol boils at 78.5°C . Which of the following statements is true?
 - Water has the higher vapor pressure at 78.5°C .
 - Ethanol has the higher vapor pressure at 78.5°C .
 - Both have the same vapor pressure at 78.5°C .
 - Vapor pressure is not related to boiling point.
- Which of the following is not a property of typical solids?
 - definite melting point
 - high density
 - easily compressible
 - low rate of diffusion

- The kinetic-molecular theory states that ideal gas molecules
 - are in constant, rapid, random motion.
 - have mass and take up space.
 - exert forces of attraction and repulsion on each other.
 - have high densities compared with liquids and solids.

SHORT ANSWER

- Using this graph of vapor pressures of substances at various temperatures, estimate the boiling point of ethanol at an applied (external) pressure of 300 torr.



- It is found that 60.0 J of energy are required to melt 15 g of a substance. The molar mass of the substance is 120 g/mol. Calculate the enthalpy of fusion of the substance in kilojoules per mole.

EXTENDED RESPONSE

- Describe how a pressure cooker works.
- What is meant by the statement that a liquid and its vapor in a closed container are in a state of dynamic equilibrium?

Test TIP

Test questions are not necessarily arranged in order of increasing difficulty. If you are unable to answer a question, mark it and move on to other questions.