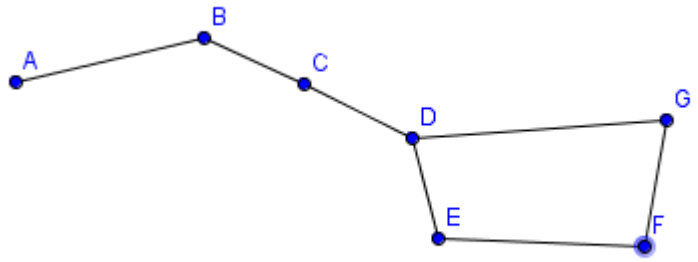
Quiz 9

1. Enumerate the connected subgraphs of K_4 that have exactly 2 edges. (5 pts.)

2. Find a representative for each of the isomorphism classes of subgraphs with exactly four edges in the "Ursa Major" graph below. (6 pts.)



3. Write YES if the graph below has the specified property and NO otherwise: (3 pts. each)

$$\mathcal{G} = (\{a, b, c, d, e\}, \{ab, ac, bc, cd, ce\}) .$$

(a) has a closed path between two vertices,

(b) has a vertex with degree one and a vertex with degree three,

(c) is bipartite.