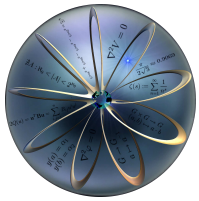

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minimum spanning tree

Canonical name	MinimumSpanningTree
Date of creation	2013-03-22 12:29:22
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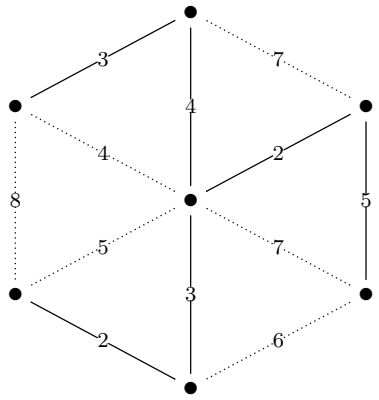
Numerical id	7
Author	mathcam (2727)
Entry type	Definition
Classification	msc 05C05
Synonym	smallest spanning tree
Related topic	SpanningTree

Given a graph G with weighted edges, a *minimum spanning tree* is a spanning tree with minimum weight, where the weight of a spanning tree is the sum of the weights of its edges. There may be more than one minimum spanning tree for a graph, since it is the weight of the spanning tree that must be minimum.

For example, here is a graph G of weighted edges and a minimum spanning tree T for that graph. The edges of T are drawn as solid lines, while edges in G but not in T are drawn as dotted lines.



Prim's algorithm or Kruskal's algorithm can compute the minimum spanning tree of a graph.