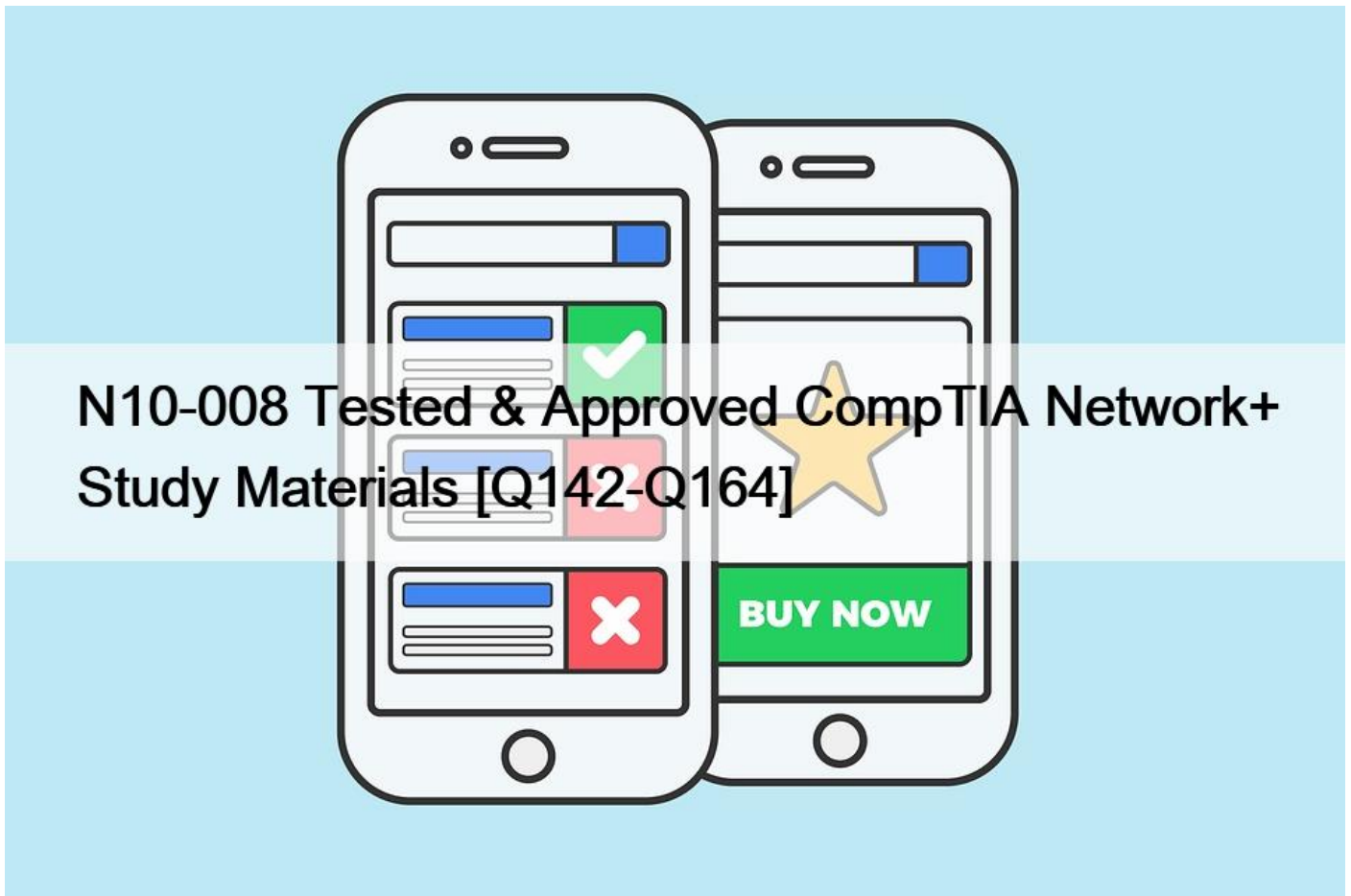# N10-008 Tested & Approved CompTIA Network+ Study Materials [Q142-Q164



N10-008 Tested & Approved CompTIA Network+ Study Materials

**Validate your Skills with Updated CompTIA Network+ Exam Questions & Answers and Test Engine**

To prepare for the CompTIA N10-008 exam, candidates can take advantage of a variety of resources, including study guides, practice exams, and online training courses. These resources provide candidates with the knowledge and skills needed to pass the exam and earn their certification. In addition, candidates can gain hands-on experience with networking technologies by working in entry-level networking positions or by participating in internships or apprenticeships.

