

Graph Theory Definition List

Before we reconvene on Wednesday, please find definitions for each of the following graph theoretical terms, providing examples where necessary, and indicating relationships between the various definitions. You may use any (reputable!) resource appropriate to the task. I might suggest making use of the library to find resources such as textbooks and journal articles.

When we meet again, I will ask you to take turns in sharing these definitions with one another.

1. walk
2. path
3. trail
4. circuit
5. cycle
6. clique
7. block
8. block graph
9. line graph
10. planar
11. independence number
12. dominating set
13. domination number
14. Petersen graph
15. bipartite graph
16. n -partite graph
17. graph homomorphism
18. connected
19. tree
20. spanning tree

21. adjacency matrix
22. connectivity
23. average connectivity
24. (vertex or edge) labeling
25. proper coloring
26. chromatic number
27. chromatic polynomial
28. Deletion-Contraction Algorithm
29. graceful labeling
30. harmonious labeling
31. Graceful Tree Conjecture
32. caterpillar
33. lobster
34. Galton-Watson tree