3)

a)

* Queueing delay
* Transmission delay (packetization)
* Latency (propagation delay)
* Processing delay

b)

i)

tprop = distance / wave propagation speed = 15x103 / 300,000x103 = 5x10-5 s

ii)

L / R = 1024 x 8 / 1x109 = 8.192x10-6 s

c)

Not sure but I’ll have a crack.

If the packet is at the back of the queue, there will be 49 packets in front of it. The time for it to get to the front of the queue will be 49 x ttrans= 4.01x10-4 s

d)

Also not sure about this one.

ei)

W1 = 20

W2 = 80