CS 372 Introduction to Computer Networks
Self-Check Exercises: Lecture 18

1) What are some tradeoffs for the implementation of RDT in TCP

2) With a stop-and-wait implementation
    a. How long would it take to send five 1500-byte packets, subject to the following conditions:
    - R = 20Mbps
    - Network end-to-end time (after initial transmission) = 20 ms
    - ACK packet L = 20 bytes

    b. What is the utilization?

3) For the situation in question 2, but with a pipelined implementation…
    a. How long would it take to send five 1500-byte packets? Assume the pipeline will accommodate 6000 bytes from sender to receiver at any given time.

    b. What is the utilization?

4) How does the receiver handle multiple incoming packets?

5) What happens if the sender sends information faster than the receiver can process?

6) *HostA* is sending fixed-size packets to remote *HostB* on a 100 Mbps link. Each packet's length is 1200 bytes. The propagation delay is 1 ms.; the processing/queuing delays are negligible. Given a sliding window of 12,000 bytes, and assuming no pipeline errors, what is *HostA*'s utilization?