

Student Name: _____ Sample Solution _____
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1. In a TCP connection, the current congestion window is 8000 bytes and the **CongestionThreshold** is 12000 bytes. The maximum segment size (MSS) is 1000 bytes.

(a) If the sender receives three duplicate ACKs, what will be the new values of **CongestionThreshold** and congestion window?

new **CongestionThreshold** = half of old congestion window = 4000 bytes,
new congestion window = half of old congestion window = 4000 bytes

(b) If a timeout occurs at the sender, what will be the new value of **CongestionThreshold** and congestion window?

new **CongestionThreshold** = half of old congestion window = 4000 bytes,
new congestion window = 1 MSS = 1000 bytes

2. Which of the following are true?

- (a) A fair queueing scheduler in a router always transmits one bit at a time before moving onto the next packet.
- (b) If a fair queueing scheduler calculates the finishing time of two packets, A and B, such that A is scheduled to depart before B, then at a later time as new packets arrive, the scheduler may change its mind and schedule B before A.
- (c) **Weighted fair queueing (WFQ) allows a router to provide each flow with a weighted share of the link capacity.**