

# Chapter 8 Review Questions



Studying for a chapter examination is a personal process, one which nobody else can do for you. Simply take the time to review what you have done. Here are the new terms in Chapter 8.

Arc [8.1]	Hamiltonian cycle [8.1]	Tessellation [8.3]
Closed curve [8.3]	Jordan curve [8.3]	Topologically equivalent [8.3]
Connected graph [8.2]	Kruskal's algorithm [8.2]	Topology [8.3]
Connected network [8.1]	Minimum spanning tree [8.2]	Traveling salesperson problem (TSP) [8.1]
Degree (vertex) [8.1]	Network [8.1]	Traversable network [8.1]
Edge [8.1]	Number-of-edges theorem [8.2]	Tree [8.2]
Euler circuit [8.1]	Odd vertex [8.1]	Vertex [8.1]
Euler's circuit theorem [8.1]	Operations research [Overview]	Weight [8.2]
Even vertex [8.1]	Planar curve [8.3]	Weighted graph [8.2]
Four-color problem [8.3]	Region [8.1]	
Fractal geometry [8.3]	Simple curve [8.3]	
Genus [8.3]	Sorted-edge method [8.1]	
Graph [8.1]	Spanning tree [8.2]	

If you can describe the term, read on to the next one; if you cannot, then look it up in the text (the section number is shown in brackets). Next, study the types of problems listed at the end of Chapter 8.

## TYPES OF PROBLEMS

- Decide whether a network is an Euler circuit. [8.1]
- Work floor-plan problems. [8.1]
- Solve applied problems involving traversable networks. [8.1]
- Determine whether a given graph is a tree. [8.2]
- Find spanning trees for a given graph. [8.2]
- Given a weighted graph, find the minimum spanning tree. [8.2]
- Sort figures into topologically equivalent classes. [8.3]
- Decide whether a given point is an interior or exterior point. [8.3]
- Solve applied problems involving the four color-theorem. [8.3]
- Design mosaics (tessellations). [8.3]

Once again, see if you can verbalize (to yourself) how to do each of the listed types of problems.

Work all of Chapter 8 Review Questions (whether they are assigned or not). Work through all of the problems before looking at the answers, and *then* correct each of the problems. The entire solution is shown in the answer section at the back of the text. If you worked the problem correctly, move on to the next problem, but if you did not work it correctly (or you did not know what to do), look back in the chapter to study the procedure, or ask your instructor.

Finally, go back over the homework problems you have been assigned. If you worked a problem correctly, move on to the next problem, but if you missed it on your homework, then you should look back in the book or talk to your instructor about how to work the problem.

If you follow these steps, you should be successful with your review of this chapter.

