# Networking Module Quiz

Obligatory OSI Seven-layer model question. Fill in the table.

|  |  |  |  |
| --- | --- | --- | --- |
| Layer | Name | Address Type | Description, Example, or name of hardware |
| 7 |  |  |  |
| 6 |  |  |  |
| 5 |  |  |  |
| 4 |  |  |  |
| 3 |  |  |  |
| 2 |  |  |  |
| 1 |  |  |  |

What is a **recursive** DNS lookup (5 points)?

Wireshark displays a MAC address c8:b3:73:47:d9:c4 as Cisco\_47:d9:c4. How does it know to do that?

A friend tells you their computer can’t browse the Internet. When you look at their network configuration, you see this. What is the problem?  
IP address 196.168.231.15  
Mask 255.255.255.0  
Gateway 192.168.230.1

If I ping [www.google.com](http://www.google.com), will the MAC address of Google appear in my ARP cache? Why or why not?

What is the difference between static routing and dynamic routing?

When a machine boots, or gets a new IP address, how does it check to make sure that no other computer is using its IP address?

Most people never configure the IP address, mask, default gateway, and DNS server for their computer. How does the computer get that information?

Use the file NetQuiz.pcap and Wireshark to answer the following questions.

What is the IP address of en.wikipedia.org? (A display filter, dns, may help.)

What is the IP address of the computer I used to create the pcap? (It is a private address, if that helps.)

There are a lot of packets that Wireshark has marked as “TCP Dup ACK” and “TCP retransmission”. This was recorded on a (not too good) DSL connection. The page I went to, <https://en.wikipedia.org/wiki/Windows_XP>, downloaded slowly, but didn’t appear to have errors. What was going on with the “TCP Dup ACK” and “TCP retransmission” packets, and why did the page look ok?

What is the MAC address of my default gateway? Then, use a display filter, arp, and see if you can find the IP address of my default gateway.

Find a three-way handshake in the packet capture. What is the frame number (left-most column, just so I know you found one) of one of the packets in the handshake?