

1. A

2. C

$$3. \frac{1 \text{ Mx}}{20 \text{ M}} = \frac{3}{20} = \frac{4}{10} = \frac{2}{5} = 0,4 \text{ b}$$

$$t_p = 20 \text{ ms} + 20 \text{ ms} + 50 \text{ ms} = 0,9 \text{ s}$$

$$0,9 \text{ s} \approx 0,5 \text{ s} \Rightarrow 500 \text{ ms}$$

A

$$4) \frac{12 + 8 + 20 + 18}{0,2} = 240 \text{ bytes}$$

$$240 - 58 = 232$$

$$\frac{232}{32} \times 8 \text{ ms} = 58 \text{ ms} //$$

B

5) B

6) C

7) C

8) B

9) C

10) B

11) B

12) C

13) -

14) A

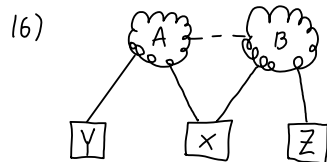
15) I1: 192.2.0000|0000.0

I2: 192.2.0001 0|00.0 $\leftarrow$ M_{sub}

I3: 192.2.0001 0|000.0 $\leftarrow$ M_{sub} específico

I - 192.2.0001 0|11.0

B



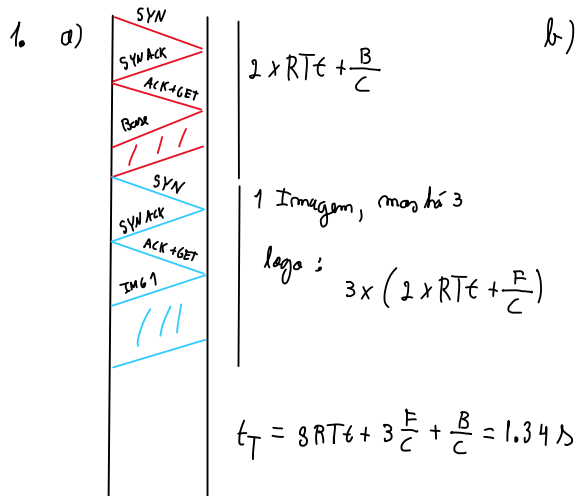
A

17) A

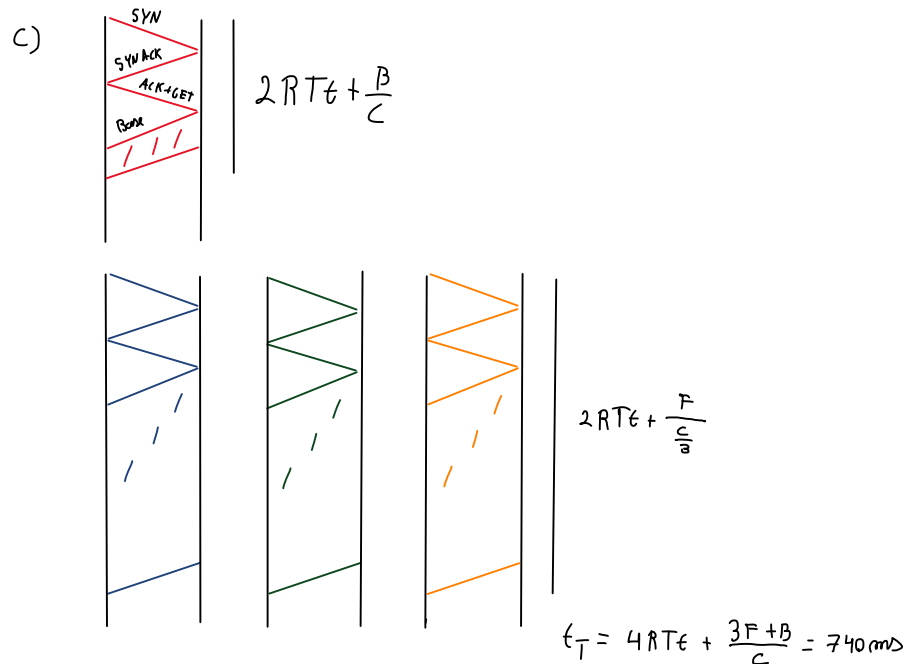
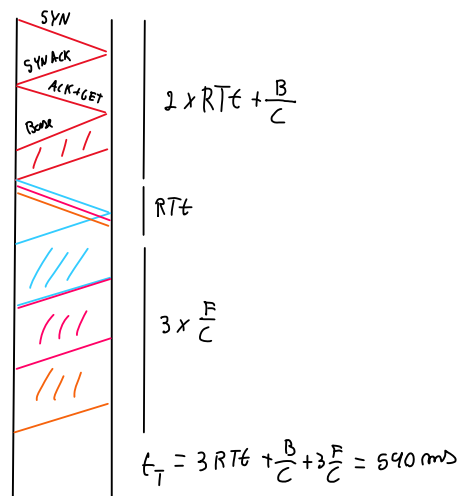
18) B

