CNT145 Fundamentals of Voice and Data Cabling   Mesa Community College Network Academy

FVDC Worksheet
Chapter 2 – Networking Basics

1. What are the 7 layers of the OSI model and name one keyword for each?

    Layer 7   _application_   _a way_

    Layer 6   _presentation_   _pizza_

    Layer 5   _session_   _sausage_

    Layer 4   _transport_   _throw_

    Layer 3   _network_   _not_

    Layer 2   _data link_   _do_

    Layer 1   _physical_   _please_

2. Define and name 3 characteristics of a LAN.

    1. confined to limited geographic area

    2. connects workstations, servers

    3. found in business, schools, governments, + homes

3. Define and name 3 characteristics of a WAN.

    1. covers city, country, + the world

    2. used to communicate between businesses

    3.

4. What OSI layer do repeaters and hubs operate at? ___1 - physical___

5. What OSI layer do routers operate at? ___3 - network___

6. What OSI layer do switches and bridges operate at? ___2 - data link___

7. What is the definition of a network? _connected system of objects_

8. Give an example of a network. _a PBX_

9. Which layer of the OSI model is associated with twisted pair, fiber-optic, or coaxial cable?
    1 - physical

10. What is the definition of topology and what are the two types? _the way a network is set up - physical + logical_

11. What is the definition of a physical topology? _the way the wires are laid out_

12. What is the definition of a logical topology? _the actual way the network works_

13. Define and state the advantages of a mesh topology. _many different paths to the same point, if one path fails, another is taken_

14. Name 4 characteristics of a bus topology.

1. connect to backbone
2. broadcasts to each one
3. passive topology
4. collisions are likely

15. Name 4 characteristics of a star topology.

1. connects to control point
2. most popular
3. if a cable fails, others work
4. less collisions

16. An IP address works at which layer of the OSI model? _____3 — network_____

17. A MAC address works at which layer of the OSI model? _____2 — data link_____

18. Is a MAC address a physical or logical address? _____physical_____

19. Is an IP address a physical or logical address? _____logical_____

20. What is attenuation? _____decrease of a signal_____

21. What happens in a bus topology when more nodes are added to the network? _____
network becomes slower

22. What devices can decrease collisions? _____switches & routers_____
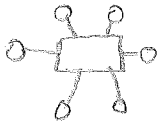(and Technically a bridge)

23. What is the purpose of a repeater? _____to regenerate a signal_____

24. What hardware connectivity device(s) can you use to segment a network? _____bridge_____
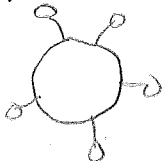
25. Draw a picture of a bus topology.

26. Draw a picture of a star topology.

27. Draw a picture of a ring topology.

28. Draw a picture of a mesh topology.