1. Problem 3.4 in Kurose/Ross (3rd edition) on page 287.
   [or problem 3.4 in Kurose/Ross (2nd edition) on page 283.]

   [or problem 3.9 in Kurose/Ross (2nd edition) on page 284.]

   [or problem 3.16 in Kurose/Ross (2nd edition) on page 285.]

   [or problem 3.18 in Kurose/Ross (2nd edition) on page 286.]

5. Suppose that a TCP exchange is ongoing between two hosts A and B with initial receive windows of size 512 and 2048 bytes, respectively. At time $t_0$ host B sends A a packet with

   \[\text{Seq#}=100, \text{Ack#}=2000, \text{Win}=2048, \text{No Data}\].

   Draw a diagram showing this packet transmission as well as the transmissions arising from the following events assuming that data is transmitted as soon as possible and that the link's one-way delay is $d$.

   - At time $t_1 > t_0 + d$ 1024 bytes of data arrive at A destined for B.
   - At time $t_2 > t_1$ 1024 bytes of data arrive at A destined for B. The packet generated at this time is lost.
   - At time $t_3 > t_2 + d$ 128 bytes of data arrive at B destined for A and B removes 512 bytes of data from its receive buffer.
   - At time $t_4 > t_3 + d$ 1024 bytes of data arrive at A destined for B and A removes 128 bytes of data from its receive buffer.

   In each case indicate the Seq#, Ack#, Win, and amount of data carried.