Graph Theory Key Terms Match-Up

1	2	3	4	5	6	7	8
Weighted Graph	Subgraph	Degree / Valency / Order	Complete Graph	Walk	Path	Tree	Trail

9	10	11	12	13	14	15	16
Loop	Isomorphic Graphs	Cycle	Hamiltonian Cycle	Simple Graph	Digraph	Handshake Lemma	Spanning Tree

A	A walk with no repeated vertices.
B	A graph in which every vertex is connected to every other vertex by a single edge.
C	The number of edges incident to a node.
D	An edge that starts and end at the same vertex.
E	A connected graph with no cycles.
F	A graph formed from a subset of vertices and edges of another graph.
G	A closed path – starts and ends at the same vertex with no other repeats.
H	A graph with at least one direction on an edge.
I	Versions of the same graph drawn differently.

J	In an undirected graph, the total of the order of vertices is $2 \times$ the number of edges. Therefore, the number of odd nodes must be even.
K	A subgraph including all vertices of a main graph. Must be a tree.
L	A cycle that visits every node exactly once.
M	A graph in which edges have values associated with them.
N	A graph with no loops, and no multiple edges between vertices.
O	A sequence of edges and vertices with repetition allowed.
P	A walk with no repeated edges.

Answer Box

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