# Chapter 1 Review

**Instructions:** Answer the following questions from Chapter 1 of your text. Please answer in complete sentences. Some questions may ask you to given an opinion or a possible reason regarding a topic. These questions are usually not found specifically in the text book, but are designed to assist in critical thinking and reasoning.

## Chapter 1

1. Define server. What is it? What is its purpose? Give examples of types of servers and their roles. **A server is a computer or computer program that manages access to a centralized resource or service in a network. The purpose behind servers are (generally) to store data. An example would be a web server houses the files for their website.**
2. Define domain. Explain the benefit of implementing a domain. **A domain is a distinct subset of the Internet with addresses sharing a common suffix or under the control of a particular organization or individual. It would be useful to have a domain for companies or for people that have a product.**
3. Describe 10 new features found in Windows Server 2016 Standard Edition.
   1. Start menu and start button have returned
   2. Active directory is easier to set up
   3. Storage tiering which allows blocks of data to be moved to different storage locations.
   4. Storage pinning, which works alongside tiering to move and ensure data stays in the new storage location.
   5. Parallel rebuild which allows a failed disk in a RAID to be rebuild significantly faster
   6. Virtual desktop
   7. Domain controllers can be cloned
   8. GRE allows virtual networks to use external networks
   9. Desired state configuration ensures that a servers states do not change as other things are changed.
   10. New network information is available.
4. Describe the benefits of virtualization. **Explain the difference between virtualization and containers. Virtualization can offer many benefits such as increased security, lower risk for viruses, multitasking etc. Containerization is much more practical than virtualization however, as it uses less recourses to do the job and only requires one OS.**
5. Explain clustering. Explain what it is, its purpose and benefits of clustering. **A server cluster is a collection of servers, that are called nodes, that communicate with each other to ensure critical services are available. Clients are only able to see one server, but there are many nodes. The benefits behind clustering are so that if one server, or “node”, fails another can open up and offer the exact same services to clients.**
6. Describe what type of business environment would require Windows Server 2016 Datacenter edition. **A very large corporation, or a datacenter.**
7. When purchasing hardware for installing Windows Server 2016, should a business follow the recommendations found in table 1-1 found on page 3? Why or why not? Explain what considerations should be made if any. **I believe that the table does a fairly good job of showcasing the size variations and are a good model for future customers.**
8. Explain how Windows Server and Windows Desktop work together. What is the benefit of running both in a business environment? **Windows server and Windows Desktop work together using Active Directory. This is beneficial as it means that users can access their data from any computer.**
9. Describe the purpose of Active Directory. Describe the features of Server Manager. **The idea of active directory is to ensure that a client can access their data from any computer. Server manager contains all important management tools in one place.**
10. Describe the purpose of Windows Server Core and Nano Server. Explain how they differ. Explain why businesses would use these types of servers. **Windows server core is supposed to be minimalistic, whereas Nano server is absolute barebones. Businesses might use these servers if they have limited computing power.**
11. What is PowerShell? Describe the benefits of learning and using PowerShell. **Windows powershell is a command line interface, with a shell. Many benefits come from learning powershell, such as scripts. OR you could just use linux like an adult.**
12. Explain the difference between multitasking and multithreading. **Multitasking is the ability to run 2 or more programs at the same time. Multithreading is the capability of programs written to run several program code blocks or “threads” at the same time.**
13. Explain the difference between peer-to-peer networking and server-based networking. Explain a business would use one over the other. **Peer to peer connects all computers together and allows for file sharing. Server based networking would keep the files in a server for anyone (with access) to retrieve them from. A smaller business may be more comfortable with peer to peer.**
14. Define network protocol. What guidelines do these protocols follow? Describe features of the TCP and IP protocols.
15. Define the following:

* A. unicast
* B. Broadcast
* C. multicast
* D. Subnet mask
* E. Loopback address
* G. broadcast
* H. Private IP address
* I. NAT
* J. IPv6
* K. Gateway

1. What two identifiers does an IP address contain?
2. Describe the difference between static and dynamic address. Explain how each is managed.
3. Define DNS. How does DDNS improve upon managing DNS entries?
4. Define MAC address. Explain the purpose of ARP.
5. Explain how APIPA assists with managing IP addresses.