+ Application Protocol Question

1. **How does the Application level of the TCP/IP model map to the ISO/OSI model?**
    a. The TCP/IP model incorporates the Application, Presentation, and Session Layers into one level
2. **The primary difference between FTP and TFTP is user authentication. What is meant by the term, "user authentication?"**
    a. It means that the user is identified by the system using a form of authentication, most commonly a username and password combination that authorizes the user to connect.
3. **Which protocol is used most often for sending mail between mail servers?**
    a. SMTP—Simple Mail Transfer Protocol
4. **Which protocol would you use for receiving mail?**
    a. POP3—Post Office Protocol v3 OR IMAP4—Instant Messaging Access Protocol v4
5. **If you are using a conventional browser to surf the Internet, what protocol(s) are you most likely using?**
    a. HTTP—Hypertext Transfer Protocol, HTTPS,
6. **If you are buying a product on Amazon or checking your bank balance online, what protocols should** you be using?
    a. HTTPS and TSL/SSL
7. **Who created SSL?**
    a. Netscape
8. **What is TLS? Who created it?**
    a. Transport Layer Security, it is an updated version of SSL created by the IETF
9. **Name common Voice over IP (VoIP) protocols:**
    a. SIP—Session Initiation Protocol
10. **Which protocol actually sends your voice across the network?**
    a. RTP—Real Time Transfer Protocol

+ Domain Name System Questions

1. **What is the difference between a routable and non-routable protocol?**
    a. A routable protocol contains network addresses as well as device addresses which allows it to communication from one network to another. Non-routable protocols only contain device addresses, can only communicate within the known network.
2. **To connect separate routable networks, what hardware device would be appropriate?**
    a. Switch
3. **In TCP/IP, what physical device is called the default gateway?**
    a. Router
4. **What is DNS?**
    a. Domain Name Services/System is the service that maps hostname/domain names to IP Addresses
5. **Briefly describe the DNS query/response process.**
    a. A request is sent from a local host to a domain name, it checks the host file and local DNS server to resolve the domain name first. If it cannot resolve the domain, it will go out to the Internet and check a hierarchy of name servers to resolve the domain name. Once the domain name is matched to an IP, the IP is sent back to the local host and a connection to the domain name can be made.
6. **What is DHCP (Dynamic Host Configuration Protocol)?**
    a. Dynamically assigns IP Addresses to computer systems when they connect to a network
7. **Briefly describe the DHCP process.**
    a. When a machine is connected to a network, the DHCP client will search for a DHCP server to obtain an IP address and configuration parameters. Once the server is found and a valid request/receipt is made, the server assigns an IP address, subnet mask, and default gateway to the client.

+ Vocabulary List

Session Initiation Protocol (SIP)—initiates an interactive user session involving multimedia elements
Real-Time Transfer Protocol (RTP)—manages delivering audio and video over IP networks
Resource Records (RR)—the database records of domain name services