

## True / False

1. The notation used to perform variable-length subnet asking for IP addresses is CIDR.  
**True**—CIDR notation might look like this: 192.168.1.10/24.
2. The name you type into a browser's address bar, such as [www.microsoft.com](http://www.microsoft.com), is known as the IP locator.  
**False**—This is called the uniform resource locator (URL). This URL must be resolved into an IP address.
3. The IP command-line command to determine your computer's IP address, subnet mask, and default gateway is ping.  
**False**—The command is *ipconfig* in Windows or *ifconfig* in Linux.
4. The IP command-line command to determine the number of hops it takes to get from your computer to its destination is ping.  
**False**—The command is *tracert*, followed by the IP address of the destination.
5. No protocols operate at the physical layer of the OSI model.  
**True**
6. The session layer of the OSI model provides the mechanism to manage the dialogue between end-user application processes.  
**True**—The NetBIOS protocol works at the session layer.
7. The TCP protocol works at the network layer of the OSI model.  
**False**—The TCP protocol works at the transport layer, which is Layer 4. The IP, ARP, and ICMP protocols work at the network layer.
8. MAC addresses are unique addresses for each NIC.  
**True**
9. The first four bytes of the MAC address identify the vendor.  
**False** the first three bytes identify the vendor
10. A host is a machine with data on it, to which you can connect.  
**True**—A web server would be an example of a host.

## Multiple Choice

1. Unshielded twisted-pair cable capable with a specification of 100 MHz/100 Mbps is also called Category \_\_\_\_\_.
  - a. 5
  - b. 6
  - c. 7

d. None of the above

**Answer A.** Category 5

2. Which device can connect many computers and sends packets out every port?
- a. Hub
  - b. Repeater
  - c. Switch
  - d. Router

**Answer A.**

3. Which device is used to boost a signal?
- a. Hub
  - b. Repeater
  - c. Switch
  - d. Router

**Answer B.** If your cable needs to go further than the maximum length for that cable type, you need a repeater.

4. Which device can connect many computers and sends data only out of one port?
- a. Hub
  - b. Repeater
  - c. Switch
  - d. Router

**Answer C.** A switch is basically an intelligent hub.

5. Which device can relay packets from one network to another and is usually programmable?
- a. Hub
  - b. Repeater
  - c. Switch
  - d. Router

**Answer D.**

6. Which TCP/IP protocol operates on port 53 and translates URLs into Web addresses?
- a. FTP
  - b. SMTP
  - c. HTTP
  - d. DNS

**Answer D.**

7. Which TCP/IP protocol operates on ports 20 and 21 and is used for transferring files between computers?

- a. FTP
- b. SMTP
- c. HTTP
- d. DNS

**Answer A.**

8. Which TCP/IP protocol operates on port 80 and displays web pages?

- a. FTP
- b. SMTP
- c. HTTP
- d. DNS

**Answer C.**

9. Which TCP/IP protocol operates on port 25 and sends email?

- a. FTP
- b. SMTP
- c. HTTP
- d. DNS

**Answer B.**

10. A(n) \_\_\_\_\_ hides the internal network's IP address and presents a single IP address to the outside world.

- a. Firewall
- b. Proxy server
- c. Intrusion detection system
- d. Network Monitor

**Answer B.**

11. An IP address consists of four numbers, separated by dots. Each number is called a(n) \_\_\_\_\_.

- a. Subnet
- b. Octet
- c. Bit
- d. CIDR

**Answer B.** Each of the numbers represents 1 byte (8 bits).

12. If an IP address has the number 192 in the first octet, it is a class \_\_\_\_\_ address.

- a. A
- b. B

- c. C
- d. D

**Answer C.** Class C IP addresses contain numbers in the range of 192–223 in the first octet.

13. If an IP address has the number 191 in the first octet, it is a class \_\_\_\_\_ address.
- a. A
  - b. B
  - c. C
  - d. D

**Answer B.** Class B IP addresses contain numbers in the range of 128–191 in the first octet.

14. What is the binary equivalent of the decimal number 240?
- a. 11110000
  - b. 11111000
  - c. 11111100
  - d. 11111110

**Answer A.**

15. The IP utility used to test connectivity with a remote host is \_\_\_\_\_.
- a. CIDR
  - b. tracert
  - c. ping
  - d. None of the above

**Answer C.**