

1. Given the class B network address 128.10 will be divided into subnets. Compute (a) the minimum number of bits necessary to obtain the number of subnets required, (b) the maximum number of hosts in each subnet, (c) the subnet mask, and (d) write the dotted decimal address for each of the following scenarios:

Max # Of Subnets	Min # Of Subnet Bits (a)	Max # Of Hosts/Subnet  (b)	Subnet Mask  (c)	Subnet #	Host #	IP Address For Subnet # & Host #  (d)
58	6	1022	255.255.252.0	49	189	128.10.196.189
58	6	1022	255.255.252.0	45	853	128.10.183.85
123	7	510	255.255.254.0	121	238	128.10.242.238
123	7	510	255.255.254.0	103	477	128.10.207.221
29	5	2046	255.255.248.0	21	251	128.10.168.251
29	5	2046	255.255.248.0	27	1759	128.10.222.223
450	9	126	255.255.255.128	327	111	128.10.163.239
450	9	126	255.255.255.128	403	107	128.10.201.235
850	10	62	255.255.255.192	755	57	128.10.188.249
850	10	62	255.255.255.192	723	49	128.10.180.241

2. Given the subnet mask associated with each of the following IP addresses, compute (a) the network Number, (b) subnet Number and (c) the host Number. All your answers must be in decimal (Base 10).

IP Address	Subnet Mask	(a) Network Number	(a) Subnet Number	(c) Host Number
78.241.123.211	255.255.248.0	78	7,727	979
128.10.223.192	255.255.252.0	32,778	55	960
179.97.234.132	255.255.248.0	45,921	29	644
111.214.228.93	255.255.224.0	111	3,438	1,117
53.219.189.147	255.255.252.0	53	14,063	403