

# Latest Version: 6.0

## Question: 1

In Ethernet networks, duplex mismatches will lower performance. Which error statistics can be seen if a duplex mismatch is present?

- A. collisions on the full-duplex side; runts on the half-duplex side
- B. collisions on the half-duplex side; framing errors on the full-duplex side
- C. collisions on the full-duplex side; collisions on the half-duplex side
- D. collisions on the half-duplex side; giants on the full-duplex side

**Answer: B**

Explanation:

Understanding dropped packets:  
[https://www.juniper.net/documentation/en\\_US/junos/topics/concept/using-show-commands-for-packet-drops.html](https://www.juniper.net/documentation/en_US/junos/topics/concept/using-show-commands-for-packet-drops.html)

How to troubleshoot framing errors:  
<https://kb.juniper.net/InfoCenter/index?page=content&id=KB27597&cat=JUNOS&actp=LIST>

## Question: 2

What are the usable hosts on the 192.168.1.24/29 network?

- A. .35 through .31
- B. .24 through .32
- C. .25 through .30
- D. .24 through .48

**Answer: C**

Explanation:

<https://www.calculator.net/ip-subnet-calculator.html?cclass=b&csubnet=29&cip=192.168.1.24&ctype=ipv4&printit=0&x=72&y=12>

## Question: 3

How many usable host addresses will be there per subnet if you use a 23-bit network mask to segment the network block 172.16.0.0 ?

- A. 1022
- B. 2046
- C. 8190
- D. 510

**Answer: D**

Explanation:

<https://www.calculator.net/ip-subnet-calculator.html?cclass=b&csubnet=23&cip=172.16.0.0&ctype=ipv4&printit=0&x=84&y=34>

### Question: 4

Which of these is a valid IPv6 address?

- A. 127.0.0.1
- B. ::192:168:0:1
- C. 0e:bc:32:a3:4b:7b
- D. 2001:0:3238:DFE1:63::FEFB

**Answer: D**

Explanation:

Recommended reading: [https://en.wikipedia.org/wiki/IPv6\\_address](https://en.wikipedia.org/wiki/IPv6_address) , [https://www.juniper.net/documentation/en\\_US/junos/topics/concept/ipv6-flow-ipv6-address-types.html](https://www.juniper.net/documentation/en_US/junos/topics/concept/ipv6-flow-ipv6-address-types.html) , <https://www.ipv6.com/general/ipv6-addressing/>

### Question: 5

What is the network address for host 72.36.142.14/11?

- A. 72.16.0.0
- B. 72.64.0.0
- C. 72.32.0.0

**Answer: C**

Explanation:

Use a subnet calculator, if needed: <https://www.calculator.net/ip-subnet-calculator.html?cclass=a&csubnet=11&cip=72.36.142.14&ctype=ipv4&printit=0&x=70&y=11>

### Question: 6

How many usable hosts are available in a /22 network?

- A. 1022
- B. 1024
- C. 510
- D. 512

**Answer: A**

Explanation:

<https://www.calculator.net/ip-subnet-calculator.html?cclass=b&csubnet=22&cip=172.16.0.0&ctype=ipv4&printit=0&x=81&y=27>

### Question: 7

Which of these is true about collision domains? (choose two)

- A. On a switch, the collision domain is limited to each device and the switch.
- B. On a hub, the collision domain is limited to each device and the hub.
- C. On a hub, the collision domain includes all devices connected to the hub.
- D. On a switch, the collision domain includes all devices connected to the switch.

**Answer: A,C**

Explanation:

What is a collision domain - [https://en.wikipedia.org/wiki/Collision\\_domain](https://en.wikipedia.org/wiki/Collision_domain)

### Question: 8

Which of these fields are found in an Ethernet frame header? (Choose two)

- A. flags
- B. TTL
- C. Checksum
- D. Type

**Answer: C,D**

Explanation:

<http://www.dcs.gla.ac.uk/~lewis/networkpages/m04s03EthernetFrame.htm>

## Question: 9

Which of these is a valid multicast MAC address?

- A. 0e:bc:32:a3:4b:7
- B. 6a:00:01:14:f5:b0
- C. 7a:a2:ad:00:6a:6f
- D. 01:00:5e:28:15:95

**Answer: D**

Explanation:

<https://www.iana.org/assignments/ethernet-numbers/ethernet-numbers.xhtml#ethernet-numbers-3>

## Question: 10

Which of these statements about subnet masks are true? (Choose two.)

- A. If a bit is turned on (1), the corresponding bit in the IP Address is used for the host portion.
- B. If a bit is turned off (0), the corresponding bit in the IP Address is used for the host portion.
- C. If a bit is turned on (1), the corresponding bit in the IP Address is used for the network prefix.
- D. If a bit is turned off (0), the corresponding bit in the IP Address is used for the network prefix.

**Answer: B,C**

Explanation:

Reference: <https://en.wikipedia.org/wiki/Subnetwork>

## Question: 11

In the MAC address ac:bc:32:a3:4b:7b, what represents the Organizationally Unique Identifier (OUI)?

- A. ac:bc:32
- B. a3:4b:7b
- C. bc:32:a3
- D. 32:a3:4b

**Answer: A**

Explanation:

In MAC addresses, the OUI is combined with a 24-bit number to form the address. The first three octets of the address are the OUI.

