1.Calculate the amount of heat that must be absorbed by 10.0 g of ice at -20oC to convert it to liquid water at 60.0oC. Given: Specific heat (ice)=2.1 J/goC Specific heat(water)=4.18 J/goC H (fus)=6.0 kJ/mol

420 J

2,900 J

6,300 J

63 kJ

7.5 J

2. The major enthalpy of Boron tribromide (BBr3) is 30.5 kJ/mol, and its normal boiling point is 91oC. What is the vapor pressure of BBr3 at 20oC?

11.5 torr

311 torr

5.31 torr

143 torr

66.1 torr

3. Each of the following substances is a liquid at -50oC. Place these liquids in order of increasing vapor pressure: Dimethyl ether (CH3OCH3), propane (C3H8), ethanol (CH3CH2OH).

Ethanol<propane<dimethyl ether

Ethanol<dimethyl ether<propane

Propane<dimethyl ether<ethanol

Dimethyl ether<ethanol<propane

Propane<ethanol<dimethyl ether

4. Platinum (Pt) has a face centered cubic crystal structure and a density of 21.5 g/cm3. What is the radius of the platinum atom(pm:picometer).

69 pm

98 pm

139 pm

196 pm

277 pm