

Place the following in order of **decreasing** X-A-X bond angle, where A represents the central atom and X represents the outer atoms in each molecule.



- A) CS<sub>2</sub> = SCl<sub>2</sub> > CF<sub>4</sub>
- B) SCl<sub>2</sub> > CF<sub>4</sub> > CS<sub>2</sub>
- C) CF<sub>4</sub> > CS<sub>2</sub> > SCl<sub>2</sub>
- D) CS<sub>2</sub> > CF<sub>4</sub> > SCl<sub>2</sub>
- E) CF<sub>4</sub> > CS<sub>2</sub> > SCl<sub>2</sub>

How many of the following molecules are polar?



- A) 1
- B) 2
- C) 3
- D) 4
- E) 0

27) Determine the electron geometry, molecular geometry and polarity of TeCl<sub>6</sub>.

- A) eg=octahedral, mg=octahedral, nonpolar
- B) eg=trigonal bipyramidal, mg=trigonal bipyramidal, nonpolar
- C) eg=octahedral, mg=trigonal bipyramidal, polar
- D) eg=trigonal bipyramidal, mg=trigonal bipyramidal, polar
- E) eg=tetrahedral, mg=trigonal pyramidal, polar

41) Draw the Lewis structure for SO<sub>3</sub>. What is the hybridization on the S atom?

- A) sp
- B) sp<sup>3</sup>
- C) sp<sup>2</sup>
- D) sp<sup>3</sup>d
- E) sp<sup>3</sup>d<sup>2</sup>