## CompTIA N10-008 Exam Syllabus Topics:

TopicDetailsNetworking Fundamentals - 24%

Compare and contrast the Open Systems Interconnection (OSI) model layers and encapsulation concepts.- OSI model- Layer 1 ? Physical- Layer 2 ? Data link- Layer 3 ? Network- Layer 4 ? Transport- Layer 5 ? Session- Layer 6 ? Presentation- Layer 7 ? Application - Data encapsulation and decapsulation within the OSI model context- Ethernet header- Internet Protocol (IP) header- Transmission Control Protocol (TCP)/User Datagram Protocol (UDP) headers- TCP flags- Payload- Maximum transmission unit (MTU)Explain the characteristics of network topologies and network types.- Mesh

- Star/hub-and-spoke

- Bus

- Ring

- Hybrid

- Network types and characteristics- Peer-to-peer- Client-server- Local area network (LAN)- Metropolitan area network (MAN)- Wide area network (WAN)- Wireless local area network (WLAN)- Personal area network (PAN)- Campus area network (CAN)- Storage area network (SAN)- Software-defined wide area network (SDWAN)- Multiprotocol label switching (MPLS)- Multipoint generic routing encapsulation (mGRE) - Service-related entry point- Demarcation point- Smartjack - Virtual network concepts- vSwitch- Virtual network interface card (vNIC)- Network function virtualization (NFV)- Hypervisor - Provider links- Satellite- Digital subscriber line (DSL)- Cable- Leased line- Metro-opticalSummarize the types of cables and connectors and explain which is the appropriate type for a solution.- CopperTwisted pair

1. Cat 5

2. Cat 5e

3. Cat 6

4. Cat 6a

5. Cat 7

6. Cat 8- Coaxial/RG-6- TwinaxialTermination standards

1. TIA/EIA-568A

2. TIA/EIA-568B - Fiber- Single-mode- Multimode - Connector typesLocal connector (LC), straight tip (ST), subscriber connector (SC), mechanical transfer (MT), registered jack (RJ)

1. Angled physical contact (APC)

2. Ultra-physical contact (UPC)- RJ11- RJ45- F-type connector- Transceivers/media convertersTransceiver type

1. Small form-factor pluggable (SFP)

2. Enhanced form-factor pluggable (SFP+)

3. Quad small form-factor pluggable (QSFP)

4. Enhanced quad small form-factor pluggable (QSFP+) - Cable management- Patch panel/patch bay- Fiber distribution panel Punchdown block

1. 66

2. 110

3. Krone

4. Bix - Ethernet standardsCopper

1. 10BASE-T

2. 100BASE-TX

3. 1000BASE-T

4. 10GBASE-T

5. 40GBASE-TFiber

1. 100BASE-FX

2 .100BASE-SX

3. 1000BASE-SX

4. 1000BASE-LX

5. 10GBASE-SR

6. 10GBASE-LR

7. Coarse wavelength division multiplexing (CWDM)

8. Dense wavelength division multiplexing (DWDM)

9. Bidirectional wavelength division multiplexing (WDM)Given a scenario, configure a subnet and use appropriate IP addressing schemes.- Public vs. private- RFC1918- Network address translation (NAT)- Port address translation (PAT) - IPv4 vs. IPv6- Automatic Private IP Addressing (APIPA)- Extended unique identifier (EUI-64)- Multicast- Unicast- Anycast- Broadcast- Link local- Loopback- Default gateway - IPv4 subnetting- Classless (variable-length subnet mask)Classful

1. A

2. B

3. C

4. D

5. E     - Classless Inter-Domain Routing (CIDR) notation - IPv6 concepts- Tunneling- Dual stack- Shorthand notation- Router advertisement- Stateless address autoconfiguration (SLAAC) - Virtual IP (VIP)

- SubinterfacesExplain common ports and protocols, their application, and encrypted alternatives.- Protocol sand Ports- File Transfer Protocol (FTP) 20/21- Secure Shell (SSH) 22- Secure File Transfer Protocol (SFTP) 22- Telnet 23- Simple Mail Transfer Protocol (SMTP) 25- Domain Name System (DNS) 53- Dynamic Host Configuration Protocol (DHCP) 67/68- Trivial File Transfer Protocol (TFTP) 69- Hypertext Transfer Protocol (HTTP) 80- Post Office Protocol v3 (POP3) 110- Network Time Protocol (NTP) 123- Internet Message Access Protocol (IMAP) 143- Simple Network Management Protocol (SNMP)

