Homework 3

# Question 1

**A)**

**B)**

The window size is between and . Therefore, the average window size is segments.

The average throughput is

**C)**

# Question 2

**A)**

# Question 3

**A)**

|  |  |  |
| --- | --- | --- |
| Prefix Match | Address range | Number of Addresses |
| 10 | 10000000 – 10111111 | 64 |
| 01 | 01000000 – 01111111 | 64 |
| 11 | 11000000 – 11111111 | 64 |
| Otherwise | 00000000 – 00111111 | 64 |

**B)**

|  |  |  |
| --- | --- | --- |
| Prefix Match | Address range | Number of Addresses |
| 101 | 10100000 – 10111111 | 32 |
| 111 | 11100000 – 11111111 | 32 |
| 01 | 01000000 – 01111111 | 64 |
| Otherwise | 00000000 – 00111111  11000000 – 11011111  10000000 – 10011111 | 128 |

# Question 4

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Fragment | Flag | Length | Identification | Offset |
| 1 | 1 | 260 | 21 | 0 |
| 2 | 1 | 260 | 21 |  |
| 3 | 1 | 260 | 21 | 60 |
| 4 | 1 | 260 | 21 | 90 |
| 5 | 1 | 260 | 21 | 120 |
| 6 | 1 | 260 | 21 | 150 |
| 7 | 1 | 260 | 21 | 180 |
| 8 | 1 | 260 | 21 | 210 |
| 9 | 1 | 260 | 21 | 240 |
| 10 | 0 | 240 | 21 | 270 |

Fragment 10:

# Question 5

**A)**

**B)**

|  |  |
| --- | --- |
| Subnet nr. | Subnet Address |
| 1 | 192.168.56.128/28 |
| 2 | 192.168.56.144/28 |
| 3 | 192.168.56.160/28 |
| 4 | 192.168.56.176/28 |

# Question 6

|  |  |
| --- | --- |
| Match | Action |
| Ingress port = 1  IP Src = 10.3.0.\*  IP Dst = 10.1.0.\* | Forward(2) |
| Ingresss port = 2  IP Src = 10.1.0.\*  IP Dst = 10.3.0.\* | Forward(1) |
| Ingress port = 1  IP Dst = 10.2.0.3 | Forward(3) |
| Ingress port = 2  IP Dst = 10.2.0.3 | Forward(3) |
| Ingress port = 1  IP Dst = 10.2.0.4 | Forward(4) |
| Ingress port = 2  IP Dst = 10.2.0.4 | Forward(4) |
| Ingress port = 3  IP Src = 10.2.0.3  IP Dst = 10.2.0.4 | Forward(4) |
| Ingress port = 4  IP Src = 10.2.0.4  IP Dst = 10.2.0.3 | Forward(3) |