

2a)

Initial Congestion window = 8760

```
Flow btw ports 43498 and 80
First 10 Congestion window sizes of the flow
1  8760
2  32120
3  81760
4  100740
5  138700
6  195640
7  255500
8  376680
9  338720
10 559180
□
```

Initial Congestion window = 18980

```
Flow btw ports 43500 and 80
First 10 Congestion window sizes of the flow
1  18980
2  43800
3  67160
4  93440
5  344560
6  284700
7  417560
8  570860
9  842420
10 1360720
□
```

Initial Congestion window = 1460

```
Flow btw ports 43502 and 80
First 10 Congestion window sizes of the flow
1  1460
2  17520
3  43800
4  81760
5  112420
6  159140
7  198560
8  289080
9  478880
10 264260
```

As the loss rate, throughput and the average RTT are all calculated at the source (from sender to receiver), it makes more sense for calculating the congestion window at the source.

2b)

```
Flow btw ports 43498 and 80
Retransmits due to Triple Duplicate ACKs: 2
Retransmits due to Timeouts: 1
Flow btw ports 43500 and 80
Retransmits due to Triple Duplicate ACKs: 4
Retransmits due to Timeouts: 90
Flow btw ports 43502 and 80
Retransmits due to Triple Duplicate ACKs: 0
Retransmits due to Timeouts: 0
```

We know the total loss rate, we know that we will get a triple duplicate ack only if the timeout did not happen, so calculate the triple duplicate ack packets and then for finding timeouts, subtract the triple duplicate ack packets from the total loss packets.