161/162- Lightweight Directory Access Protocol (LDAP) 389- Hypertext Transfer Protocol Secure (HTTPS) [Secure Sockets Layer (SSL) 443- HTTPS [Transport Layer Security (TLS) 443- Server Message Block (SMB) 445- Syslog 514- SMTP TLS 587- Lightweight Directory Access Protocol (over SSL) (LDAPS) 636- IMAP over SSL 993- POP3 over SSL 995- Structured Query Language (SQL) Server 1433- SQLnet 1521- MySQL 3306- Remote Desktop Protocol (RDP) 3389- Session Initiation Protocol (SIP) 5060/5061IP protocol types

1. Internet Control Message Protocol (ICMP)

2. TCP

3. UDP

4. Generic Routing Encapsulation (GRE)

5. Internet Protocol Security (IPSec)

- Authentication Header (AH)/Encapsulating Security Payload (ESP) - Connectionless vs. connection-orientedExplain the use and purpose of network services.- DHCP- Scope- Exclusion ranges- Reservation- Dynamic assignment- Static assignment- Lease time- Scope options- Available leases- DHCP relay- IP helper/UDP forwarding - DNSRecord types

1. Address (A vs. AAAA)

2. Canonical name (CNAME)

3. Mail exchange (MX)

4. Start of authority (SOA)

5. Pointer (PTR)

6. Text (TXT)

7. Service (SRV)

8. Name server (NS)Global hierarchy

1. Root DNS servers- Internal vs. external- Zone transfers- Authoritative name servers- Time to live (TTL)- DNS caching- Reverse DNS/reverse lookup/forward lookup- Recursive lookup/iterative lookup - NTP- Stratum- Clients- ServersExplain basic corporate and datacenter network architecture.- Three-tiered- Core- Distribution/aggregation layer- Access/edge - Software-defined networking- Application layer- Control layer- Infrastructure layer- Management plane - Spine and leaf- Software-defined network- Top-of-rack switching- Backbone - Traffic flows- North-South- East-West - Branch office vs. on-premises datacenter vs. colocation

- Storage area networksConnection types

1. Fibre Channel over Ethernet (FCoE)

2. Fibre Channel

3. Internet Small Computer Systems Interface (iSCSI)Summarize cloud concepts and connectivity options.- Deployment models-

Public- Private- Hybrid- Community - Service models- Software as a service (SaaS)- Infrastructure as a service (IaaS)- Platform as a service (PaaS)- Desktop as a service (DaaS) - Infrastructure as code- Automation/orchestration - Connectivity options- Virtual private network (VPN)- Private-direct connection to cloud provider - Multitenancy

- Elasticity

- Scalability

- Security implications# Network Implementations - 19%

Compare and contrast various devices, their features, and their appropriate placement on the network.- Networking devices- Layer 2 switch- Layer 3 capable switch- Router- Hub- Access point- Bridge- Wireless LAN controller- Load balancer- Proxy server- Cable modem- DSL modem- Repeater- Voice gateway- Media converter- Intrusion prevention system (IPS)/intrusion detection system (IDS) device- Firewall- VPN headend - Networked devices- Voice over Internet Protocol (VoIP) phone- Printer- Physical access control devices- Cameras- Heating, ventilation, and air conditioning (HVAC) sensorsInternet of Things (IoT)

1. Refrigerator

2. Smart speakers

3. Smart thermostats

4. Smart doorbells- Industrial control systems/supervisory control and data acquisition (SCADA)Compare and contrast routing technologies and bandwidth management concepts.- RoutingDynamic routing

1. Protocols [Routing Internet Protocol (RIP), Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), Border Gateway Protocol (BGP)]

2. Link state vs. distance vector vs. hybrid- Static routing- Default route- Administrative distance- Exterior vs. interior- Time to live - Bandwidth management- Traffic shaping- Quality of service (QoS)Given a scenario, configure and deploy common Ethernet switching features.- Data virtual local area network (VLAN)

- Voice VLAN

- Port configurations- Port tagging/802.1QPort aggregation

1. Link Aggregation Control Protocol (LACP)- Duplex- Speed- Flow control- Port mirroring- Port security- Jumbo frames- Auto-medium-dependent interface crossover (MDI-X) - Media access control (MAC) address tables

