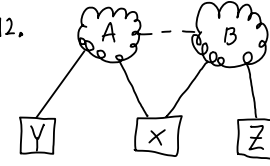
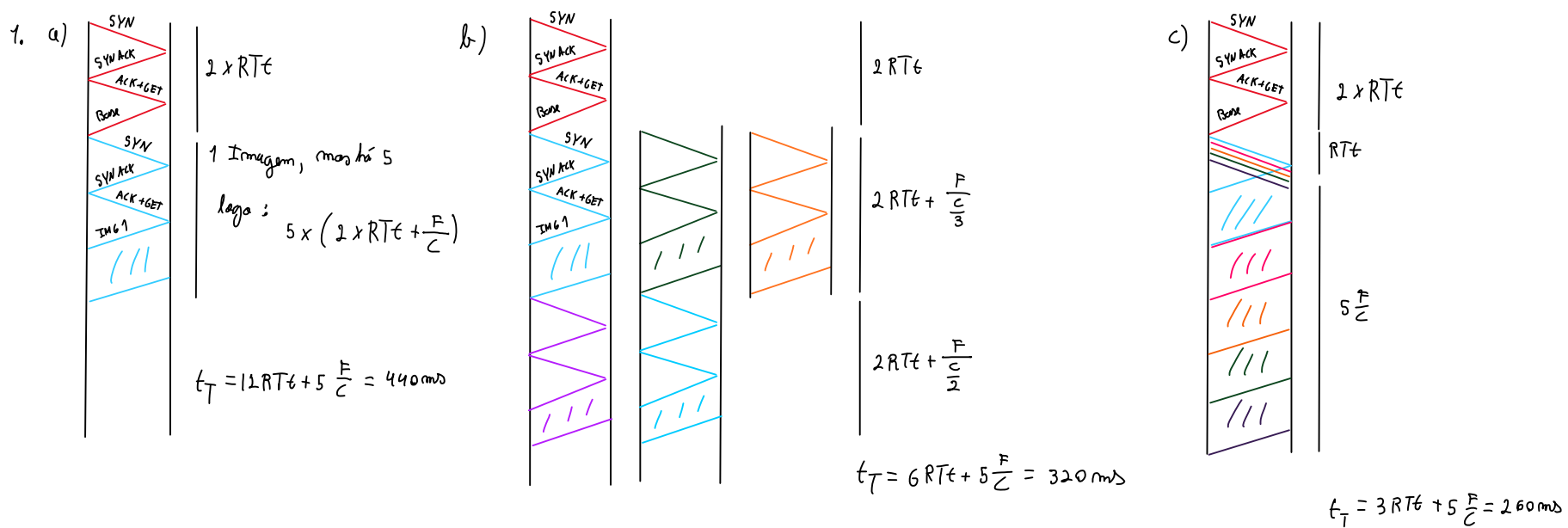


1. B
2. A
3. $t_p = 100 + 50 + 50 = 200 \text{ ms}$
 $t_t = \frac{1 \text{ MB}}{10 \text{ Mb}} = \frac{8}{10} = 800 \text{ ms}$
 $t_T = t_t + t_p = 1 \text{ s}$
4. B
5. B
6. —
7. C
8. A
9. $W = 2^{20} \times 8$
 $RTT = 100 \text{ ms}$
 $C \approx \frac{W}{RTT} = \frac{2^{20} \times 8}{100} \times 10^3 \approx 80 \text{ Mb/s}$
10. $\frac{1.2 \text{ Mbps}}{100 \text{ ms} \times 8} + 1 \text{ KB} = 16 \text{ KB}$
11. IP1: 193.2.1000.0000.0
IP2: 193.2.1000.1000.0
IP3: 193.2.1000.1010.0
IP: 193.2.1000.1100.38
12. 
13. C
14. C
15. —
16. —
17. C
18. C
19. A
20. B



2. a) 3 — 10 — 22, 27, 28
- 4 — 4 11 — 29, 30, 31, 32
- 5 — 5, 8 12 — 33, 34, 35, 36, 37
- 6 — 9, 10, 11 13 — 38, 39, 40, 41, 42, 43
- 7 — 12, 13, 14, 15 14 — 44, 45, 46, 47, 48, 49, 50
- 8 — 16, 17, 18, 19, 20 15 —
- 9 — 21, 22, 23, 24, 25, 26 16 — 48

b) $D_2: [9, 2] \text{ e } [16, 17]$

c) $D_2: [4, 14]$

d) 6, 4, 5, 2, 4, 8

e) $A_{\text{pontos}} = 22$

- 17 — 51, 52
- 3 d) $d_A = 4$
 $d_B = 2$
 $d_C = 6$
 $d_D = 3$
 $d_E = 0$

b) Temos contagem para o infinito
 O protocolo não estabiliza

C)

	A	C	B	D	B	A	D	E	C	A	D	D	C	B	E
T=0	{	8-4	8-2	4-2	{	10-3	5-2	2-1	{	6-3	7-2	{	10-4	4-2	3-1
T=1		8-4	8-2	4-2		10-3	5-2	→		6-3	7-2		10-4	4-2	=
T=2		8-4	11-3	5-3		10-3	6-3	-		6-3	8-3		10-4	7-3	-
T=3		8-4	12-4	8-4		11-4	9-4	-		7-4	11-4		10-4	8-4	-
T=4		9-5	15-5	9-5		14-5	10-5	-		10-5	12-5		11-5	11-5	-
T=5		12-6	16-6	12-6		15-6	13-6	-		11-6	15-6		14-6	12-6	-
T=6		-	-	-		-	-	-		-	-		-	-	-

d)

	A	C	B	D	B	A	D	E	C	A	D	D	C	B	E
T=0		X	8 BE	4 DE		10 ADE	5 DE	2 E		6 ADE	7 DE		X	4 BE	3 E
T=1		—	8 BE	4 DE		10 ADE	5 DE	—		6 ADE	7 DE		—	4 BE	—
T=2		—	11 BDE	5 DBE		10 ADE	6 DBE	—		6 ADE	8 DBE		—	7 DBE	—
T=3		—	16 BADE	—		11 ADBE	—	—		7 ADBE	—		—	—	—
T=4		—	—	—		—	—	—		—	—		—	—	—
T=5		—	—	—		—	—	—		—	—		—	—	—
T=6		—	—	—		—	—	—		—	—		—	—	—

e) Valor - Cimento -> mais rápido //