Reference: [https://en.wikipedia.org/wiki/Organizationally\\_unique\\_identifier](https://en.wikipedia.org/wiki/Organizationally_unique_identifier)

## Question: 12

Which two protocols use UDP as a transport protocol by default? (choose two)

- A. RIP
- B. ICMP
- C. Telnet
- D. DHCP

**Answer: A,D**

Explanation:

DHCP: [https://en.wikipedia.org/wiki/Dynamic\\_Host\\_Configuration\\_Protocol](https://en.wikipedia.org/wiki/Dynamic_Host_Configuration_Protocol)

RIP: [https://en.wikipedia.org/wiki/Routing\\_Information\\_Protocol](https://en.wikipedia.org/wiki/Routing_Information_Protocol)

## Question: 13

Which of these is true about IPv4 and IPv6? (choose two)

- A. Packet fragmentation occurs at intermediate nodes for IPv4
- B. Packet fragmentation occurs at intermediate nodes for IPv6
- C. End hosts determine the path MTU for IPv6
- D. End hosts determine the path MTU for IPv4

**Answer: A,C**

Explanation:

[https://www.juniper.net/documentation/en\\_US/learn-about/ipv4-ipv6-differences.pdf](https://www.juniper.net/documentation/en_US/learn-about/ipv4-ipv6-differences.pdf)

## Question: 14

Which three statements are true about IPv6 link local address? (Choose three)

- A. They provide reachability to the Internet.
- B. They begin with the prefix fe80::/64.
- C. They are not guaranteed to be unique outside of the network segment.
- D. They can be assigned manually or dynamically.
- E. They are optional addresses.

**Answer: B,D,E**

Explanation:

A link-local address is an IPv6 unicast address that can be automatically configured on any interface using the link-local prefix FE80::/10.

Link-local addresses can also be manually configured in the FE80::/10 format.

Reference to understand link-local addresses:

[https://www.juniper.net/documentation/en\\_US/junos/topics/topic-map/ipv6-addressing-introduction.html](https://www.juniper.net/documentation/en_US/junos/topics/topic-map/ipv6-addressing-introduction.html)

[https://docs.oracle.com/cd/E23823\\_01/html/816-4554/ipv6-overview-10.html](https://docs.oracle.com/cd/E23823_01/html/816-4554/ipv6-overview-10.html)

## Question: 15

How many usable hosts per subnet can you create using a 28-bit subnet mask to segment the network block - 108.12.5.0 ?

- A. 14 hosts
- B. 12 hosts
- C. 16 hosts
- D. 10 hosts

**Answer: A**

Explanation:

<https://www.calculator.net/ip-subnet-calculator.html?cclass=any&csubnet=28&cip=108.12.5.0&ctype=ipv4&printit=0&x=45&y=23>

## Question: 16

Which of these happens when two devices send frames at the same time resulting in a collision? (Choose two)

- A. Both devices stop transmitting, wait for a random period of time, verify that the wire is idle, and re-transmit.
- B. Both devices send a jam signal to notify all other devices of the collision.
- C. The device with the lowest MAC address is allowed to re-transmit first.
- D. The device with the highest MAC address is allowed to re-transmit first.

**Answer: A,B**

Explanation:

Reference: [https://en.wikipedia.org/wiki/Carrier-sense\\_multiple\\_access\\_with\\_collision\\_detection](https://en.wikipedia.org/wiki/Carrier-sense_multiple_access_with_collision_detection)

## Question: 17

Which of these about TCP are true? (choose two)

- A. The receiver acknowledges the final packet in each communication stream
- B. The receiver adds sequencing numbers to the packets received
- C. The receiver acknowledges each packet it receives from the sender
- D. The sender adds sequence numbers to the packets it sends

**Answer: C,D**

Explanation:

[https://en.wikipedia.org/wiki/Transmission\\_Control\\_Protocol](https://en.wikipedia.org/wiki/Transmission_Control_Protocol)

Also read for detailed Explanation:: <http://www.rhyshaden.com/tcp.htm>

## Question: 18

Which of these about optical networks are true? (choose two)

- A. SONET and SDH both use time-division multiplexing
- B. SONET and SDH both use wavelength-division multiplexing
- C. Optical transport network uses wavelength-division multiplexing
- D. Optical transport network uses time-division multiplexing

**Answer: A,C**

Explanation:

A SONET/SDH stream can consist of discrete lower-rate traffic flows that have been combined using time-division multiplexing (TDM) techniques.

Reference: [https://www.juniper.net/documentation/en\\_US/junos/topics/concept/interfaces-sonet-sdh-interfaces-overview.html](https://www.juniper.net/documentation/en_US/junos/topics/concept/interfaces-sonet-sdh-interfaces-overview.html)

## Question: 19

Which CIDR notation is the equivalent of the subnet mask of 255.255.192.0?

- A. /20
- B. /18
- C. /19
- D. /17

**Answer: B**

Explanation:

CIDR conversion table: <https://kb.wisc.edu/page.php?id=3493>

## Question: 20

Which of these is the decimal equivalent of 100101 ?

- A. 34
- B. 37
- C. 36
- D. 25

**Answer: B**

Explanation:

Use this tool to convert binary to decimal: <https://www.binaryhexconverter.com/binary-to-decimal-converter>