- Power over Ethernet (PoE)/Power over Ethernet plus (PoE+)

- Spanning Tree Protocol

- Carrier-sense multiple access with collision detection (CSMA/CD)

- Address Resolution Protocol (ARP)

- Neighbor Discovery ProtocolGiven a scenario, install and configure the appropriate wireless standards and technologies.- 802.11 standards- a- b- g- n (WiFi 4)- ac (WiFi 5)- ax (WiFi 6) - Frequencies and range- 2.4GHz- 5GHz - Channels- Regulatory impacts - Channel bonding

- Service set identifier (SSID)- Basic service set- Extended service set- Independent basic service set (Ad-hoc)- Roaming - Antenna types   - Omni- Directional - Encryption standards- WiFi Protected Access (WPA)/WPA2 Personal [Advanced Encryption Standard (AES)/Temporal Key Integrity Protocol (TKIP)- WPA/WPA2 Enterprise (AES/TKIP) - Cellular technologies- Code-division multiple access (CDMA)- Global System for Mobile Communications (GSM)- Long-Term Evolution (LTE)- 3G, 4G, 5G - Multiple input, multiple output (MIMO) and multi-user MIMO (MU-MIMO)Network Operations - 16%

Given a scenario, use the appropriate statistics and sensors to ensure network availability.- Performance metrics/sensorsDevice/chassis

1. Temperature

2. Central processing unit (CPU) usage

3. MemoryNetwork metrics

1. Bandwidth

2. Latency

3. Jitter - SNMP- Traps- Object identifiers (OIDs)- Management information bases (MIBs) - Network device logsLog reviews

1. Traffic logs

2. Audit logs

3. Syslog- Logging levels/severity levels - Interface statistics/status- Link state (up/down)- Speed/duplex- Send/receive traffic- Cyclic redundancy checks (CRCs)- Protocol packet and byte counts - Interface errors or alerts- CRC errors- Giants- Runts- Encapsulation errors - Environmental factors and sensors- Temperature- Humidity- Electrical- Flooding - Baselines

- NetFlow data

- Uptime/downtimeExplain the purpose of organizational documents and policies.- Plans and procedures- Change management- Incident response plan- Disaster recovery plan- Business continuity plan- System life cycle- Standard operating procedures - Hardening and security policies- Password policy- Acceptable use policy- Bring your own device (BYOD) policy- Remote access policy- Onboarding and offboarding policy- Security policy- Data loss prevention - Common documentationPhysical network diagram

1. Floor plan

2. Rack diagram

3. Intermediate distribution frame (IDF)/main distribution frame (MDF) documentation- Logical network diagram- Wiring diagram- Site survey report- Audit and assessment report- Baseline configurations - Common agreements- Non-disclosure agreement (NDA)- Service-level agreement (SLA)- Memorandum of understanding (MOU)Explain high availability and disaster recovery concepts and summarize which is the best solution.- Load balancing

- Multipathing

- Network interface card (NIC) teaming

- Redundant hardware/clusters- Switches- Routers- Firewalls - Facilities and infrastructure support- Uninterruptible power supply (UPS)- Power distribution units (PDUs)- Generator- HVAC- Fire suppression - Redundancy and high availability (HA) concepts- Cold site- Warm site- Hot site- Cloud siteActive-active vs. active-passive

1. Multiple Internet service providers (ISPs)/diverse paths

2. Virtual Router Redundancy Protocol (VRRP)/First Hop Redundancy Protocol (FHRP)- Mean time to repair (MTTR)- Mean time between failure (MTBF)- Recovery time objective (RTO)- Recovery point objective (RPO) - Network device backup/restore- State- Configuration

## How CompTIA N10-008 certification can help you?

CompTIA N10-008 certification is an industry-recognized credential that can help you start or advance your IT career. It is the only vendor-neutral, performance-based certification covering more than a single technology. CompTIA N10-008 validates an IT professional's ability to:

Implement appropriate wireless technology.Implement basic network security.Identify the purpose and basic operation of network components.Install, configure and perform maintenance of network infrastructure.

