

Semana 6

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Redes =  $2^6$   
Hosts =  $2^{32-6}$

↖ Positivos

1)

Prefixo	Mr. Sub-Redes	Mr. Hosts	Máscara de Sub-Redes
/7	128	33554432	254.0.0.0
/8	256	16777216	255.0.0.0
/9	512	8388608	255.128.0.0
/10	1024	4194304	255.192.0.0
/13	8192	524288	255.248.0.0
/15	32768	131072	255.254.0.0
/16	65536	65536	255.255.0.0
/18	262144	16384	255.255.192.0
/20	1048576	4096	255.255.240.0
/24	16777216	256	255.255.255.0
/25	33554432	128	255.255.255.128
/26	67108864	64	255.255.255.192
/27	134217728	32	255.255.255.224
/28	268435456	16	255.255.255.240
/29	536870912	8	255.255.255.248
/30	1073741824	4	255.255.255.252

2) a) /10

b) /11

c) /13

d) /14

e) /17

f) /19

g) /21

h) /26

i) /30

Endereços: 178.255.171.13					1 sobre 9				
3) /18					/17				
Máscara	255	0	0	0	Máscara	255	255	128	0
End. Rede	178	0	0	0	End. Rede	178	255	128	0
Broadcast	178	255	255	255	Broadcast	178	255	255	255
Quant. IP	16777214				Quant. IP	32766			
Faixa	178.0.0.1 - 178.255.255.254				Faixa	178.255.128.1 - 178.255.255.254			
/19					/24				
Máscara	255	128	0	0	Máscara	255	255	255	0
End. Rede	178	128	0	0	End. Rede	178	255	171	0
Broadcast	178	255	255	255	Broadcast	178	255	171	255
Quant. IP	8388606				Quant. IP	254			
Faixa	178.128.0.1 - 178.255.255.254				Faixa	178.255.171.1 - 178.255.171.254			
/15					/25				
Máscara	255	254	0	0	Máscara	255	255	255	128
End. Rede	178	254	0	0	End. Rede	178	255	171	0
Broadcast	178	255	255	255	Broadcast	178	255	171	127
Quant. IP	131070				Quant. IP	126			
Faixa	178.254.0.1 - 178.255.255.254				Faixa	178.255.171.1 - 178.255.171.126			
/16					/30				
Máscara	255	255	0	0	Máscara	255	255	255	252
End. Rede	178	255	0	0	End. Rede	178	255	171	12
Broadcast	178	255	255	255	Broadcast	178	255	171	15
Quant. IP	65534				Quant. IP	2			
Faixa	178.255.0.1 - 178.255.255.254				Faixa	178.255.171.13 - 178.255.171.14			
Quant. IP = $2^{32-16} - 2$									



Endereço: 192.169.30.199

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Máscara	255	0	0	0
End. Rede	192	0	0	0
Broadcast	192	255	255	255
Quant. IP	16 777 214			
Faixa	192.0.0.1	192.255.255.254		

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Máscara	255	255	198	0
End. Rede	192	169	0	0
Broadcast	192	169	197	255
Quant. IP	32766			
Faixa	192.169.0.1	192.169.127.254		

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Máscara	255	128	0	0
End. Rede	192	128	0	0
Broadcast	192	255	255	255
Quant. IP	8388605			
Faixa	192.128.0.1	192.255.255.254		

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Máscara	255	255	255	0
End. Rede	192	169	30	0
Broadcast	192	169	30	255
Quant. IP	254			
Faixa	192.169.0.1	192.169.30.254		

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Máscara	255	254	0	0
End. Rede	192	168	0	0
Broadcast	192	169	255	255
Quant. IP	131 070			
Faixa	192.168.0.1	192.168.255.254		

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Máscara	255	255	255	128
End. Rede	192	169	30	128
Broadcast	192	169	30	255
Quant. IP	126			
Faixa	192.168.0.1	192.168.30.129		

126

Máscara	255	255	0	0
End. Rede	192	169	0	0
Broadcast	192	169	255	255
Quant. IP	65 534			
Faixa	192.169.0.1	192.169.255.254		

