

# IP Addressing Practice Problems (Answers)

Identify The Address Class of the Following Addresses:

Review: Address Classes A, B, and C

If the 1<sup>st</sup> Octet is:

1 – 127	Class A
128-191	Class B
192-223	Class C
224-239	Class D
240-255	Class E

## Class

210.23.67.102	C
66.23.148.0	A
158.23.251.33	B
144.23.117.254	B
192.254.23.123	C
144.207.78.1	B
63.125.23.211	A
192.25.128.36	C
128.12.254.98	B
134.223.156.89	B
127.0.0.1	A
224.23.108.23	D
223.78.27.144	C
77.123.28.167	A
191.249.222.234	B
19.23.12.255	A
188.67.76.235	B
134.255.123.22	B
143.52.213.212	B
207.22.45.219	C
117.117.117.117	A
193.23.255.77	C
199.23.255.7	C
145.2.229.252	B
238.23.177.8	D

# Answer the Following Address Class Questions:

Review: Address Classes A, B, and C

If the 1<sup>st</sup> Octet is:

1 – 127	Class A	Net.Host.Host.Host
128-192	Class B	Net.Net.Host.Host
192-224	Class C	Net.Net.Net.Host
224-240	Class D	Multicast (Not used for host addressing.)
240-255	Class E	Experimental (Not used for host addressing.)

Network ID in Blue and Host ID in Red

Circle the Network ID of this address: 1.102.45.177

Circle the Host ID of this address: 196.22.177.13

Circle the Network ID of this address: 133.156.55.102

Circle the Host ID of this address: 221.252.77.10

Circle the Network ID of this address: 123.12.45.77

Circle the Host ID of this address: 126.252.77.103

Circle the Network ID of this address: 13.1.255.102

Circle the Host ID of this address: 171.242.177.109

Circle the Network ID of this address: 193.156.155.192

Circle the Host ID of this address: 21.52.177.188

Circle the Network ID of this address: 77.77.45.77

Circle the Host ID of this address: 191.252.77.13

Circle the Network ID of this address: 191.15.155.2

Circle the Host ID of this address: 221.252.117.254

Circle the Network ID of this address: 203.10.233.1

Circle the Host ID of this address: 191.2.227.19

Circle the Network ID of this address: 23.156.1.92

Circle the Host ID of this address: 121.2.199.88

Circle the Network ID of this address: 202.27.189.177

Circle the Host ID of this address: 177.222.177.28

Circle the Network ID of this address: 198.215.67.233

Circle the Host ID of this address: 128.252.17.24

Circle the Network ID of this address: 212.199.19.29

Circle the Host ID of this address: 159.255.17.218

Circle the Network ID of this address: 155.25.169.133

Circle the Host ID of this address: 191.255.217.227

# What's Wrong With These Addresses:

(When used to address hosts on a network – not all are invalid.)

## Recommended Process

Identify Address Class of Address

Review of Addressing Rules:

Valid Binary Converted Decimal Numbers

Class A, B and C Address Ranges

Complete Network ID or Host ID cannot be all 0's or 1's (in binary).

## If Wrong – Why!

245.12.33.102	(245 is Experimental)
123.123.123.123	(OK)
199.23.107.255	(Host ID is 255 – all 1's binary)
199.23.107.0	(Host ID is 0 – all 0's binary)
156.266.12.103	(266 is invalid, 0 – 255 only)
99.0.0.12	(OK – Complete Host ID or Network ID is not all 0's or 1's binary.)
153.0.0.0	(Host ID is 0.0 all 0's binary)
153.0.0.255	(OK – Complete Host ID or Network ID is not all 0's or 1's binary.)
191.23.255.255	(Host ID is 255.255 – all 1's binary)
33.255.255.0	(OK – Complete Host ID or Network ID is not all 0's or 1's binary.)
12.0.0.0	(Host ID is 0.0.0 – all 0's binary)
12.255.255.255	(Host ID is 255.255.255 – all 1's binary)
12.0.0.255	(OK – Complete Host ID or Network ID is not all 0's or 1's binary.)
127.0.0.1	(127 is the reserved “loopback address”)
127.23.109.122	(127 is the reserved “loopback address”)
0.23.12.122	(Network ID is 0)
192.12.255.102	(OK – Complete Host ID or Network ID is not all 0's or 1's binary.)
191.105.0.0	(Host ID is 0.0 – all 0's binary)
203.123.45.255	(Host ID is 255 – all 1's binary)
204.0.23.198	(OK – Complete Host ID or Network ID is not all 0's or 1's binary.)
224.56.204.112	(224 is a multicast address, cannot be used to address hosts)
223.255.255.254	(OK – Complete Host ID or Network ID is not all 0's or 1's binary.)
126.0.0.1	(OK – Complete Host ID or Network ID is not all 0's or 1's binary.)
177.45.123.255	(OK – Complete Host ID or Network ID is not all 0's or 1's binary.)