19) -

20) B

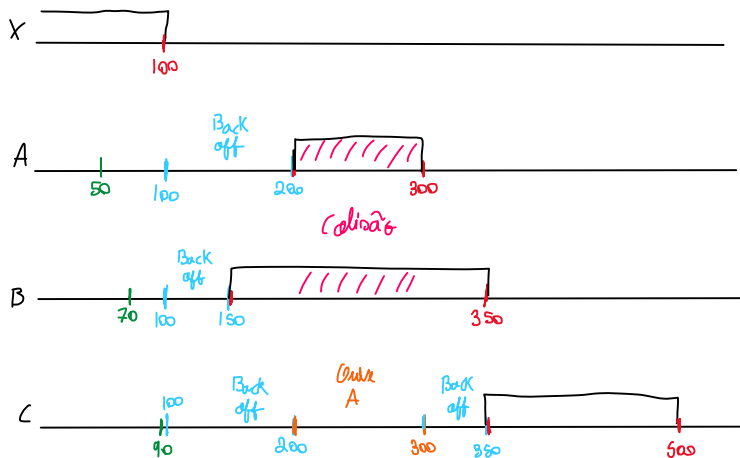


b)



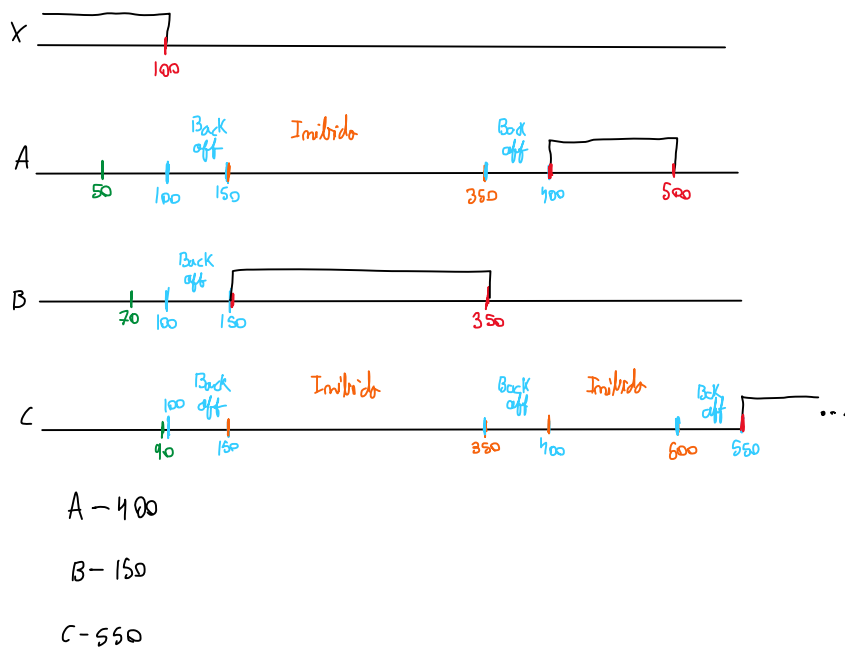
$$d) t_{\text{delay max}} = \frac{4 \text{ KB}}{100 \text{ Mbit/s}} = 320 \mu\text{s}$$

2.



a) A - 200 μs b) Apenas C c) A - 300
B - 150 μs B - 350
C - 350 μs

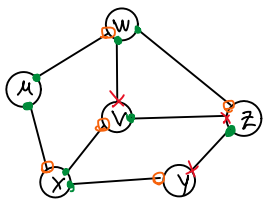
d)



3. a)

Relig	u	v	w	x	y	z
t+1	u	v	u	u	x	v

b)



• Porto designado
○ Porto Ruby
x Porto fechado

c)

	u	v	w	x	y	z
u → v	✓	✓	✓	✓	✓	✓
v → u	✓	✓	✗	✓	✗	✗
w → v	✓	✓	✓	✓	✗	✓

d)