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Máscara	255	255	255	252
End. Rede	192	169	30	196
Broadcast	192	169	30	199
Quant. IP	2			
Faixa	192.169.0.1	192.169.30.197		

5)

a) 141.208.177.210/23

Máscara	255	255	254	0
Rede	141	208	176	0

e) 129.201.160.49/21

Máscara	255	255	248	0
Rede	129	201	160	0

f) 91.133.254.10/15

Máscara	255	254	0	0
Rede	91	132	0	0

j) 44.44.44.4/13

Máscara	255	248	0	0
Rede	44	40	0	0

c) 200.200.200.200/30

Máscara	255	255	255	252
Rede	200	200	200	200

g) 35.177.135.53/12

Máscara	255	240	0	0
Rede	35	176	0	0

d) 15.241.210.137/14

Máscara	255	252	0	0
Rede	15		0	0

h) 190.201.29.240/19

Máscara	255	255	224	0
Rede	190	201	0	0

6)

a) 7.49.144.10/11

Máscara	255	224	0	0
Broadcast	7	63	255	255

d) 15.241.210.137/14

Máscara	255	252	0	0
Broadcast	15	243	255	255

f) 199.201.15.69/26

Máscara	255	255	255	192
Broadcast	199	201	15	127

e) 129.201.160.49/21

Máscara	255	255	248	0
Broadcast	129	201	167	255

c) 200.200.200.200/30

Máscara	255	255	255	252
Broadcast	200	200	200	203

j) 190.201.29.240/19

Máscara	255	255	224	0
Broadcast	190	201	31	255



Quant. IP = $2^{30-6} - 2$		Quant. Rede = $2^6$			
7)	a)	b)	c)	d)	e)
Endereço IP do Host	172.29.1.234	172.29.1.234	192.168.170.30	192.168.30.220	
Máscara Sub-Rede	255.255.255.0	255.255.255.248	255.255.0.0	255.255.192.0	
Nr. bits p/sub-rede	24	29	16	18	
Nr. sub-redes	16777216	526870912	65536	262144	
Nr. bits p/host	8	3	16	14	
Nr. hosts válidos	254	6	65534	16382	
Endereço de sub-rede	172.29.1.0	172.29.1.232	192.168.0.0	192.168.0.0	
IP do 1º host	172.29.1.1	172.29.1.233	192.168.0.1	192.168.0.1	
IP do último host	172.29.1.254	172.29.1.238	192.168.255.254	192.168.63.254	
Endereço Broadcast	172.29.1.255	172.29.1.239	192.168.255.255	192.168.63.255	

d) IP: 11000000 | 10100100 | 00100010 | 11011100  
Máscara: 11111111 | 11111111 | 11000000 | 00000000  
Sub-Rede: 11000000 | 10100100 | 00000000 | 00000000  
Broadcast: 11000000 | 10100100 | 00111111 | 11111111 192.168.63.255

8) a) 172.16.4.191/26	Broadcast	b) 172.16.4.47/28	Broadcast
Máscara: 255.255.255.192		Máscara: 255.255.255.240	
Rede: 172.16.4.128		Rede: 172.16.4.32	
Broadcast: 172.16.4.191		Broadcast: 172.16.4.47	
Host: 129-190		Host: 33-46	
c) 172.16.4.159/26		d)	
Como a rede é a mesma de a)		172.16.4.145/28	Host
está no range dos hosts,		Máscara: 255.255.255.240	
Endereço: um Host		Rede: 172.16.4.144	
		Broadcast: 172.16.4.159	
		Host: 145-158	

e) 172.16.4.95/27	Broadcast//	f) 172.16.4.97/27	Host//
Minimo: 255.255.255.224		Minimo:	
Rede: 172.16.4.64		Rede: 172.16.4.96	
Broadcast: 172.16.4.95		Broadcast: 172.16.4.127	
Host: 65-94		Host: 97-126	

g) 172.16.4.96/29	Rede//	h) 172.16.4.192/26	Rede//
Minimo: 255.255.255.248		Minimo: 255.255.255.192	
Rede: 172.16.4.96		Rede: 172.16.4.192	
Broadcast: 172.16.4.103		Broadcast: 172.16.4.255	
Host: 97-102		Host: 193-254	