ASSIGNMENT 1

1.Physical address is defined at the data link layer and is used for hop-to-hop delivery while network address is defined at the network layer and is used for end-to-end delivery. (-1)

3. Traceroute shows the path taken by packets as they are being routed over the network. This helps administrators troubleshoot specific switches/routers on the path in case of network failures. (-1)

4. A circuit-switched network can guarantee a certain amount of end-to-end bandwidth, which is necessary for bandwidth hungry applications such as streaming audio/video.  (-1)

5. Path bandwidth = min(1,10,5) = 1Mbps. Transmission time = 100X10^6/1x10^6 = 100 seconds. (-2)

8 b. In the second case, since the file is divided into packets, we only have to figure out when the last packet will arrive at the destination. At the end of the 10,000.01 msec, the last packet will leave the client. It takes two more transmissions at 10X10^3/10x10^6 = 1 msec, and two propagation delays of 0.01 msec to arrive at the server, giving a total of 10,002.03 msec. (-2)