(4) 1. Arrange the following in order of increasing boiling point (low to high): Xe, Ar, He, Ne. **Explain your reasoning.**

(4) 2. List n-propanol (CH₃CH₂CH₂OH), dimethyl ether (CH₃OCH₃), and diethyl ether (CH₃CH₂OCH₂CH₃) in order of increasing (low to high) boiling point. **Explain your reasoning.**
3. Circle each of the following molecules that can form hydrogen bonds with another molecule of the same substance. Draw the Lewis structure for each and circle the hydrogen atoms that can participate in hydrogen bonding.

CH₂Cl₂  H₂SO₄  NH₂Cl

4. SHOW YOUR WORK ON THIS PROBLEM.
45.0-g of CaSO₄ are dissolved in 500.0-g of water. The density of the resulting solution is 1.08 g/mL. Find the molarity of CaSO₄, molality of CaSO₄, %CaSO₄ by weight, and the mole fraction of CaSO₄ for the solution. Also find the molarity of particles, molality of particles, and mole fraction of the particles that are water. The molar mass of CaSO₄ is 136 g/mol and the molar mass of water is 18 g/mol.