

Name: _____

1. Add these two binary numbers and then compute the equivalent decimal number:

01101101

01011100

Base 10

_____ = _____

2. What are the 7 layers in the OSI model?

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

3. Describe Layer 1 in a sentence:

4. What does MAC stand for? _____

5. What does MTU stand for? _____

6. What does NIC stand for? _____

7. How many bytes are there in an Ethernet MAC Address:

8. What does encapsulation mean?

9. How many bytes are there in an IP Address: _____

10. What does TTL stand for? _____

11. What does ICMP stand for? _____

12. Name a tool that uses ICMP: _____

13. What does fragmentation mean?

14. What does the DF bit mean? _____

15. What does the MF bit mean? _____

16. If a 1500 byte packet hits a segment with an MTU of 1450, what will the headers of the second packet be?
DF:____ MF:____ Offset: _____
17. What does CIDR stand for: _____
18. How many hosts can fit on a /26 network? _____
19. How many hosts can fit on a /19 network? _____
20. What is RFC 1918 and what are the networks it specifies? _____

21. What does UDP mean? _____
22. What does TCP mean? _____
23. Name a difference between TCP and UDP:

24. How many bytes are there in a TCP or UDP port? _____
25. What is the meaning of SYN? _____
26. What is the meaning of ACK? _____
27. What is the meaning of FIN? _____
28. What is the minimum number of packets that have to be sent to establish a TCP session? _____
29. What purpose do sequence numbers have in TCP?

30. What purpose does a window size have in TCP?

31. What does DNS stand for and what is its purpose:

32. What does DHCP stand for and what is its purpose:

33. What 4 things do you need for a computer to talk to the internet?
1. _____
2. _____
3. _____
4. _____

34. What does TLS stand for and what is its purpose:

35. What does VPN stand for and what is its purpose:

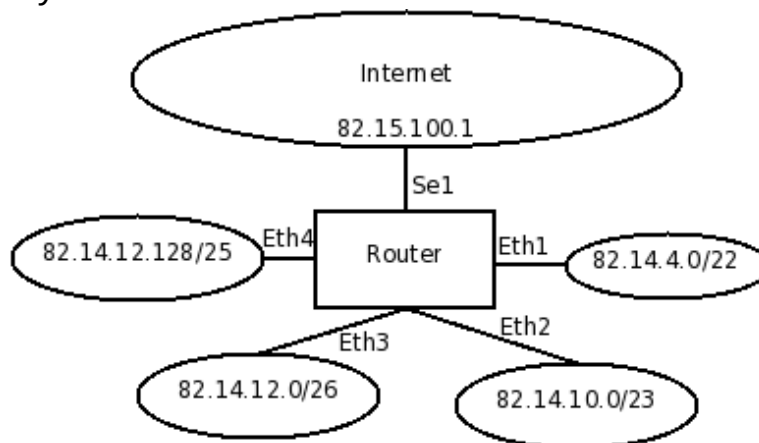
36. TCP or UDP, which is better for a VPN? _____
37. What does SMTP stand for and what is its purpose:

38. What does POP stand for and what is its purpose:

39. What does IMAP stand for and what is its purpose:

40. What does HTTP stand for and what is its purpose:

41. Using the diagram below, fill in the routing table, then specify which route the IPs would take:



#	Network	Netmask	Gateway	Interface
1			----	
2			----	
3			----	
4			----	
5	0.0.0.0			

IP address -> Route #

82.14.12.110: _____

82.14.11.12: _____

82.14.7.56: _____

82.14.12.63: _____

82.14.12.224: _____

82.14.3.63: _____