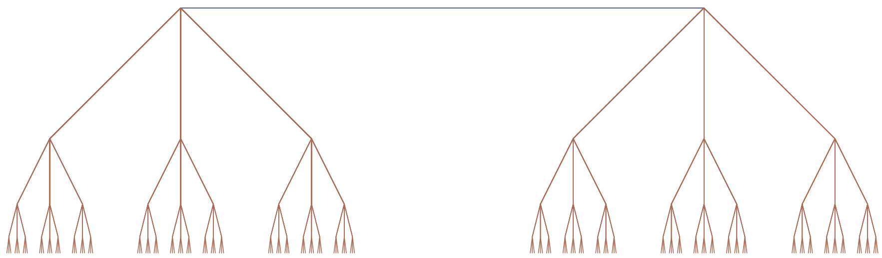

Figure 1.3.19: (A) G_4

(b) $E(G_n)$ is homeomorphic to the Cantor ternary set.

(Note that G_3 is just the Gehman dendrite G.)

2. There exists a *dendrite* G_ω such that

   (a) $\operatorname{ord}(p, G_\omega)$ is finite for each point $p \in G_\omega$;

   (b) $E(G_\omega)$ is homeomorphic to the Cantor ternary set;

   (c) for each natural number n and for each maximal arc A contained in G_ω there is a point $q \in A$ such that $\operatorname{ord}(q, G_\omega) \geq n$.

   See Figure A.

   The dendrites G_n and G_ω have the following universality properties.

3. For each natural number $n \geq 3$ the dendrite G_n is universal for the class of all dendrites X such that $\operatorname{cl} E(X) = E(X)$ and that $\operatorname{ord}(p, X) \leq n$ for each point $p \in X$.

4. Each dendrite G_ω is universal for the class of all dendrites with the closed set of end points.

1.3.20 Mapping hierarchy of dendrites

A classification of topological spaces from the standpoint of the theory of mappings (called also a mapping hierarchy of spaces) is defined in [Borsuk 1959], and it is investigated for dendrites in [Charatonik et al. 1994]. Some questions asked there have already been answered. We recall some examples related to this subject.

1. There exist two dendrites X and Y such that $\{X, Y\}$ has no infimum and no supremum with respect to the class of monotone mappings (see [Charatonik et al. 1994, Example 5.45, p. 18]).