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18-020031

### **IP Address and Subnetting Activities**

#### **Binary To Decimal Conversion**

- |     |          |     |
|-----|----------|-----|
| 1.  | 00011011 | 27  |
| 2.  | 10101010 | 170 |
| 3.  | 01101111 | 111 |
| 4.  | 11111000 | 248 |
| 5.  | 00100000 | 32  |
| 6.  | 01010101 | 85  |
| 7.  | 00111110 | 62  |
| 8.  | 00000011 | 3   |
| 9.  | 11101101 | 237 |
| 10. | 11000000 | 192 |

#### **Decimal To Binary Conversion**

- |     |        |          |
|-----|--------|----------|
| 1.  | 123    | 1111011  |
| 2.  | 50     | 110010   |
| 3.  | 255    | 11111111 |
| 4.  | 200    | 11001000 |
| 5.  | 10     | 1010     |
| 6.  | 138    | 10001010 |
| 7.  | 250    | 11111010 |
| 8.  | 8. 107 | 1101011  |
| 9.  | 224    | 11100000 |
| 10. | 114    | 1110010  |
| 11. | 192    | 11000000 |
| 12. | 172    | 10101100 |
| 13. | 100    | 1100100  |
| 14. | 119    | 1110111  |
| 15. | 179    | 10110011 |

#### **Address Class Identification**

- |     |               |   |
|-----|---------------|---|
| 1.  | 192.14.2.0    | C |
| 2.  | 148.17.9.1    | B |
| 3.  | 193.42.1.1    | C |
| 4.  | 126.8.156.0   | A |
| 5.  | 220.200.23.1  | C |
| 6.  | 230.230.45.58 | D |
| 7.  | 177.100.18.4  | B |
| 8.  | 119.18.45.0   | A |
| 9.  | 249.240.80.78 | E |
| 10. | 199.155.77.56 | C |

- 11. 117.89.56.45 A
- 12. 215.45.45.0 C
- 13. 199.200.15.0 C
- 14. 95.0.21.90 A
- 15. 33.0.0.0 A

### Network Addresses

Using the IP address and subnet mask shown write out the network address (show the complete solution):

- 1. 188.10.18.2 =188.10.0.0/16 255.255.0.0
- 2. 10.10.48.80 =10.10.48.0/24  
255.255.255.0
- 3. 192.149.24.191 =192.149.24.0/24  
255.255.255.0
- 4. 150.203.23.19 =150.203.0.0/16  
255.255.0.0
- 5. 10.10.10.10 =10.0.0.0/8  
255.0.0.0
- 6. 186.13.23.110 =186.13.23.0/24  
255.255.255.0
- 7. 223.69.230.250 =223.69.0.0/16  
255.255.0.0
- 8. 200.120.135.15 =200.120.135.0/24  
255.255.255.0
- 9. 27.125.200.151 =27.0.0.0/8  
255.0.0.0
- 10. 199.20.150.35 =199.20.150.0/24  
255.255.255.0
- 11. 191.55.165.135 =191.55.165.0/24  
255.255.255.0
- 12. 28.212.250.254 =28.212.0.0/16  
255.255.0.0

Define the CIDR of the following (show the complete solution).

Write the IP address 222.1.1.20 mask 255.255.255.192 in CIDR notation.

222.1.1.0/26  
255.255.255.192

Write the IP address 135.1.1.25 mask 255.255. 248.0 in CIDR notation.

135.1.0.0/21  
255.255.248.0

What are the network address, broadcast address, and the subnet mask for a host with the IP Address below (show the complete solution)?

1. 76. 205. 82. 172/ 20  
76.205.80.0/20  
255.255.240.0

2. 108. 155. 30. 119/ 25  
108.155.30.0/25  
255.255.255.128

3. 223. 81. 59. 130/ 24  
223.81.59.0/24  
255.255.255.0

4. 13. 180. 70. 211/ 19  
13.180.0.0/19  
255.255.128.0

5. 132. 185. 250. 217/ 24  
132.185.250.0/24  
255.255.255.0