**CIS 1130 – Topic 5 Homework**

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| **Date:** | 02/11/24 |

**Instructions:** Answer the questions below in the space provided; be sure your answers are clearly written and grammatically correct with no spelling errors. Following these questions, paste the screen shots showing the requested element.

| **Chap 7 - Routing** | | |
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| Question 7.1  2 Points | *Question: What information does a router use to determine where to send a packet?* | Your Answer:  A router compares the destination IP address in the packet to its routing table. The address will either match a local host or a network and be sent along its way, or in the case that neither of these match, it is sent out the default gateway. |
| Question 7.2  2 Points | *Question: What is NAT and how is it used in networking today?* | Your Answer:  Network address translation is a work around for the low supply of IPv4 addresses. A router with NAT capability can map a single or few public IP addresses to many private IP addresses and be a go between for a LAN and the internet. It can also map private hosts to free to use port numbers. |
| Question 7.3  2 Points | *Question: Below is a screen shot from a tracert. How many hops are between the user and the server?*  C:\Users\1130student>tracert dma1.org Tracing route to dma1.org [208.97.177.128] over a maximum of 30 hops: 1 1 ms <1 ms <1 ms 192.168.1.1 2 12 ms 11 ms 10 ms 142.254.145.189 3 28 ms 32 ms 24 ms 24.29.4.241 4 15 ms 15 ms 15 ms 65.29.38.100 5 28 ms 21 ms 22 ms 65.29.1.46 6 33 ms 30 ms 30 ms 66.109.6.66 7 35 ms 30 ms 30 ms 66.109.3.24 8 28 ms 27 ms 28 ms 66.109.5.117 9 27 ms 27 ms 27 ms 64.125.12.229 10 28 ms 28 ms 30 ms 64.125.29.120 11 31 ms 30 ms 29 ms 64.125.28.61 12 32 ms 31 ms 29 ms 208.185.23.134 13 33 ms 33 ms 33 ms ip-208-113-156-14. 15 29 ms 29 ms 28 ms 208.97.177.128  Trace complete. | Your Answer: There are 13 hops since 208.177.128 is the server. |

*Task 1: Using the tracert print out show above label the IP addresses for the first 5 hopes in topology below. (2 Points)*

*Hop1: 192.168.1.1 Hop2: 142.254.145.241 Hop3: 24.29.4.241 Hop4: 65.29.38.100 Hop5: 65.109.6.66*



Hop 1:

Hop 2:

Hop 3:



Hop 4:

Hop 5:

*Task 2: Use the command to find your IP address, subnet mask, and default gateway of your PC. Paste a screen capture below. (2 Points)*

*IP adress: (Private)192.168.1.1 (Default gateway)142.254.145.181 (subnet mask) 255.255.255.0*