## NEW QUESTION 142

A network technician is hired to review all the devices within a network and make recommendations to improve network efficiency. Which of the following should the technician do FIRST before reviewing and making any recommendations?
* Capture a network baseline
* Perform an environmental review.
* Read the network logs
* Run a bandwidth test
Explanation

Before making any recommendations, a network technician should first capture a network baseline, which is a snapshot of the current performance of the network. This will give the technician a baseline to compare against after any changes are made. According to the CompTIA Network+ Study Manual, the technician should

&#8220;capture the state of the network before making any changes and then compare the performance after the changes have been made. This will provide an accurate baseline to compare the performance of the network before and after the changes have been made.&#8221;

## NEW QUESTION 143

Which of the following routing protocols is used to exchange route information between public autonomous systems?
* OSPF
* BGP
* EGRIP
* RIP

## NEW QUESTION 144

A customer wants to segregate the traffic between guests on a hypervisor. Which of the following does a technician need to configure to meet the requirement?

* Virtual switches
* OSPF routing
* Load balancers
* NIC teaming
* Fibre Channel

## NEW QUESTION 145

A technician wants to deploy a new wireless network that comprises 30 WAPs installed throughout a three-story office building. All the APs will broadcast the same SSID for client access. Which of the following BEST describes this deployment?

* Extended service set
* Basic service set
* Unified service set
* Independent basic service set

## NEW QUESTION 146

Several end users viewing a training video report seeing pixelated images while watching. A network administrator reviews the core switch and is unable to find an immediate cause. Which of the following BEST explains what is occurring?

* Jitter
* Bandwidth
* Latency
* Giants
Explanation

&#8220;Jitter is the loss of packets due to an overworked WAP. Jitter shows up as choppy conversations over a video call, strange jumps in the middle of an online game-pretty much anything that feels like the network has missed some data. Latency is when data stops moving for a moment due to a WAP being unable to do the work. This manifests as a Word document that stops loading, for example, or an online file that stops downloading.&#8221;

## NEW QUESTION 147

A technician is searching for a device that is connected to the network and has the device&#8217;s physical network address. Which of the following should the technician review on the switch to locate the device&#8217;s network port?

* IP route table
* VLAN tag
* MAC table
* QoS tag

## NEW QUESTION 148

The management team needs to ensure unnecessary modifications to the corporate network are not permitted and version control is maintained. Which of the following documents would BEST support this?

* An incident response plan
* A business continuity plan
* A change management policy
* An acceptable use policy

## NEW QUESTION 149

A technician is documenting an application that is installed on a server and needs to verify all existing web and database connections to the server. Which of the following tools should the technician use to accomplish this task?

* tracert
* ipconfig
* netstat
* nslookup

**NEW QUESTION 150**

A network technician is troubleshooting a new web server connectivity issue. The network technician discovers the following on the support ticket

* The server&#8217;s IP address can be pinged from the client PCs,

* Access to the web resource works correctly when on the server&#8217;s console.

* No clients can access the servers data via URL.

* The server does not have a firewall configured

* No ACLs are preventing connectivity from the client&#8217;s network.

* All services on the server are operating normally, which was confirmed by the server team.

Which of the following actions will resolve the issue?
* Reset port security on the switchport connecting the server.
* Adjust the web server&#8217;s NTP settings to match the client settings.
* Configure A records for the web server.
* Install the correct MIB on the web server

**NEW QUESTION 151**

A company built a new building at its headquarters location. The new building is connected to the company&#8217;s LAN via fiber-optic cable. Multiple users in the new building are unable to access the company&#8217;s intranet site via their web browser, but they are able to access internet sites. Which of the following describes how the network administrator can resolve this issue?
* Correct the DNS server entries in the DHCP scope
* Correct the external firewall gateway address
* Correct the NTP server settings on the clients
* Correct a TFTP Issue on the company&#8217;s server

**NEW QUESTION 152**

A wireless network was installed in a warehouse for employees to scan crates with a wireless handheld scanner. The wireless network was placed in the corner of the building near the ceiling for maximum coverage However users in the offices adjacent lo the warehouse have noticed a large amount of signal overlap from the new network Additionally warehouse employees report difficulty connecting to the wireless network from the other side of the building; however they have no issues when Ihey are near the antenna Which of the following is MOST likely the cause?
* The wireless signal is being refracted by the warehouse&#8217;s windows
* The antenna&#8217;s power level was set too high and is overlapping
* An omnidirectional antenna was used instead of a unidirectional antenna

