3.1: Round Robin Scheduling

Let's assume a time quantum of 2 units.

Gantt Chart

Time	Process
0	T1
2	T2
4	T3
6	T4
8	T5
10	T6
12	T7
14	T8
16	T9
18	T10
20	T1
22	T2
24	T3
26	T4
28	T5
30	T6
32	T7
34	T8
36	T9
38	T10
40	T1
42	T2
44	T3
46	T4
48	T5
50	T6
52	T7
54	T8
56	T9
58	T10

Waiting Times

Process	Arrival Time	Burst Time	Completion Time	Turnaround Time	Waiting Time
T1	0	1	40	40	39
T2	0	2	42	42	40
T3	0	4	48	48	44
T4	0	6	54	54	48
T5	0	8	60	60	52
T6	11	6	52	41	35

T7	11	7	57	46	39
T8	11	4	50	39	35
T9	11	2	45	34	32
T10	11	1	41	30	29

Analysis:
Longest Waiting Time: T5 (52 units)
Shortest Waiting Time: T10 (29 units)
Average Waiting Time: (39 + 40 + 44 + 48 + 52 + 35 + 39 + 35 + 32 + 29) / 10 = 42.4 units

3.2: First Come First Serve Scheduling

Gantt Chart

Time	Process
0	T1
1	T2
3	T3
7	T4
13	T5
21	T6
27	T7
33	T8
37	T9
39	T10

Waiting Times

Process	Arrival Time	Burst Time	Completion Time	Turnaround Time	Waiting Time
T1	0	1	1	1	0
T2	0	2	3	3	1
T3	0	4	7	7	3
T4	0	6	13	13	7
T5	0	8	21	21	13
T6	11	6	27	16	5
T7	11	7	34	23	12
T8	11	4	38	27	23
T9	11	2	40	29	27
T10	11	1	41	30	29

Analysis:

Longest Waiting Time: T9 (27 units)
Shortest Waiting Time: T1, T2 (0 units)
Average Waiting Time: (0 + 1 + 3 + 7 + 13 + 5 + 12 + 23 + 27 + 29) / 10 = 10.7 units

Summary:
Round Robin Scheduling:
Longest Waiting Time: T5 (52 units)
Shortest Waiting Time: T10 (29 units)
Average Waiting Time: 42.4 units

First Come First Serve Scheduling:
Longest Waiting Time: T9 (27 units)
Shortest Waiting Time: T1, T2 (0 units)
Average Waiting Time: 10.7 units