Unit 4 Critical Thinking Questions

1. **If a friend asked you to help her decide what internal cabling system to install in her new house, what kinds of questions would you ask to help her decide what to do? Why would you ask those questions? Include at least three questions.**
   a. How much money are you willing to spend? (For example, Fiber optic is more expensive)
   b. How secure does your system need to be? (Fiber optic is more secure than something like STP)
   c. How loud is it where you live? (Sound can affect the efficacy of the wires being used).
2. **What kind of network connection do you think is used to connect most wireless video game controllers to consoles, and why would you make that guess?**

I think it would be Bluetooth, because the controller is local to the console. Bluetooth exchanges data between fixed and mobile devices over short distances, and functions as a LAN. It's not like the controller is being played on a console in another state.

3. **Describe at least THREE different kinds of networks present in your house or school and what devices are connected through each network. Which network do you personally use the most, and why? Should you be concerned about cybersecurity for that network?**

Three kinds of networks that exist in my house are Bluetooth, Cellular, and Cable. My game console controller use Bluetooth to connect to the console. The phones in my house use Cellular to be able to call/text another phone and use LTE when not connected to the internet. And finally, the TVs in my house use cable to be able to receive a TV signal which lets you watch stuff. I and everyone should be concerned about any kind of network no matter how secure it is, because nothing is 100% secure as there are always vulnerabilities with everything.

4. **Define and explain the purpose of an air-gapped computer.**

An air-gapped computer is isolated from unsecured networks, meaning that it is not directly connected to the internet, nor is it connected to any other system that is connected to the internet. The purpose of it is to ensure that a secure computer network is physically isolated from unsecured networks, such as the public Internet or an unsecured local area network.

5. **Explain what a tunneling protocol is and justify the implementation of tunneling for security purposes.**

A tunneling protocol is a communications protocol that allows for the movement of data from one network to another. The most significant benefit of Tunneling is that it allows for the creation of VPNs over public data networks to provide cost savings for both end users, who do not have to create dedicated networks, and for Service Providers, who can leverage their network investments across many VPN customers.