



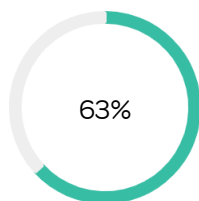
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Networking Fundamentals

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You did not pass this challenge on this attempt.

Expectations Report Card

Networking Fundamentals

63.16%

Exam Breakdown

Networking Fundamentals

1. How many addresses are within **each octet** of an IPv4 address?**A** 256

B 64

☐ C 128☐ D 32**Correct Answer: A****Why is this correct?**

Each octet has 256 addresses. It may seem like there are 255 addresses, but 0 is still an assignable address (0-256).
Video for reference: Subnetting

INCORRECT

2. Which is **not** a category of network traffic that would determine the IP routing used?

☒ A Local network communication☐ B Unknown remote traffic☐ C Malicious traffic☐ D Know remote traffic**Your Answer: A****Why is this incorrect?**

Local network traffic is one type of traffic, that will determine the method of IP routing used.
Video for reference: IP Routing

Correct Answer: C**Why is this correct?**

Malicious traffic can sometimes look like legit traffic, so this would **not** be used to determine the method of IP routing.
Video for reference: IP Routing

3. How many **bits** are in an IPv4 address?

☐ A 4☐ B 16☐ C 24☒ D 32**Correct Answer: D****Why is this correct?**

An IPv4 address has 32 bits.

Video for reference: IP Addressing Basics

4. Which layers are used in a device to device communication within the same local network?



A Routing layer

B Physical Layer

C Network Layer

D Datalink Layer

Correct Answer: B

Why is this correct?

Layer 1, the physical layer, agrees on how to transmit and receive data over a physical medium.

Video for reference: IP Routing

Correct Answer: D

Why is this correct?

Layer 2, the datalink Layer, adds MAC addresses for named communication between 2 devices transfers data between adjacent network nodes in a wide area network or between nodes on the same local area network segment.

Video for reference: IP Routing

INCORRECT

5. What is the main job of the ARP?



A Assign IPs to devices

B Translates MAC addresses into an IP

C Pushes packets to its gateway router

D Translates an IP into a MAC address

Your Answer: A

Why is this incorrect?

ARP does **not** assign IPs to devices

Video for reference: IP Routing

Correct Answer: D

Why is this correct?

As the name suggests, the Address Resolution Protocol is a communication protocol used for discovering the MAC address given by the datalink layer.

Video for reference: IP Routing

6. How many octets are in an IPv4 address?



A 8

B 32

C 1

D 4

Correct Answer: D

Why is this correct?

Each IPv4 consists of 4 octets. For example, in 127.0.0.1, the first octet is 127, the second octet is 0, the third octet is 0, and the fourth octet is 1.

Video for reference: Subnetting

7. How is a proxy server different than other AWS filtering products?



A Proxy servers can filter based on internal security privileges.

B Proxy servers offer network filtering.

C Proxy servers can filter based on usernames.

D Proxy servers can filter by department.

Correct Answer: A

Why is this correct?

Because the proxy server uses application support, they can filter based on internal security privileges, which differentiates it from other AWS services.

Video for reference: Proxy Servers

Correct Answer: C

Why is this correct?

Because the proxy server uses application support, they can filter traffic by username, which differentiates it from other AWS services.

Video for reference: Proxy Servers

Correct Answer: D

Why is this correct?

Because the proxy server uses application support, they can filter traffic by the department, which differentiates it from other AWS services.

Video for reference: Proxy Servers

8. In an architecture context, where does the proxy server sit?



- A Placement of a proxy server is unimportant.
- B It sits on the boundary between a private and public network.**
- C It is a serverless technology that exists outside the realm of AWS.
- D In the public network sector.

Correct Answer: B**Why is this correct?**

Proxy servers cater to outbound traffic within a private network. Therefore it resides between a private and public network.

Video for reference: Proxy Servers

9. What is the process of subnetting?



- A Subnetting is the creation of a VPC.
- B Subnetting is the process of taking a larger network and splitting it into smaller networks.**
- C Subnetting creates public and private addresses.
- D Subnetting is the process of assigning IP addresses to devices.

Correct Answer: B**Why is this correct?**

Correct, subnetting allows for the creation of smaller networks from a bigger network.

