# Task #2

* 1. Subnet can contain no less than 30 nodes

**30** (DEC) node => **11110** (BIN) => **5** bits for node part

32 – 5 = **27** CIDR subnet mask

**255.255.224.0** – chosen as subnet mask

255.255.255.224

* 1. Network can contain **88** subnets

**88** (DEC) subnets => **1011000** (BIN) => **7** bits for subnets index

32 – (5 + 7) = **20** CIDR network mask

**255.255.240.0** – chosen as network mask

* 1. Network can contain no less than **140 1240** hosts. **172.16.0.0/27** – chosen as network address

There are subnets into network:

172.16.0.0/27 – is a 0 subnet

172.16.2.224/27 – is a 1 subnet

172.16.11.0/27 – is a 2 subnet

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| **Subnet #** | **IP** | **Binary** |
| 14 Это для 8ой | 172.16.1.0 | 10101100.00010000.0000**0001.000**00000  10101100.00010000.0000**0001.110**00000 |
| 23 | 172.16.2.224 | 10101100.00010000.0000**0010.111**00000 |
| 88 | 172.16.11.0 | 10101100.00010000.0000**1011.000**00000 |

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| **Node #** | **IP in subnet #14** | **Binary** |
| 8 | 172.16.1.8/27  172.16.1.200/27 | 10101100.00010000.00000001.000**01000**  10101100.00010000.00000001.110**01000** |
| 9 | 172.16.1.9/27  172.16.1.201/27 | 10101100.00010000.00000010.111**00000**  10101100.00010000.00000001.110**01001** |
| 11 | 172.16.1.11/27  172.16.1.203/27 | 10101100.00010000.00000001.000**0101**1  10101100.00010000.00000001.110**01011** |

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| **Node #** | **IP in subnet #23** | **Binary** |
| 21 | 172.16.2.245/27 | 10101100.00010000.00000010.111**10101** |
| 22 | 172.16.2.246/22 | 10101100.00010000.00000010.111**10110** |
| 23 | 172.16.2.247/22 | 10101100.00010000.00000010.111**10111** |

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| **Node #** | **IP in subnet #88** | **Binary** |
| 21 | 172.16.11.21/27 | 10101100.00010000.00001011.000**10101** |
| 22 | 172.16.11.22/27 | 10101100.00010000.00001011.000**10110** |
| 23 | 172.16.11.23/27 | 10101100.00010000.00001011.000**10111** |

# Task #3