Question 1

1. 1 - t=1, d=1
   2 - t=2, d=1
   4 - t=3, d=2
   3 - t=4, d=2
   5 - t=5, d=3
   6 - t = 6, d=2
   7 - t = 7, d=3
   8 - t = 8, d=2
   10 - t = 9, d=3
   9 - t = 10, d=3
   11 - t = 11, d=4
   12 - t = 12, d=4
   Average delay: 2.5 units
2. 1 - t=1, d=1
   2 - t=2, d=1
   3 - t=3, d=1
   5 - t=4, d=2
   7 - t=5, d=1
   4 - t=6, d=5
   6 - t=7, d=3
   9 - t=8, d=1
   11 - t=9, d=2
   8 - t=10, d=4
   10 - t=11, d=5
   12 - t=12, d=4
   Average delay: 2.5 units
3. Class 1: 1,2,3,6,11,12
   Class 2: 4,5,7,8,9,10
   1 - t=1, d=1
   4 - t=2, d=1
   2 - t=3, d=2
   3 - t=4, d=2
   5 - t=5, d=3
   6 - t=6, d=2
   7 - t=7, d=3
   11 - t=8, d=1
   8 - t=9, d=3
   12 - t=10, d=2
   10 - t=11, d=5
   9 - t=12, d=5
   Average delay: 2.5 units

4. 1 - t=1, d=1
   2 - t=2, d=1
   3 - t=3, d=1
   5 - t=4, d=3 /ratio is closer if choosing odd
   7 - t=5, d=1
   4 - t=6, d=5
   6 - t=7, d=2 /no odd numbers to send
   9 - t=8, d=1
   11 - t=9, d=2
   8 - t=10, d=4 /no odd numbers to send
   10 - t=11, d=5 /no odd numbers to send
   12 - t=12, d=4 /no odd numbers to send
   Average delay: 2.5
5. It's constant! That's crazy!

Question 2

1.

```
Connection-specific DNS Suffix  . : residencia
Link-local IPv6 Address . . . . . : fe80::6565:9ad4:b61:bed2%11
IPv4 Address. . . . . . . . . . . : 172.16.4.180
Subnet Mask . . . . . . . . . . . : 255.255.248.0
Default Gateway . . . . . . . . . : 172.16.0.1
```

2. Public: 79.155.19.88. This is completely different, likely because I'm connecting over a NAT and within a subnet.
3. I think RIMA? Not sure to be honest.
4. Wow, it was accurate. It got Barcelona, Spain. Coords were for Placa de Catalunya, which is around 3km away.

Question 3

Just the destination address.

Question 4

1. 10000000 00100000 - Port 1
   10000000 000 - Port 0
   10000000 0 - Port 2
   Default - Port 3
2. Port 3 - no match
   Port 1 - matches first entry in the table
   Port 2 - matches third entry in the table

Question 5

Subset 1 - 128.61.108.128/25
Needs 120 addresses → round to 128 = 0b10000000
IP address needs to be greater than 0b10000000 → bitmask can mask the 7 zeroes
Therefore bitmask is 25 bits long

Subset 2 - 128.61.108.64/26
Needs 50 addresses → round to 64 = 0b01000000
IP address needs to be greater than 0b01000000 → bitmask can mask the 6 trailing zeroes
Therefore bitmask is 26 bits long

Subset 3 - 128.61.108.16/28
Needs 15 addresses → round to 16 = 0b00010000
IP address needs to be greater than 0b00010000 → bitmask can mask the 4 trailing zeroes
Therefore bitmask is 28 bits long

Question 6

WAN Side | LAN side
125.56.34.6:5001 | 10.0.0.1:3434

1. Source: 10.0.0.1:3434
   Destination: 10.0.0.4
2. S: 125.56.34.6:5001
   D: 156.19.40.34:80
3. S: 156.19.40.34:80
   D: 125.56.34.6:5001
4. S: 10.0.0.4:5001
   D: 10.0.0.1:3434