## Networking Basics

1.Question 1

**When data can flow across a cable in both directions, this is known as \_\_\_\_\_ communication.**ethernetsimplexcross talkduplex

**1 / 1 point**

**Correct**

Wohoo! Duplex communication occurs when data flows in both directions.

2.Question 2

**The number system that has 16 numerals is known as \_\_\_\_\_.**binaryoctalhexadecimaldecima

Ans : hexadecimal

**Correct**

Nice job! Other number systems include decimal, with 10 numerals, and binary, which only has two.

3.Question 3

**The most common data link layer protocol for wired connections is \_\_\_\_\_.**

EthernetBGPTCPUDP

**Correct**

You got it! The most common data link layer protocol you'll run into is Ethernet.

4.Question 4

**A device that connects lots of devices and remembers which ones are connected to each interface is known as a \_\_\_\_\_.**hubswitchrouterserver

**Incorrect**

Not quite. Please refer back to Lesson 3 for a refresher.

5.Question 5

**A defined set of standards that computers must follow in order to communicate properly is known as a \_\_\_\_\_.**switchcollision domainmodulationprotocol

**Correct**

Good job! Protocols help define standards so that different computers can communicate with each other.

6.Question 6

**What layer in the Transmission Control Protocol/Internet Protocol (TCP/IP) model does IP use?**NetworkTransportData linkPhysical

Not quite. Please review the videos in the "Introduction to Networking" module for a refresher.

7.Question 7

**Which two protocols work at the transport layer and ensures that data gets to the right applications running on those nodes?**

Dynamic Host Configuration Protocol (DHCP)

User Datagram Protocol (UDP)

**Correct**

You got it! UDP works at the transport layer and is responsible for ensuring data gets to the right applications. UDP does not provide reliable delivery.

Internet Protocol (IP)

Transmission Control Protocol (TCP)

**Correct**

Woohoo! TCP works at the transport layer and is responsible for ensuring that data gets to the right applications. TCP provides reliable delivery.

8.Question 8

**A system has defined specifications that describe how signals are sent over connections. Which layer of the Transmission Control Protocol/Internet Protocol (TCP/IP) model provides this function?**Data linkNetworkPhysicalTransport

**Incorrect**

Not quite. Please review the videos in the "Introduction to Networking" module for a refresher.

9.Question 9

**You have installed a device at the physical layer. All of the systems you connect to this device will talk to each other at the same time. What have you installed?**SwitchServerRouterHub

**Correct**

Right on! A hub is a physical layer device that allows for connections from many computers at once.

10.Question 10

**What device forwards data and operates at layer three of the Transmission Control Protocol/Internet Protocol (TCP/IP) model?**RouterHubClientSwitch

**Correct**

Woohoo! A router is a device that knows how to forward data between independent networks and operates at layer three.

11.Question 11

**You get in your car after work and turn on the radio. What type of communication does the radio use?**Full duplexHalf duplexTwistedSimplex

**Correct**

You nailed it! A radio provides one way communication, or unidirectional. This is simplex communication.

12.Question 12

**What is the most common plug used with twisted pair network cables?**Registered Jack 46Registered Jack 11Registered Jack 45Registered Jack 35

**Correct**

Well done! Registered Jack 45 is the most common plug used in computer networking.

13.Question 13

**Which layer abstracts away the need for any other layers to care about what hardware is in use?**Data linkNetworkTransportPhysical

**Correct**

Well done! One of the primary purposes of the data link layer is to essentially abstract away the need for any other layers to care about the physical layer and what hardware is in use.

14.Question 14

**What does the letter B represent in a Media Access Control (MAC) address?**1110915

**Correct**

Well done! Since we don't have numerals to represent any individual digit larger than 9, hexadecimal numbers employ the letters A, B, C, D, E and F to represent the numbers 10, 11, 12, 13, 14 and 15.

15.Question 15

**What immediately follows the Start Frame Delimiter in an ethernet frame?**Frame Check SequenceDestination Media Access Control (MAC) addressEtherType fieldPayload

**Correct**

Right on! The destination MAC address immediately follows the Start Frame Delimiter.

16.Question 16

**Where is the Start Frame Delimiter (SFD) found in an ethernet frame?**The last byte of the preambleThe last byte of the EtherType fieldThe first byte of the EtherType fieldThe first byte of the preamble

**Correct**

You nailed it! The SFD is found in the last byte of the preamble, and signals to a receiving device that the preamble is over, and that the actual frame contents will now follow.