CCNA4 v 4.0 Exam chapter 7 Addressing Services

1. Refer to the exhibit. A network technician determines DHCP clients are not working properly. The clients are receiving IP configuration information from a DHCP server configured on the router but cannot access the Internet. From the output in the graphic, what is the most likely problem?

```
Oneonta#show running-config
--- output omitted ---
ip dhcp excluded-address 192.168.123.1 192.168.123.10
!
ip dhcp pool MGRs-hosts
  network 192.168.123.0 255.255.255.0
  dns-server 192.168.123.3 172.16.1.3
!
interface FastEthernet0/0
 ip address 192.168.123.1 255.255.255.0
```

The DHCP server service is not enabled.
The inside interface for DCHP is not defined.
The DHCP pool is not bound to the interface.
The pool does not have a default router defined for the clients.
All the host addresses have been excluded from the DHCP pool.

2. Refer to the exhibit. On the basis of the configuration shown, how should the pool of the excluded addresses be assigned to key hosts on the network, such as router interfaces, printers, and servers?

```
Router(config)# ip dhcp excluded-addresses 10.0.1.2 10.0.1.16
Router(config)# ip dhcp excluded-addresses 10.0.1.254
Router(config)# ip dhcp pool TEST
Router(dhcp-config)# network 10.0.1.2 255.255.255.0
Router(dhcp-config)# default-router 10.0.1.254
Router(dhcp-config)# dns-server 10.0.1.3
Router(dhcp-config)# domain-name netacad.net
```

The addresses are statically assigned by the network administrator.
The DHCP server dynamically assigns the addresses.
The addresses must be listed under the DHCP pool of addresses before they are available for static assignment.
The addresses must be listed under the DHCP pool of addresses before they are available for dynamic assignment.

3. Refer to the exhibit. According to the output, how many addresses have been successfully assigned by this DHCP server?

```
Router# show ip dhcp server statistics
<output omitted>
Message             Received
BOOTREQUEST         0
DHCPDISCOVER        6
DHCPREQUEST         9
DHCPDECLINE         0
DHCPRELEASE         0
DHCPINFORM          0

Message             Sent
BOOTREPLY           0
DHCPOFFER           7
DHCPACK             8
DHCPNAK             1
```

1
6
7
8
9

4. What are two benefits of NAT? (Choose two.)
It saves public IP addresses.
It adds a degree of privacy and security to a network.
It increases routing performance.
It makes troubleshooting routing issues easier.
It makes tunneling with IPsec less complicated.

5. What is true regarding the differences between NAT and PAT?

PAT uses the word "overload" at the end of the access-list statement to share a single registered address.
Static NAT allows an unregistered address to map to multiple registered addresses.
Dynamic NAT allows hosts to receive the same global address each time external access is required.
PAT uses unique source port numbers to distinguish between translations.

6. What type of NAT should a network administrator use to ensure that a web server on the inside network is always available to the outside network?

NAT overload
static NAT
dynamic NAT
PAT

7. Refer to the exhibit. Which address or addresses represent the inside global address?

```
Router1 (config)# ip nat inside source static 192.168.0.100 209.165.20.25
Router1 (config)# interface serial0/0/0
Router1 (config-if)# ip nat inside
Router1 (config-if)# ip address 10.1.1.2 255.255.255.0
Router1 (config)# interface serial 0/0/2
Router1 (config-if)# ip address 209.165.20.25  255.255.255.0
Router1 (config-if)# ip nat outside
```

10.1.1.2
192.168.0.100
209.165.20.25
any address in the 10.1.1.0 network

8. Refer to the exhibit. Which two statements about the configuration are true? (Choose two.)

```
Router1 (config)# interface serial 0/0/0
Router1 (config-if)# ip address 10.1.2.1 255.255.255.0
Router1 (config-if)# nat inside
Router1 (config)# interface serial 0/0/1
Router1 (config-if)# ip address 10.1.1.1 255.255.255.0
Router1 (config-if)# nat inside
Router1 (config)# interface serial 0/0/2
Router1 (config-if)# ip address 209.165.200.1 255.255.255.0
Router1 (config-if)# ip nat outside
Router1 (config)# ip nat inside source list 1 interface serial 0/0/2 overload
Router1 (config)# access-list 1 permit 10.1.2.1 0.0.0.255
Router1 (config)# access-list 1 permit 10.1.1.1 0.0.0.255
```

Traffic from the 10.1.1.0 network will be translated.
Traffic from the 209.165.200.0 network will be translated.
Permitted traffic gets translated to a single inside global IP address.
A pool of inside global IP addresses from the 10.1.1.0 network will be used for translation.
External users from the 209.165.200.0 network can reach private addresses on the 10.1.1.0 and 10.1.2.0 networks.

