Intermolecular Forces Homework

1) Using your knowledge of molecular structure, identify the main intermolecular force in the following compounds. You may find it useful to draw Lewis structures to find your answer.

   a) SiF_4 _____

   b) carbon dioxide _____

   c) hydrofluoric acid _____

2) Explain the differences between dipole-dipole forces and hydrogen bonds.

3) Using the data provided below, explain the trend in melting point for these four compounds

compound	melting point (^{0}C)
methane	-182.5
ammonia	-77.7
hydrofluoric acid	-35.0
water	0.0

4) Rank the following compounds in order of increasing boiling point: carbon dioxide, sodium acetate, phosphorus tribromide, ammonia.

5) Explain why water has a higher surface tension than formaldehyde (CH_2O).