

FIGURE 11.25 Network for Problem 11-15

11-16 Transworld Moving, like other moving companies, closely follows the impact of road construction to make sure that its routes remain the most efficient. Unfortunately, there has been unexpected road construction due to a lack of planning for road repair

11-17 Solve the minimal-spanning tree problem in the network shown in Figure 11.26. Assume that the numbers in the network represent distance in hundreds of yards. 11-18 Refer to Problem 11-17. What impact would changing the value for path 6-7 to 500 yards have on the solution to the problem and the total distance?

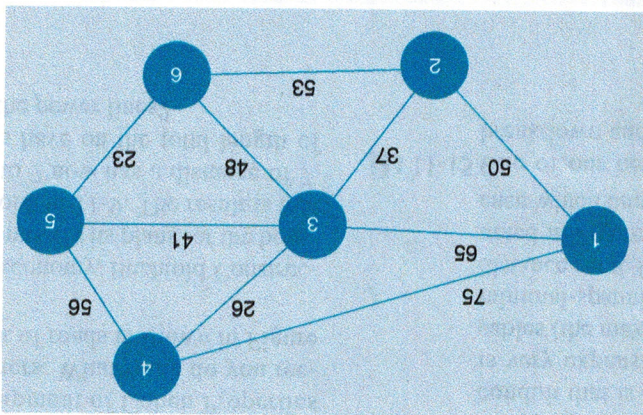


FIGURE 11.24 Network for Problem 11-14

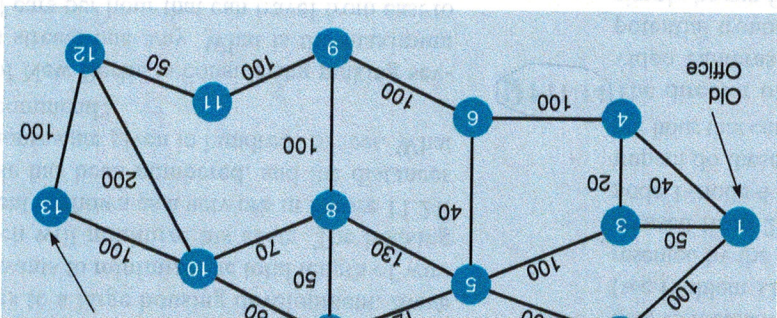


FIGURE 11.26 Network for Problem 11-17

- 11-10 The city of New Berlin is considering making several of its streets one-way. What is the maximum number of cars per hour that can travel from east to west? The network is shown in Figure 11.22.
- 11-11 Transworld Moving has been hired to move the office furniture and equipment of Cohen Properties to their new headquarters. What route do you recommend? The network of roads is shown in Figure 11.23.
- 11-12 Because of a sluggish economy, Bechtold Construction has been forced to modify its plans for the housing development in Problem 11-9. The result is that the path from node 6 to 7 now has a distance of 7. What impact does this have on the total length of wire needed to install the power lines?

- 11-14 The director of security wants to connect security video cameras to the main control site from five potential trouble locations. Ordinarily, cable would simply be run from each location to the main control site. However, because the environment is potentially explosive, the cable must be run in a special conduit that is continually air purged. This conduit is very expensive but large enough to handle five cables (the maximum that might be needed). Use the minimal-spanning tree technique to find a minimum distance route for the conduit between the locations noted in Figure 11.24. (Note that it makes no difference which one is the main control site.)
- 11-15 One of our best customers has had a major plant breakdown and wants us to make as many widgets

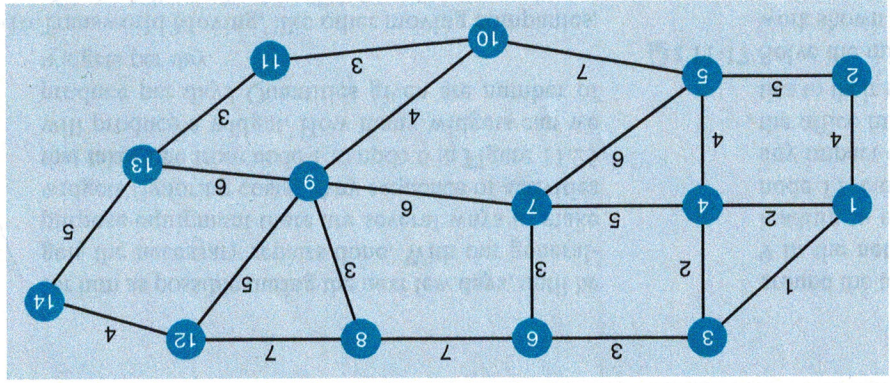


FIGURE 11.21

Network for Problem 11-9

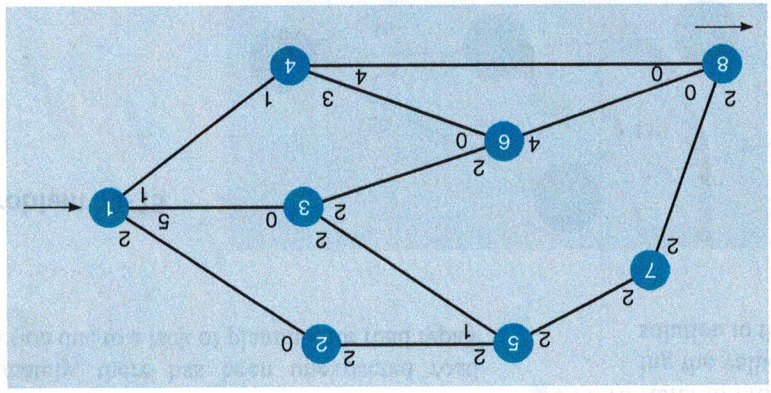


FIGURE 11.22

Network for Problem 11-10

*Note: means the problem may be solved with QM for Windows.