9. Refer to the exhibit. What is the purpose of the command marked with an arrow shown in the partial configuration output of a Cisco broadband router?

```
interface FastEthernet 0/0
 ip address 10.10.10.1 255.255.255.0
 ip nat inside
 no cdp enable
 hold-queue 32 in
 hold-queue 100 out
!
interface FastEthernet 0/1
 ip address dhcp
 ip nat outside
 no cdp enable
!
ip classless
ip http server
!
ip nat inside source list 102 interface fastethernet 0/1 overload
access-list 102 permit ip  10.10.10.0  0.0.0.255  any
no cdp run
!
```

defines which addresses can be translated

defines which addresses are allowed into the router
defines which addresses are assigned to a NAT pool
defines which addresses are allowed out of the router

10. A technician has been told by a supervisor to always clear any dynamic translations before attempting to troubleshoot a failed NAT connection. Why has the supervisor issued these instructions?

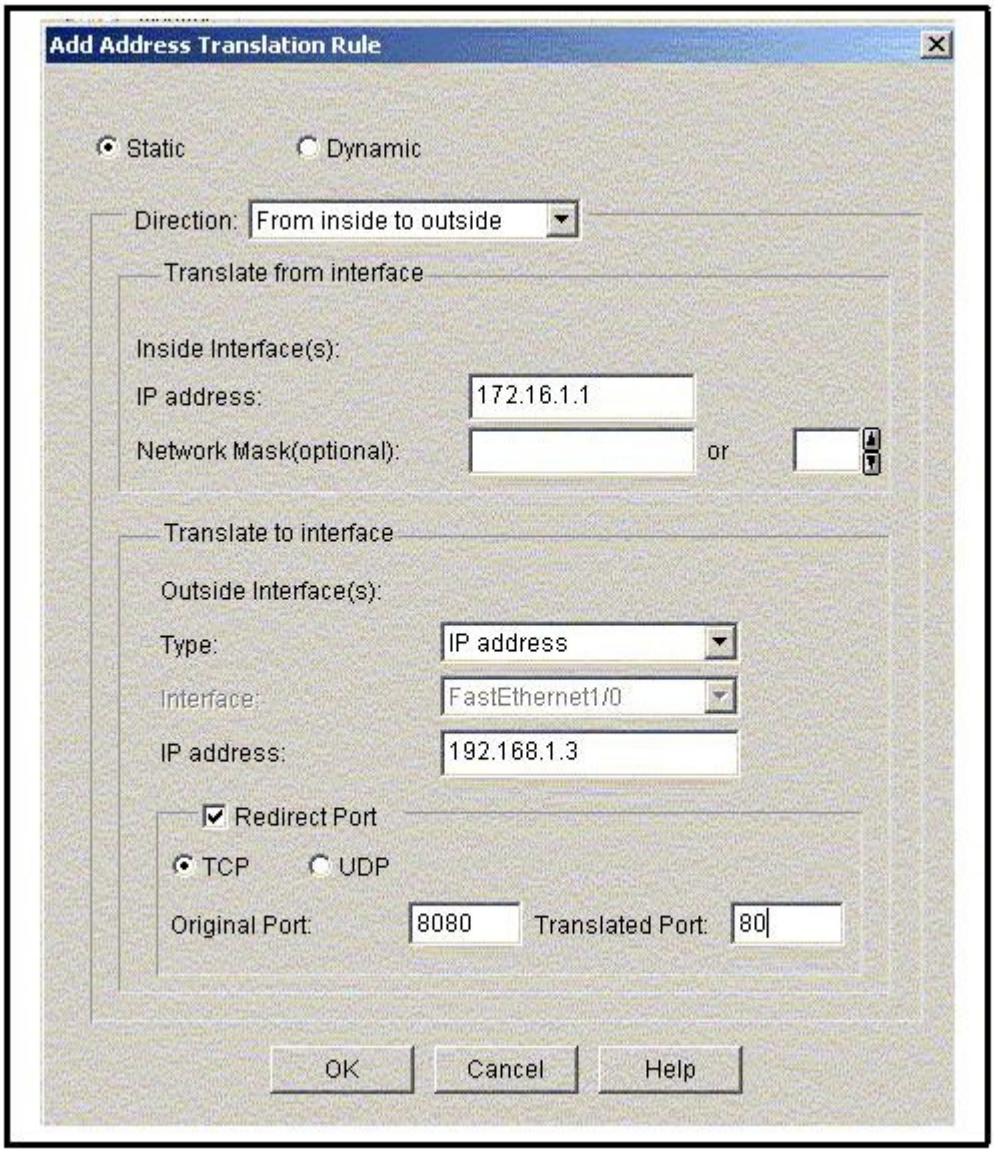
The supervisor wants to clear any confidential information that may be seen by the technician.
Because entries can be cached for long periods of time, the supervisor wants to prevent decisions being made based on old data.
The translation table may be full and is unable to make new translations until space is available.
Clearing the translations causes the starting configuration to be reread and may correct translation problems that have occurred.

