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Homework: /SI110/The Cyber Battlefield/Networks: Wireless Networking

20/16/12/0

1. For each of the network stack layers, state whether the layer "stays the same" or "changes" when moving from a wired network using Ethernet to a wireless network using 802.11.

Application:

Transport:

Internet:

Link:

Physical:

2. WEP, WPA1, and WPA2 are used not only to provide privacy from host stations outside the wireless network that might be snooping on the wireless traffic, but also to control

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3. Suppose you open up your wireless network control panel and see that the only available network is one with ESSID "cswlan". Explain why this does not necessarily mean that there is only one base station with a strong enough signal for the receiver to detect.

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4. Suppose you have a base station with five host stations connected wirelessly and that's it. Explain why any one of the five host stations can ping any of the other host stations, but none of them can ping any other host? (like rona, google.com, etc).

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5. Here's a picture of a typical home "wireless router". It has five ethernet ports. However one is set apart from the other four. How is its function different from the other four?

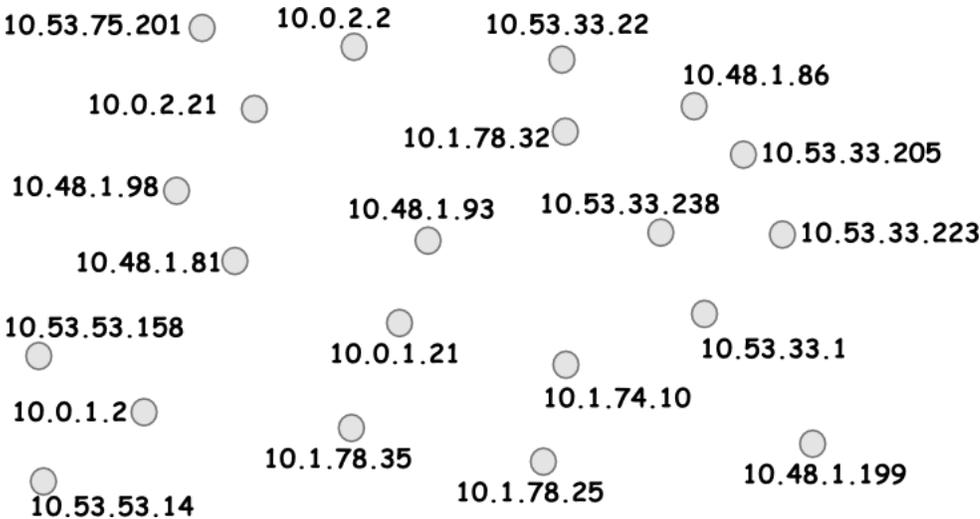
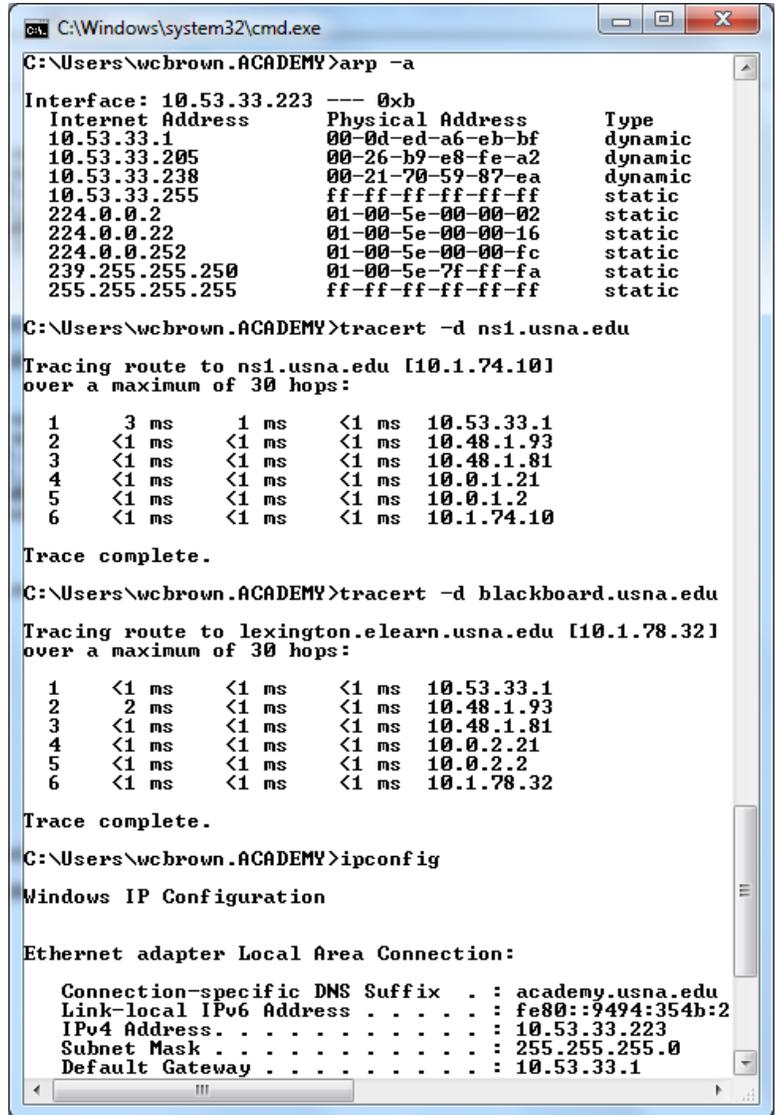
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6. Consider the terminal window to the right, which shows output from an arp -a command, two tracert's and an ipconfig. Below is a diagram in which dots represent hosts, each labeled by an IP address. Given the terminal output, draw lines between each pair of dots that you can tell have a direct connection from the Internet Layer's perspective. In other words, there may be switches or base stations or other link-layer devices in between, but from the Internet Layer's perspective they are directly connected because they can communicate without a router in between them.

Also, host 10.1.74.10's default gateway router is: \_\_\_\_\_.

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