Networks   Homework 8

Problem A

a.) Interface 1: 172.20.0.1
    Interface 2: 192.162.30.79

Host A: 172.20.0.2 Host C: 172.20.0.4
Host B: 172.20.0.3

NAT translation table
WAN side — *LAN side*
192.162.30.79: 8080 — *172.20.0.3: 80*   *-4 points*

b.) ① S: 172.20.0.3, ~~4567~~ 80
       D: 34.182.19.20, 80 ~~4567~~

② S: 192.162.30.79, 500 ~~8080~~
    D: 34.182.19.20, 80 ~~4567~~

-8 points

③ S: 34.182.19.20, 80 ~~4567~~
    D: 192.162.30.79, 500 ~~8080~~

④ S: 34.182.19.20, 80 ~~4567~~
    D: 172.20.0.3, 456 ~~80~~

-14 points

Problem B:

a.) no only the Hop IP addresses are

b.) 216.58.217.4 and it is public

c.) www.google.com is the alias name and the other address is the Canonical name

D.) ~~10~~ routers   *9 routers, b/c the 10th one is the google web server   -2 points*

e.) Initial TTL is 7 and the destination is still 216.58.217.4

f.) The router sends ICMP messages with the following info:
    Type: 11, Code: 0, Source: 192.43.217.70.
    destination: Your Computer's IP address

g.) The final TTL is 1 and the dest. IP is the Webserver's *216.58.217.4* It then Sends ICMP messages back with the following info:
    type: 3, Code: 3, Source: 216.58.217.4,
    destination is your Computer's IP address

Problem C

link 1:
1. IPv6
2. IP1
3. IP10

link 2:
1. IPv4
2. IP 3
3. IP8

link 3:
1. IPv4
2. IP 3
3. IP8

link 4:
1. IPv4
2. IP3
3. IP8

link 5:
1. IPv6
2. IP 1
3. IP10