11. Refer to the exhibit. Traffic exiting R1 is failing translation. What part of the configuration is most likely incorrect?

```
R1(config)# ip nat pool nat-pool1 209.165.200.225 209.165.200.240
                    netmask 255.255.255.0
R1(config)# ip nat inside source list 1 pool nat-pool1
R1(config)# interface serial 0/0/0
R1(config-if)# ip address 10.1.1.2 255.255.0.0
R1(config-if)# ip nat inside
R1(config)# Interface serial s0/0/2
R1(config-if)# ip address 209.165.200.1 255.255.255.0
R1(config-if)# ip nat outside
R1(config)# access-list 2 permit 192.168.0.0 0.0.0.255
```

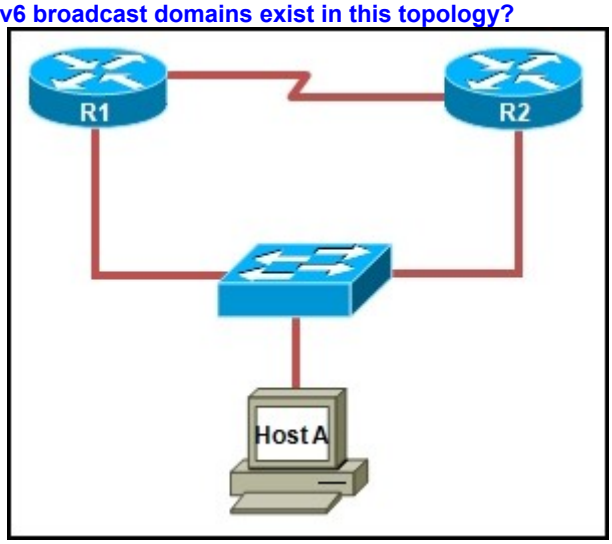
ip nat pool statement
access-list statement
ip nat inside is on the wrong interface
interface s0/0/2 should be a private IP address

12. Refer to the exhibit. A technician used SDM to enter the NAT configuration for a Cisco router. Which statement correctly describes the result of the configuration?



A user on the inside sees web traffic coming from 192.168.1.3 using port 8080.
The address 172.16.1.1 is translated into an address from the pool beginning with 192.168.1.3.
A user on the outside network sees a request addressed from 192.168.1.3 using port 80.
A user on the outside must address traffic to port 8080 to reach the address 172.16.1.1.

13. Refer to the exhibit. How many IPv6 broadcast domains exist in this topology?



0
1
2
3
4

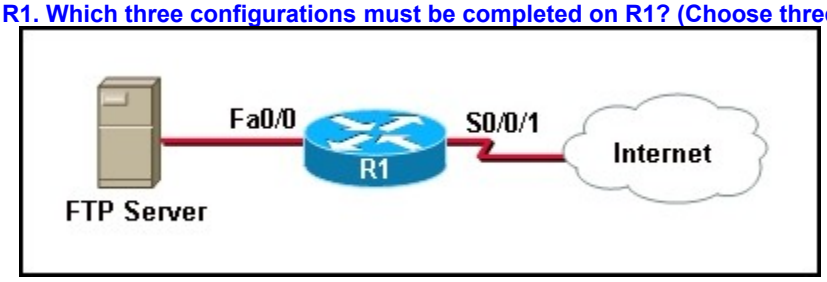
14. A network administrator wants to connect two IPv6 islands. The easiest way is through a public network that uses only IPv4 equipment. What simple solution solves the problem?

Replace the devices on the public network with devices that support IPv6.
Configure RIPng on the border routers of each IPv6 island.
Configure the routers to take advantage of dual-stack technology.
Use tunneling to encapsulate the IPv6 traffic in the IPv4 protocol.

15. After activating IPv6 routing on a Cisco router and programming IPv6 addresses on multiple interfaces, what is the remaining step to activate RIPng?

