Spanning trees

We say that a graph H is a subgraph of a graph G if

1. its vertices are a subset of the vertex set of G,
2. its edges are a subset of the edge set of G,
3. and each edge of H has the same end-vertices in G and H.

Definition If H is a subgraph of G such that $V(H) = V(G)$, then H is called a spanning subgraph of G. If H is a spanning subgraph which is also a tree, then H is said to be a spanning tree of G.

Example In Figure 3.2, the graphs T1 and T2 are both spanning trees of the graph G.