

D1 Definitions! www.m4ths.com – Fill out the blanks using the words, letters and symbols below!

1. A graph is made up of _____ or _____ and _____ or _____. Part of a larger graph G is known as a _____. A network is a _____ and the _____ could represent distance, cost or time.
2. The _____, _____ or _____ of a node is the number of edges incident to it. (In Layman's terms....how many legs has the node got!).
3. A _____ is a finite sequence of edges such that the end vertex of one edge is the start vertex of the next. No one vertex appears more than once. A _____ is similar to a _____ but you are permitted to return to a node more than once.
4. A _____ or circuit is a closed path.
5. Two vertices are said to be _____ if there is a path between them. A _____ starts and finished at the same node. A _____ Graph is a graph where there are no loops and no more than one edge connecting any pair of nodes. A _____ is a connected graph with no cycles. A _____ of a graph is a subgraph that contains all of the vertices of the original graph. A _____ is a _____ of lowest weight.
6. A _____ is a graph where every node is directly connected to all of the other in the graph. If a graph has n vertices the notation k_n is used.
7. A _____ consists of two sets, X and Y . X can map to _____, Y can map to _____ but X cannot map to X and Y cannot map to Y . The graph is said to be complete if all nodes in X map to all nodes in _____. The notation _____ is used.
8. An _____ graph shows the same information but drawn differently.
9. An _____ shows the number of direct links between vertices and a _____ shows the weight on the edges between vertices. When there is no weight _____ is used.

Arcs	Walk	Weighted	Path	Loop
Valency	Y	Adjacency	Complete	Order
Edges	Tree	Y	k_{mn}	Distance
Path	Minimum	Matrix	X	Nodes
Matrix	Isomorphic	Tree	Connected	Vertices
Cycle	Degree	Subgraph	Weight	Spanning
Spanning	Graph	Spanning	Simple	Bipartite
Tree	Graph	-	Graph	Tree