* The wireless access points are using channels from the 5GHz spectrum

**NEW QUESTION 153**

A network administrator received a report staling a critical vulnerability was detected on an application that is exposed to the internet. Which of the following Is the appropriate NEXT step?
* Check for the existence of a known exploit in order to assess the risk
* Immediately shut down the vulnerable application server.
* Install a network access control agent on the server.
* Deploy a new server to host the application.
Explanation

The appropriate next step in this situation would be to check for the existence of a known exploit in order to assess the risk. This is important because it will help the network administrator determine the severity of the vulnerability and the potential impact it could have on the organization. Once the network administrator has assessed the risk, they can then take appropriate action to address the vulnerability. This might include patching the application, deploying a new server to host the application, or implementing other security measures to mitigate the risk. It is generally not advisable to immediately shut down the vulnerable application server, as this could disrupt business operations and cause significant downtime. Similarly, installing a network access control agent on the server may not be the most effective solution, as it would not address the underlying vulnerability.

**NEW QUESTION 154**

Which of the following would be used when connecting devices that have different physical characteristics?
* A proxy server
* An industrial control system
* A load balancer
* A media converter

**NEW QUESTION 155**

Which of the following would be the MOST cost-effective recovery solution for a company&#8217;s lower-priority applications?
* Warm site
* Cloud site
* Hot site
* Cold site

**NEW QUESTION 156**

An administrator wants to increase the availability of a server that is connected to the office network. Which of the following allows for multiple NICs to share a single IP address and offers maximum performance while providing fault tolerance in the event of a NIC failure?
* Multipathing
* Spanning Tree Protocol
* First Hop Redundancy Protocol
* Elasticity
Reference: https://docs.oracle.com/cd/E19455-01/806-6547/6jffv7oma/index.html

**NEW QUESTION 157**

An attacker is attempting to find the password to a network by inputting common words and phrases in plaintext to the password

prompt. Which of the following attack types BEST describes this action?

* Pass-the-hash attack
* Rainbow table attack
* Brute-force attack
* Dictionary attack

**NEW QUESTION 158**

During a risk assessment which of the following should be considered when planning to mitigate high CPU utilization of a firewall?

* Recovery time objective
* Uninterruptible power supply
* NIC teaming
* Load balancing

**NEW QUESTION 159**

A network administrator is given the network 80.87.78.0/26 for specific device assignments. Which of the following describes this network?

* 80.87.78 0 &#8211; 80.87.78.14
* 80.87.78 0 &#8211; 80.87.78.110
* 80.87.78 1 &#8211; 80.87.78.62
* 80.87.78.1 &#8211; 80.87.78.158

**NEW QUESTION 160**

A technician needs to configure a Linux computer for network monitoring. The technician has the following information:

Linux computer details:

| Interface | IP address | MAC address |
|-----------|------------|-------------|
| eth0 | 10.1.2.24 | A1:B2:C3:F4:E5:D6 |

Switch mirror port details:

| Interface | IP address | MAC address |
|-----------|------------|-------------|
| eth1 | 10.1.2.3 | A1:B2:C3:D4:E5:F6 |

After connecting the Linux computer to the mirror port on the switch, which of the following commands should the technician run on the Linux computer?

* ifconfig ecth0 promisc
* ifconfig eth1 up
* ifconfig eth0 10.1.2.3
* ifconfig eth1 hw ether A1:B2:C3:D4:E5:F6

**NEW QUESTION 161**

According to troubleshooting methodology, which of the following should the technician do NEXT after determining the most likely probable cause of an issue?
* Establish a plan of action to resolve the issue and identify potential effects
* Verify full system functionality and, if applicable, implement preventive measures
* Implement the solution or escalate as necessary
* Test the theory to determine the cause

NEW QUESTION 162

Which of the following options represents the participating computers in a network?
* Nodes
* CPUs
* Servers
* Clients

NEW QUESTION 163

A user tries to ping 192.168.1.100 from the command prompt on the 192.168.2.101 network but gets the following response:
U.U.U.U. Which of the following needs to be configured for these networks to reach each other?
* Network address translation
* Default gateway
* Loopback
* Routing protocol

NEW QUESTION 164

A network engineer configured new firewalls with the correct configuration to be deployed to each remote branch. Unneeded services were disabled, and all firewall rules were applied successfully. Which of the following should the network engineer perform NEXT to ensure all the firewalls are hardened successfully?
* Ensure an implicit permit rule is enabled
* Configure the log settings on the firewalls to the central syslog server
* Update the firewalls with current firmware and software
* Use the same complex passwords on all firewalls

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