

True/False

1. False
2. True
3. True
4. False (64, or 72 bytes if the preamble is included)
5. True

Multiple Choice

6. c
7. a
8. b
9. d
10. c
11. c
12. a
13. d

Matching

14. a
15. b
16. d
17. e

18. transparent
19. (2 of) learning, flooding, filtering, forwarding, aging
20. spanning

Chapter 5 Part 2 - Problems

Problem 1.

After the 5th collision, the adapter chooses from $\{0, 1, 2, \dots, 31\}$. The probability that it chooses 4 is $1/32$.

It waits 204.8 microseconds

Wait for $512 * 4 = 2,048$ bit times

For 10 Mbps, this wait is $2.048 \times 10^3 \text{ bits} / 1 \times 10^7 \text{ bps} = 204.8 \mu \text{ sec}$.

Problem 2.

At $t = 0$ A transmits. At $t = 576$, A would finish transmitting. In the worst case, B begins transmitting at time $t = 224$. At time $t = 224 + 225 = 449$ B 's first bit arrives at A . Because $449 < 576$, A aborts before completing the transmission of the packet, as it is supposed to do.

Thus A cannot finish transmitting before it detects that B transmitted. This implies that if A does not detect the presence of a host, then no other host begins transmitting while A is transmitting.