Video for reference: Subnetting

10. What IP address range does 10.0.0.0/16 cover?



- A 10.0.255.255 - 11.0.0.0
- B 10.0.0.0 to 10.0.127.255
- C 10.0.0.0 - 10.0.255.0
- D 10.0.0.0 - 10.0.255.255**

Correct Answer: D**Why is this correct?**

The /16 prefix represents that the first two octets are used for networking, thus leaving the third and fourth octet for assigning.

Video for reference: Subnetting

11. Which layer can add encryption to a packet?



A Datalink

B Application

C Presentation

D Transport

Correct Answer: C

Why is this correct?

The Presentation Layer can add encryption, compressions, and data conversion to a packet.

Video for reference: Seven-Layer OSI Model: Part 2

INCORRECT

12. Which part of this IPv4 address, 10.125.189.255, represents the network portion if the prefix is set to /16?



A Only the first octet (10)

B The first, second, and third octets (10.125.189)

C The third and fourth octets (189.255)

D The first two octets (10.125)

Your Answer: C

Why is this incorrect?

The third and fourth octets in this IP represent the host's IP nodes, not the networking portion.

Video for reference: IP Addressing Basics

Correct Answer: D

Why is this correct?

Correct, the prefix (/16) lets us know that it uses the first two octets in an IP. Remember that each IP address consists of 4 octets.

Video for reference: IP Addressing Basics

13. Name the OSI layers starting at layer seven and ending at layer one.



A Application, Presentation, Session, Transport, Network, Datalink, Physical

B Application, Presentation, Session, Network, Transport, Datalink, Physical

C Application, Session, Presentation, Transport, Network, Datalink, Physical

D Physical, Datalink, Network, Transport, Session, Presentation, Application

Correct Answer: A

Why is this correct?

This is the correct order of the OSI model.

Video for reference: Seven-Layer OSI Model: Part 1

INCORRECT

14. Proxy servers handle what type of traffic?



A Outbound

B Inbound

C They do not handle any traffic

D Inbound and outbound

Your Answer: D

Why is this incorrect?

Proxy servers do **not** handle inbound and outbound traffic.

Video for reference: Proxy Servers

Correct Answer: A

Why is this correct?

Proxy servers act as an intermediary between the user's outbound traffic and the public network.

Video for reference: Proxy Servers

INCORRECT

15. Which OSI layer would you place a firewall if you wanted to deny traffic by port number?



A Session Layer

B Network Layer

C Application Layer

D Transport Layer

Your Answer: B

Why is this incorrect?

Layer 3, the Network layer, allows/denies traffic based on IPs and ranges.

Video for reference: Firewalls

Correct Answer: D

Why is this correct?

Layer 4, the Transport layer will allow/deny traffic based on TCP/UDP and port information.

Video for reference: Firewalls

INCORRECT

16. Which is **not** a private IPv4 address?



A 10.0.0.0

B 178.18.255.255

C 172.16.0.0

D 192.168.0.0

Your Answer: A

Why is this incorrect?

This is a private IP, as it is in the range of 10.0.0.0 to 10.255.255.255.

Video for reference: IP Addressing Basics

Correct Answer: B

Why is this correct?

This is **not** a private IP.

Video for reference: IP Addressing Basics

17. What is a router's function?



A It connects multiple devices and forwards packets within the same network.

B Assigns IP addresses to devices

C Its connects multiple networks and forwards packets destined either for its own network or remote networks.

D It controls ports and sessions

Correct Answer: C

Why is this correct?

Routers can act as a default gateway, facilitating the connection needed for package delivery into a local or remote network.

Video for reference: Video Name Here

INCORRECT

18. Which layer is used for device to device communication over an interconnected network?



A None of these answers are correct

B Network

C Datalink

D Physical

Your Answer: D**Why is this incorrect?**

This layer is **not** specifically used for device to device communication over an interconnected network.

Video for reference: Seven-Layer OSI Model: Part 1

Correct Answer: B**Why is this correct?**

The network layer is used for device to device communication over an interconnected network?

Video for reference: Seven-Layer OSI Model: Part 1

19. What key piece of information indicates whether a device is in the same or remote LAN?



A A router and its placement

B The type of device

C MAC address

D IP address and it's subnet/prefix

Correct Answer: D**Why is this correct?**

The IP address and its subnet/prefix are telling of which network it's device belongs to.

Video for reference: IP Routing
