

1. Machine A is going to send data to machine B using TCP Reno (slow start, AIMD, fast retransmit, fast recovery). A will open the connection to B, send a request packet, receive a response packet, then transfer the data. For simplicity, assume each packet contains 100 bytes of data and do not do delayed ACKs. Group the data packets and ACKs to simplify the drawing, as we did in class.

A has **8** data packets to send. All packets are delivered fine, except for the fifth data packet, which is lost when it is first sent, and the ACK for the eighth data packet, which is also lost when first sent.

Draw the packets sent beginning with the SYN packets and ending with the FIN packets. Indicate the sequence and ACK numbers in each packet. Indicate the reason for any retransmissions that occur. Also indicate the window size whenever it changes. Assume that the timeout is set to 2.5 times the round trip times. Comment your drawing with what the TCP algorithm is doing so it can be understood. *If you must make an assumption about timing or how something happens, state your assumption.*

