1. a) - mais eficiente na procura
- ocupa menos espaço

Classful utiliza os primeiros bits como identificador da classe enquanto que classless utiliza uma mascara de 32 bits para determinar o endereço da rede.

b) 194.128.96.0/22

11000000 10000000 01100000 00000000

500 (B) $2^9-2=510$ hosts	011000	0 x xxxxxxx 194.128.96.0/23
250 (A) $2^8-2=254$ hosts	011000	10 xxxxxxx 194.128.96.0/24
60 (D) $2^6-2=62$ hosts	011000	11 00 xxxxx 194.128.96.0/26
26 (C) $2^5-2=30$ hosts	011000	11 01 xxxxx 194.128.96.32/27

Rede	Endereço	Mascara	Broadcast	Gama
B	194.128.96.0/23	255.255.254.0	194.128.97.255	96.1 : 97.254
A	194.128.96.0/24	255.255.255.0	194.128.96.255	96.1 : 96.254
D	194.128.95.0/26	255.255.255.192	194.128.95.63	95.1 : 95.62
C	194.128.95.32/27	255.255.255.224	194.128.95.95	95.65 : 95.94

c) O que sobra internamente

B	10
A	4
D	2
C	4 +
total	20 bits

Externamente:

Blocos por classe:

11 C 11:
11 100
11 101
11 110
11 111

$(2^5 - 2) \times 5$
$= 30 \times 5$
$= 150$

total = 170 bits

2.

a)

	CS	DV
mem	#Nodos x #Custo	#Vizinhos x #Nodes
mensagens	tem que informar a rede toda	apenas informa os vizinhos e só se houver alteração

b)

Inicial

d(C)	B	D	E
A	∞	∞	∞
B	2	∞	∞
D	∞	1	∞
E	5	∞	4

Final

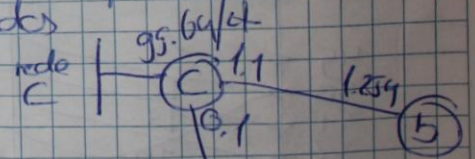
d(C)	B	D	E
A	7	(3)	6
B	(2)	4	8
D	5	(1)	5
E	6	(2)	4

c)

X	N	A	B	D	E
0	C	00	2|C	(1|C)	4|C
1	C,D	3|D	(2|C)	—	2|D
2	CDB	3|D	—	—	(2|D)
3	CDBE	(3|D)	—	—	—
4	CDBEA	—	—	—	—

Destino	Prexime Salto	Link	Custo
A	D	LC→D	3
B	B	LC→B	2
C	—	—	0
D	D	LC→D	1
E	D	LC→D	2

