Network+ Guide to Networks, Seventh Edition

Chapter 10, Solutions

Review Questions

1. How many bits of a Class A IP address are used for host information?

   A. 8 bits

   B. 16 bits

   C. 24 bits

   D. 32 bits

Answer: C. 24 bits

2. What is the formula for determining the number of possible hosts on a network?

   A. $2^n = Y$

   B. $2^n - 2 = Y$

   C. $2^h = Z$

   D. $2^h - 2 = Z$

Answer: D. $2^h - 2 = Z$

3. Which of the following is *not* a good reason to subnet a network?

   A. To reduce the number of hosts on the same network

   B. To increase the number of unique networks available

   C. To reduce the number of routing table entries by combining several entries

D. To segment a network

Answer: C. To reduce the number of routing table entries by combining several entries

4. What is the software that allows you to define VMs and manage resource allocation and sharing among them?

   A. Host

   B. Guest

   C. Switch

   D. Hypervisor

Answer: D. Hypervisor

5. What virtual, logically defined device operates at the Data Link layer to pass frames between nodes?

   A. Virtual bridge

   B. Virtual firewall

   C. Virtual switch

   D. Virtual router

Answer: C. Virtual switch

6. With which network connection type does the VM obtain IP addressing information from its host?

   A. Bridged mode

   B. Managed mode

C. NAT mode

D. Host-only mode

Answer: C. NAT mode

7. Which protocol assigns a virtual IP to a group of routers?

A. VTP

B. VRRP

C. SDN

D. STP

Answer: B. VRRP

8. While designing your network's VLAN topology, your team has decided to use a centrally managed DHCP server rather than creating a separate DHCP server for each VLAN. What software will you need?

A. DHCP server

B. Hypervisor

C. DHCP relay agent

D. Subnet mask

Answer: C. DHCP relay agent

9. Which port on a switch manages traffic for multiple VLANs?

A. Access port

B. Console port

C. Serial port

D. Trunk port

Answer: D. Trunk port

10. Telnet and SSH are called _____ systems because they use the existing network and its protocols to interface with the switch.

A. Virtual terminal

B. Management console

C. In-band management

D. Switch port security

Answer: C. In-band management

11. What is the network ID with CIDR notation for the IP address 172.16.32.108 with the subnet mask 255.255.255.0?

Answer: 172.16.32.0/24

12. Suppose you have leased two Class C licenses, 115.100.10.0 and 115.100.11.0. You want to use all these Class C IP addresses in one supernet. What is the CIDR notation for this supernet? What is its supernet mask?

Answer: 115.100.10.0/23, 255.255.254.0

13. Suppose your company has leased one Class C license, 120.10.10.0, and wants to sublease the first half of these IP addresses to another company. What is the CIDR notation for the subnet to be subleased? What is the subnet mask for this network?

Answer: 120.10.10.0/25, 255.255.255.128

14. What are four advantages to using virtualization on a network?

Answer: Efficient use of resources

Cost and energy savings

Fault and threat isolation

Simple backups, recovery, and replication

15. How does a vNIC get a MAC address?

Answer: Upon creation, each vNIC is automatically assigned a MAC address.

16. Subnetting operates at Layer ___ while VLANs function at Layer ___.

Answer: 3; 2

17. Which VLAN on a switch manages untagged frames?

Answer: Native VLAN

18. An attacker configures a VLAN frame with two tags instead of just one. The first tag directs the frame to the authorized VLAN. After the frame enters the first VLAN, the switch appropriately removes the tag, then discovers the next tag, and sends the frame along to a protected VLAN, which the attacker is not authorized to access. What kind of attack is this?

Answer: VLAN hopping

19. Why is a BPDU filter needed at the demarc point?

Answer: The ISP's STP-related topology information shouldn't be mixed with a corporate network's STP-related topology information.

20. Only one _____ exists on a network using STP.

Answer: root bridge