1.

1. B>C>D,A>B>C>F,A>B>E>F,A>B>E>G,

A>G>E>B,A>G>E>F,A>G>H>D,A>G>H>F.

24 hops it uses.

1. C transfer via B:(5)+(5, 0, 6, 9, 7, 10)=(10,5,0,14,12,15)

C transfer via D:(8)+(12, 4, 5, 0, 6, 10)= (20,12,0,8,14,18)

C transfer via E:(12)+(11, 6, 4, 9, 0, 8)= (23,18,0,21,12,20)

So the C’s routing table is:

|  |  |
| --- | --- |
| Line | delay |
| A | 10 |
| B | 5 |
| C | 0 |
| D | 8 |
| E | 12 |
| F | 15 |

1. Since the subnet mask is 255.255.252.0, the host bits is 10

Which means the network can handle 2^10-2=1022 hosts

4.

1. Insufficient link capacity
2. Router’s CPU are slow in processing packets
3. Low-bandwidth lines
4. Mismatch between parts and system

5.

The count-to-infinity problem arises when there is a network topology change, such as a link failure, and a router fails to receive any updates from its neighbors about the change. In this situation, the router assumes that the failed link is still operational, and updates its routing table by incrementing the metric for that link by one. It then sends its updated distance vector to its neighbors, who, in turn, update their routing tables and send their updated distance vectors. This process continues until all routers update their routing tables, which can take an infinite amount of time, hence the name "count-to-infinity."