

Bob's subnetting problems

Here are 30 unique subnetting problems for CCNA students to practice the types of problems that Cisco might present in the CCNA exam.

Use my "8 steps to subnetting success" paper as your guide in solving these problems. Check your answers with a subnet calculator – Boson has a free one you can download.

The first problem is presented as a completed example.

EXAMPLE

Problem # 1 207.20.8.66 /26

Subnet mask in dotted decimal: **255.255.255.0**
Classfull boundary: **11111111. 11111111. 11111111. 11000000**
Number of networks: **4**
Number of hosts: **62**
Subnet address: **207.20.8.64**
First usable host: **207.20.8.65**
Last usable host: **207.20.8.126**
Broadcast address: **207.20.8.127**

Problem # 2 18.3.12.78 /19

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

Problem # 3 170.22.112.28 /26

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:



Problem # 4 10.8.122.39 /27

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

Problem # 5 211.44.1.167 /28

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

Problem # 6 192.168.1.39 /28

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

Problem # 7 192.168.1.54 /30

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:



Problem # 8 132.18.1.97 /18

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

Problem # 9 129.18.1.97 /20

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

Problem # 10 192.168.1.197 /27

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

Problem # 11 172.16.55.17 /19

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:



Problem # 12 192.168.5.6 /29

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

Problem # 13 150.8.55.60 /19

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

Problem # 14 192.168.55.60 /27

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

Problem # 15 192.168.55.99 /29

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:



Problem # 16 172.16.8.109 /23

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

Problem # 17 130.1.5.10 /18

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

Problem # 18 162.71.5.10 /28

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

Problem # 19 195.211.98.67 /28

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:



Problem # 20 195.211.98.67 /28

*Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:*

Problem # 20 134.89.55.77 /25

*Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:*

Problem # 21 161.9.3.23 /18

*Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:*

Problem # 22 172.16.111.35 /21

*Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:*



Problem # 23 192.168.11.135 /27

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

Problem # 24 122.19.21.5 /21

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

Problem # 25 192.168.21.205 /30

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

Problem # 26 192.168.21.205 /27

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:



Problem # 27 Each address represents a network address for the associated subnet. Identify the one mislabeled address and one overlapping address in this example.

192.168.3.16/28
192.168.3.191/30
192.168.3.160/28
192.168. 3.204/30
192.168.3.64/27
192.168.3.128/26

Problem # 28 192.168.21.205 /27

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

Problem # 29 165.1.121.25 /19

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

Problem # 30 176.230.11.4 /21

Subnet mask in dotted decimal:
Classfull boundary:
Number of networks:
Number of hosts:
Subnet address:
First usable host:
Last usable host:
Broadcast address:

