Extra Credit IP Addressing Assignment

This assignment is worth 40 points extra credit (Canvas says it is worth 0 points – that's because it's extra credit). There are eight questions worth five points each. You must explain your answer to each question in order to receive credit.

The extra credit points only go towards missing points in the written assignments. In other words, if you already have all possible points for the written assignments, this won't count for any additional points for you.

These questions are some of the types of questions you will find yourself needing to answer when doing network troubleshooting. The answers require that you understand how IP addresses and subnet masks work together to to identify networks. You won't find anything in the book that mimics these questions exactly, though you will find everything you need to know to answer the questions. You can certainly look online as well, because of the popularity of subnetting exercises in these introductory classes there's a ton of resources online.

You are welcome to put your answers in this file along with the questions, but if you do so, please highlight your answers or use bold font or something so that the answer stand out from the questions.

You can upload your answers in .doc or .pdf format, but in either case, please check after you upload to ensure it displays correctly.

For questions 1 through 4, the IP address and subnet mask for your computer is 192.168.10.37 and 255.255.255.0.

**Q1.** You are sending a packet to a computer with IP address 192.168.11.37. Are the two computers in the same subnet?

**Q2.** What IP address will be the destination on a broadcast message sent to your subnet?

**Q3.** There are a total of 197 devices with an IP address in the same subnet containing your computer. How many more devices can you add to the subnet before you run out of IP addresses?

**Q4.** In your company, the router used as the default gateway is always assigned the first IP address in a subnet. What should the IP address be for the default gateway on your computer?

For questions 5 and 6, the IP address and subnet mask of your computer is 10.34.5.174 and 255.255.255.128

**Q5.** You receive a packet from a computer with an IP address of 10.34.5.228. Are the two computers in the same subnet?

**Q6.** In your company, the router used as the default gateway is always assigned the first IP address in a subnet. What should the IP address be for the default gateway on your computer?

**Q7.** You send a packet to 10.34.7.123. Which of the following networks includes that computer?

10.34.6.0/23

10.34.7.0/24

10.34.7.0/25

10.34.7.0/26

10.34.7.64/27

Note that more than one of the networks contains your computer.

By the way, this is a type of question you will need to be answer when troubleshooting routing tables.

**Q8.** You wish to create a subnet with 7 servers on it? What is the subnet mask for the smallest subnet that can include all 7 servers?