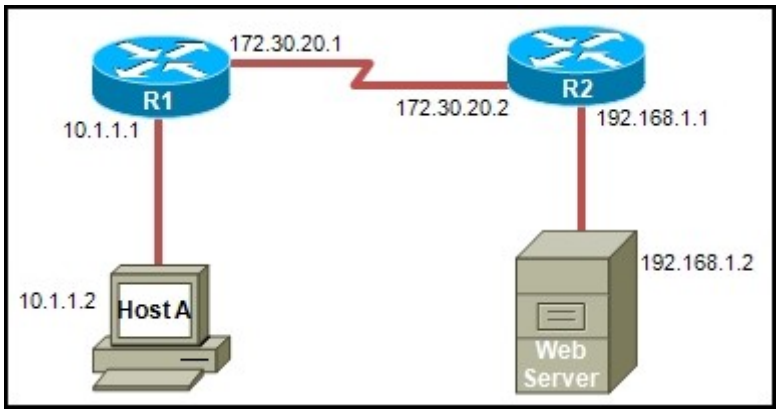
Enter the interface programming mode for each IPv6 interface and enable IPng RIP.
Enter the **ipv6 router rip name** command and then use network statements to activate RIPng on the interfaces.
Enter the **router rip** command, and then activate RIPng using the **version** command. RIPng then automatically runs on all IPv6 interfaces.
Enter the interface programming mode for each IPv6 interface and enable the multicast group FF02::9, and then activate RIPng globally using the **ipv6 router rip name** command.

16. Refer to the exhibit. The FTP server has an RFC 1918 private address. Users on the Internet need to connect to the FTP server on the Fa0/0 LAN of R1. Which three configurations must be completed on R1? (Choose three.)



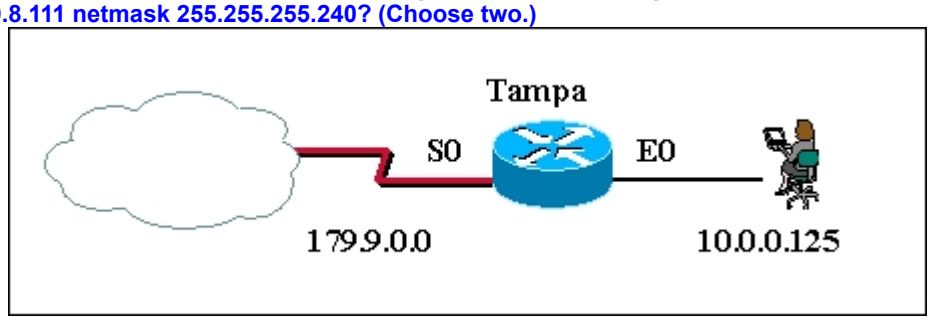
dynamic NAT
NAT with overloading
open port 20
open port 21
open port 23
NAT with port forwarding

17. Refer to the exhibit. R1 is performing NAT for the 10.1.1.0/24 network, and R2 is performing NAT for the 192.168.1.2/24 network. What would be valid destination IP address for HostA to put in its IP header when communicating with the web server?



10.1.1.1
172.30.20.2
192.168.1.2
255.255.255.255

18. Refer to the exhibit. Which two addresses could be assigned to traffic leaving S0 as a result of the statement ip nat pool Tampa 179.9.8.96 179.9.8.111 netmask 255.255.255.240? (Choose two.)



10.0.0.125
179.9.8.95
179.9.8.98
179.9.8.101
179.9.8.112

19. Refer to the exhibit. IPv6 address 2006:1::1/64 eui-64 has been configured on the router FastEthernet0/0 interface. Which statement accurately describes the EUI-64 identifier configuration?

```
R1# show running-config
!
ipv6 unicast-routing
!
interface FastEthernet0/0
 ip address 10.151.1.1 255.255.255.0
 ipv6 address 2006:1::1/64 eui-64
 ipv6 enable
!
<output omitted>
```

It will randomly generate a 64 bit interface ID.
It will assign an address from the pool of IPv6 private addresses to the interface.
It will assign only the registry prefix of the IPv6 Global Unicast address to the interface.
The configuration will derive the interface portion of the IPv6 address from the MAC address of the interface.

20. How many bits of an IPv6 address are used to identify the interface ID?

32
48
64
128

21. Your organization is issued the IPv6 prefix of 2001:0000:130F::/48 by your service provider. With this prefix, how many bits are available for your organization to create subnetworks?

8
16
80
128