IP Addressing & Routing Activity

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Overview: As part of your assigned readings and material covered in your class lectures, you have learned the basics of IP addressing and routing. This in-class exercise will reinforce those concepts by having you determine if a host is on the same subnet as another host. Then using a simple routing table, you will select the most appropriate route for the router to select given the destination IP address.

Resources:

* Textbook
* Lecture materials and notes

Section 1 – IP Addressing and Subnet Assignment

1. Given the IP host address of 192.168.12.233 with the default class mask, which other host is on my directly connected network?
   1. 192.168.14.234
   2. 192.168.11.230
   3. 192.168.12.1
   4. 192.168.12.257
   5. None of the above
2. Given the IP host address of 10.28.2.45 with the default class mask, which other host is on my directly connected network?
   1. 10.29.2.48
   2. 10.28.244.254
   3. 10.1.34.44.89
   4. 10.238.1.54
   5. All of the above
3. Given the IP host address of 172.16.200.93 with the default class mask, which other host is on my directly connected network?
   1. 172.16.4.94
   2. 172.15.3.66
   3. 172.18.5.111
   4. 172.45.100.230
   5. All of the above
4. Given the IP host address of 129.01.20.43 with the default class mask, which other host is on my directly connected network?
   1. 129.02.88.122
   2. 129.08.20.44
   3. 129.199.50.92
   4. 129.01.202.55
   5. None of the above
5. Given the IP host address of 191.253.10.77 with the default class mask, which other host is on my directly connected network?
   1. 191.253.01.77
   2. 191.254.10.78
   3. 191.252.10.01
   4. 191.253.189.43
   5. Multiple Answers

**Section 2 – Routing Table and Next-hop Selection**

1. Given the following routing table on a router, which next hop will the router select given the IP packet with the destination address of 19.47.254.3?

**Address/Mask Next hop**

19.46.0.0/16 Interface 0

19.47.0.0/16 Interface 1

19.52.43.0/24 Router 1

default Router 2

1. Given the following routing table on a router, which next hop will the router select given the IP packet with the destination address of 19.48.254.3?

**Address/Mask Next hop**

19.46.0.0/16 Interface 0

19.47.0.0/16 Interface 1

19.52.43.0/24 Router 1

default Router 2

1. Given the following routing table on a router, which next hop will the router select given the IP packet with the destination address of 200.34.0.1?

**Address/Mask Next hop**

200.34.8.0/24 Interface 0

200.34.9.0/24 Interface 1

200.34.0.0/24 Router 1

default Router 2

1. Given the following routing table on a router, which next hop will the router select given the IP packet with the destination address of 200.34.8.22?

**Address/Mask Next hop**

200.34.0.0/16 Interface 0

200.34.9.0/24 Interface 1

200.34.8.0/24 Router 1

default Router 2

1. Given the following routing table on a router, which next hop will the router select given the IP packet with the destination address of 200.35.101.5?

**Address/Mask Next hop**

200.34.0.0/16 Interface 0

200.34.101.0/24 Interface 1

200.0.0.0/8 Router 1

default Router 2