

# Exercise 3.

A — R — B

①  $\frac{50k}{10M} = 5ms$ ,  $P_1$  is on A-R.

② the second one is waiting for the first one out of the computer

$$\frac{50k}{10M} \text{ ①} + \frac{50k}{10M} \text{ ②} + 10ms = 20ms, \quad P_2 \text{ is at R1}$$

$P_1$  arrives to R @  $5 + 10 = 15ms$

For  $P_1$ ,  $d_{trans}(R-B) = \frac{50kbits}{1M bps} = 50ms$

$P_1$  will leave R @  $15ms + 50ms = 65ms$

$P_2$  have to wait in the queue :  $d_{queuing}(\text{for } P_2 \text{ at R}) = 65 - 20 = 45ms$

$$65ms + \frac{50kbits}{1Mbps} + 100ms = 65ms + 50ms + 100ms = 215ms$$

the last bit of  $P_2$  arrive at B  $50ms$

the ~~P~~ $P_1$  arrives to B @  $5 + 10 + 50 + 100 = 165ms$