d) A, D e E podem ser agregados

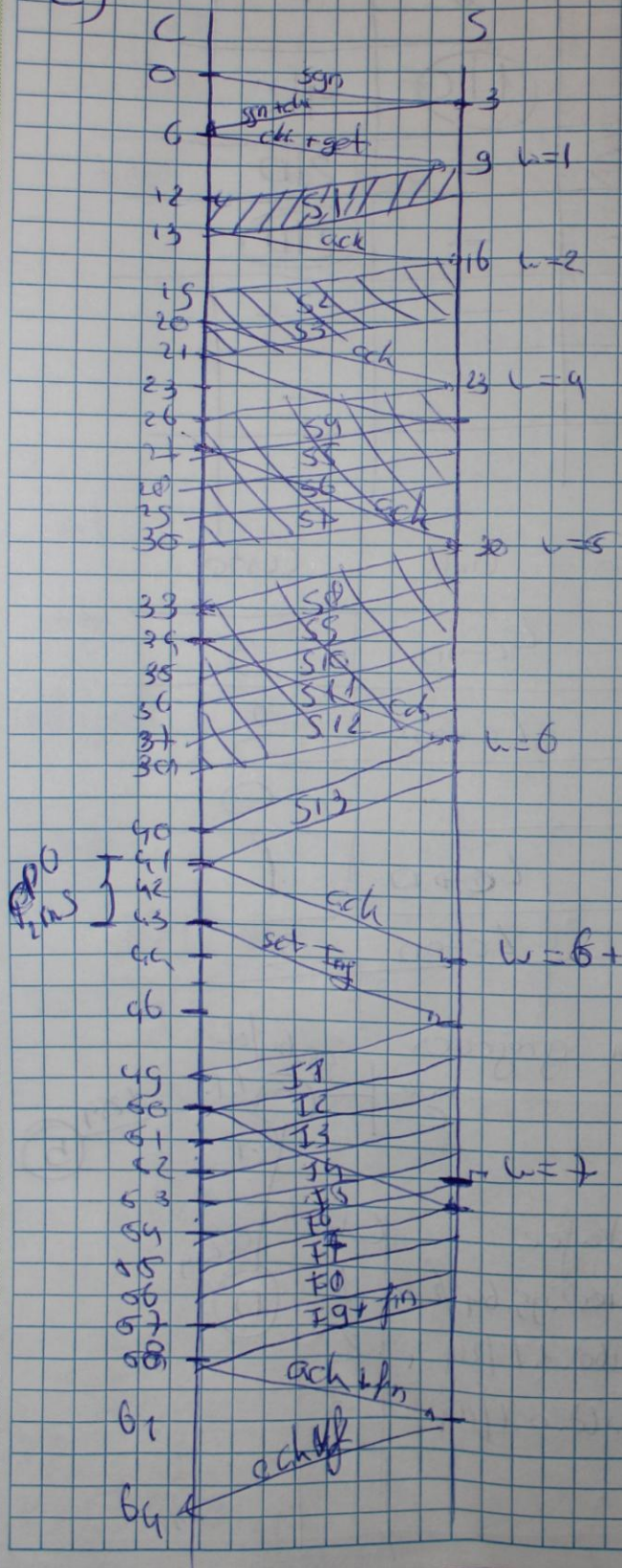


Destino	Prox Salto	Interface	Cabo
194.120.95.32/27	—	194.120.95.64/27	1
194.120.95.0/23	192.168.1.254/24	192.168.1.1/24	2
194.120.95.0/25	192.168.0.254/24	192.168.0.1/24	3

3. a) ?

b) $W > \frac{RTT}{tt} = \frac{6}{1} = 6$

c)



$T = 13000$ bytes

$C = 2 \times 45000$ bytes

$R = d$ mbps

$RTT = 6$ ms

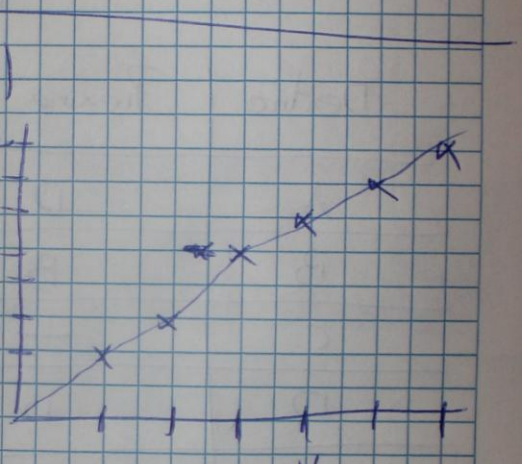
$S = 1000$ bytes

$tt = \frac{1000 \times 8}{d \times 10^6} = 6$ ms

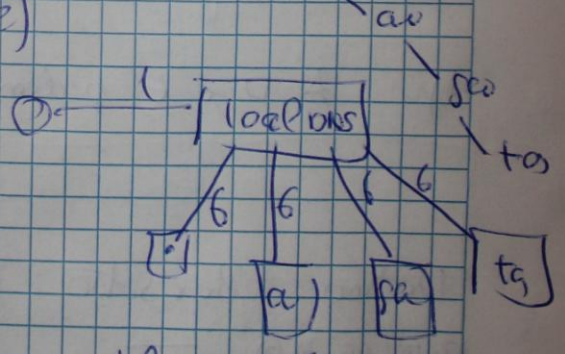
$N_H = \frac{13.000}{1000} = 13$

$N_T = \frac{45000 \times 2}{1000} = 9$

d)



e)



$t_{total} = 4 \times 6 + 1 = 25$

$T_{total} = 64 + 25 = 89$ ms