Subnetting PE

1. You are given the address block of 150.43.10.0/$_{24}$ for you to use for your network. Your network requires:
   a. 2 routers (1 backbone link - WAN)
   b. 1 LAN off Router 1 (R1) for R&D with 28 user PCs
   c. 1 LAN off Router 1 for the FINANCE department with 12 total hosts
   d. 1 LAN off Router 2 (R2) for the SALES department with 94 PCs
   e. 1 LAN off Router 2 for your SERVER FARM supporting 16 Servers

   Calculate the requirements for each Subnetwork.

   NOTE:
   (Remember that when you're given total number of PCs [versus the total number of hosts], you must add 2 for the total number of hosts [to accommodate the router and switch IP addresses], and the analogy of feeding the big guy first. Largest to Smallest)

   <u>Addresses required:</u>

   a. Backbone network _____
   b. R1L1 _____
   c. R1L2 _____
   d. R2L1 _____
   e. R2L2 _____

2. You can decide which LAN gets assigned to which department on the router it's associated with (I.e. R1L1 is R&D, or R1L1 is Finance. Your choice.)

Network Name	Network ID	Subnet Mask	Usable Host Range	Broadcast IP

3. You are given the address block of 18.60.16.0/$_{20}$ for you to use for your network. Your network requires:
   a. 3 routers (2 backbone link - WANs)
   b. 1 LAN off Router 1 (R1) for OPS with 62 hosts
   c. 1 LAN off Router 1 for the IT department with 29 hosts
   d. 1 LAN off Router 2 (R2) for the Maintenance department with 10 PCs
   e. 1 LAN off Router 2 for your S6 shop supporting 100 users.
   f. 1 LAN off Router 3 (R3) for DevOps with 500 hosts
   g. 1 Lan off Router 3 for M.I. Bn (Intel) supporting 1010 hosts.

   Calculate the requirements for each Subnetwork.

   Addresses required:

   a. Backbone network _____
   b. R1L1 _____
   c. R1L2 _____
   d. R2L1 _____
   e. R2L2 _____
   f. R3L1 _____
   g. R3L2 _____

Network Name	Network ID	Subnet Mask	Usable Host Range	Broadcast IP