**Worksheet 3 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_**

**37**

**MCSE1**

1. Fill in the following table.

[9]

|  |  |  |
| --- | --- | --- |
| **Decimal** | **Binary** | **Hexadecimal** |
| **314** |  |  |
|  | **11000110** |  |
|  |  | **B2** |
| **107** |  |  |
|  | **10001** |  |
|  |  | **FF** |
| **1069** |  |  |
|  | **1001100110** |  |
|  |  | **9D** |

2. How many bits are there in an IP address?

[1]

3. How many octets in an IP address?

[1]

4. How many bits in a Hexadecimal digit?

[1]

5. What is the binary equivalent of the following IP addresses?

[3]

|  |  |
| --- | --- |
| IP address | Binary equivalent |
| 157.36.100.224 |  |
| 44.197.20.209 |  |
| 222.1.68.190 |  |

6. What is the range of numbers for the first octet of a class B license?

[1]

7. What is the range of numbers for the first octet of a class C license?

[1]

8. What is the range of numbers for the first octet of a class A license?

[1]

9. Why did IANA reserve some IP addresses for private use?

[1]

10. What is the range of useable IP addresses for the private class B networks? (List the first useable host to the last useable host).

[2]

11. When you want to calculate the number of useable hosts on a network, the formula is 2n – 2. What does the “n” stand for? Why do we subtract 2 from the total?

[3]

12. What is NAT used for?

[2]

13. Where do you configure the IP address on a computer?

[1]

14. What is the purpose of DHCP?

[1]

15. What is the purpose of DNS?

[1]

16. What is the purpose of the gateway?

[1]

17. What is the purpose of the subnet mask?

[1]

18. What is the default subnet mask for an IP address 191.34.217.67?

[1]

19. What is the network address for the host in question 18?

[1]

20. What is the network address for the IP address 10.214.180.56/18?

[2]

21. What is the network address for the IP address 10.214.180.56/19?

[2]