GF-01 Worked Examples — Ticks 1–8

Graph: N=6; SC=32; k=1 (ring), k=2 (chords); cap=∞; u(0)=[3,1,0,0,0,0]

Edges (ID order): 1:1-2(k=1), 2:1-4(k=2), 3:1-6(k=1), 4:2-3(k=1), 5:2-5(k=2), 6:3-4(k=1), 7:4-5(k=1), 8:5-6(k=1)

Primes for s_t: [2, 3, 5, 7, 11, 13]

C_t series (t=1..8): 20987847, 356793608, 65491504, 113355772, 927048329, 759821701, 916969047, 588473909

A2 — UMX Tick Ledger (Filled)

tick	Σ pre_u	Σ post_u	Σ_check (must match)
1	4	4	OK

Tick 1

pre_u[1..6]: 3, 1, 0, 0, 0, 0

Edges (ID order) with du, raw, f_e:

e_id	1	2	du	raw=floor(k*|du|/SC)	cap	f_e
2	1	4	3	0	∞	0
3	1	6	3	0	∞	0
4	2	3	1	0	∞	0
5	2	5	1	0	∞	0
6	3	4	0	0	∞	0
7	4	5	0	0	∞	0
8	5	6	0	0	∞	0

post_u[1..6]: 3, 1, 0, 0, 0, 0

A3 — Loom P-Block (Filled)

Tick 1

tick	seq	s_t	C_t
1	1	9	20987847

Edge flux summary (f_e):

e_{id}	f_e
2	0
3	0
4	0
5	0
6	0
7	0
8	0

$C_1 = (17*1234567 + 23*9 + 1) \bmod 1000000007 = 20987847$

A1 — NAP Envelope (Prefill Placeholder)

Tick 1 — payload_ref will be set to window manifest_check

v

1

tick

1

gid

GF01

nid

N/A

layer

DATA

mode

P

payload_ref

(set after Press)

seq

1

prev_chain

1234567

sig

(witness at I-block)

A2 — UMX Tick Ledger (Filled)

Tick 2

tick	Σ pre_u	Σ post_u	Σ_check (must match)
2	4	4	OK

pre_u[1..6]: 3, 1, 0, 0, 0, 0

Edges (ID order) with du, raw, f_e:

e_id	1	2	du	raw=floor(k*|du|/SC)	cap	f_e
2	1	4	3	0	∞	0
3	1	6	3	0	∞	0
4	2	3	1	0	∞	0
5	2	5	1	0	∞	0
6	3	4	0	0	∞	0
7	4	5	0	0	∞	0
8	5	6	0	0	∞	0

post_u[1..6]: 3, 1, 0, 0, 0, 0

A3 — Loom P-Block (Filled)

Tick 2

tick	seq	s_t	C_t
2	2	9	356793608

Edge flux summary (f_e):

e_id	f_e
2	0
3	0
4	0
5	0
6	0
7	0
8	0

C_2 = (17*20987847 + 23*9 + 2) mod 1000000007 = 356793608

A1 — NAP Envelope (Prefill Placeholder)

Tick 2 — payload_ref will be set to window manifest_check

v	tick
1	2
gid	**nid**
GF01	N/A
layer	**mode**
DATA	P
payload_ref	**seq**
(set after Press)	2
prev_chain	**sig**
20987847	(witness at I-block)

A2 — UMX Tick Ledger (Filled)

Tick 3

tick	Σ pre_u	Σ post_u	Σ_check (must match)
3	4	4	OK

pre_u[1..6]: 3, 1, 0, 0, 0, 0

Edges (ID order) with du, raw, f_e:

e_id	u	v	du	raw=floor(k*|du|/SC)	cap	f_e
2	1	4	3	0	∞	0
3	1	6	3	0	∞	0
4	2	3	1	0	∞	0
5	2	5	1	0	∞	0
6	3	4	0	0	∞	0
7	4	5	0	0	∞	0
8	5	6	0	0	∞	0

post_u[1..6]: 3, 1, 0, 0, 0, 0

A3 — Loom P-Block (Filled)

Tick 3

tick	seq	s_t	C_t
3	3	9	65491504

Edge flux summary (f_e):

e_id	f_e
2	0
3	0
4	0
5	0
6	0
7	0
8	0

C_3 = (17*356793608 + 23*9 + 3) mod 1000000007 = 65491504

A1 — NAP Envelope (Prefill Placeholder)

Tick 3 — payload_ref will be set to window manifest_check

v	tick
1	3
gid	**nid**
GF01	N/A
layer	**mode**
DATA	P
payload_ref	**seq**
(set after Press)	3
prev_chain	**sig**
356793608	(witness at I-block)

A2 — UMX Tick Ledger (Filled)

Tick 4

tick	Σ pre_u	Σ post_u	Σ_check (must match)
4	4	4	OK

pre_u[1..6]: 3, 1, 0, 0, 0, 0

Edges (ID order) with du, raw, f_e:

e_id	u	v	du	raw=floor(k*|du|/SC)	cap	f_e
2	1	4	3	0	∞	0
3	1	6	3	0	∞	0
4	2	3	1	0	∞	0
5	2	5	1	0	∞	0
6	3	4	0	0	∞	0
7	4	5	0	0	∞	0
8	5	6	0	0	∞	0

post_u[1..6]: 3, 1, 0, 0, 0, 0

A3 — Loom P-Block (Filled)

Tick 4

tick	seq	s_t	C_t
4	4	9	113355772

Edge flux summary (f_e):

e_id	f_e
2	0
3	0
4	0
5	0
6	0
7	0
8	0

C_4 = (17*65491504 + 23*9 + 4) mod 1000000007 = 113355772

A1 — NAP Envelope (Prefill Placeholder)

Tick 4 — payload_ref will be set to window manifest_check

v	tick
1	4
gid	**nid**
GF01	N/A
layer	**mode**
DATA	P
payload_ref	**seq**
(set after Press)	4
prev_chain	**sig**
65491504	(witness at I-block)

A2 — UMX Tick Ledger (Filled)

tick	Σ pre_u	Σ post_u	Σ_check (must match)
5	4	4	OK

Tick 5

pre_u[1..6]: 3, 1, 0, 0, 0, 0

Edges (ID order) with du, raw, f_e:

e_id	1	2	du	raw=floor(k*|du|/SC)	cap	f_e
2	1	4	3	0	∞	0
3	1	6	3	0	∞	0
4	2	3	1	0	∞	0
5	2	5	1	0	∞	0
6	3	4	0	0	∞	0
7	4	5	0	0	∞	0
8	5	6	0	0	∞	0

post_u[1..6]: 3, 1, 0, 0, 0, 0

A3 — Loom P-Block (Filled)

Tick 5

tick	seq	s_t	C_t
5	5	9	927048329

Edge flux summary (f_e):

e_id	f_e
2	0
3	0
4	0
5	0
6	0
7	0
8	0

C_5 = (17*113355772 + 23*9 + 5) mod 1000000007 = 927048329

A1 — NAP Envelope (Prefill Placeholder)

Tick 5 — payload_ref will be set to window manifest_check

v	tick
1	5
gid	nid
GF01	N/A
layer	mode
DATA	P
payload_ref	seq
(set after Press)	5
prev_chain	sig
113355772	(witness at I-block)

A2 — UMX Tick Ledger (Filled)

Tick 6

tick	Σ pre_u	Σ post_u	Σ_check (must match)
6	4	4	OK

pre_u[1..6]: 3, 1, 0, 0, 0, 0

Edges (ID order) with du, raw, f_e:

e_id	1	2	3	raw=floor(k*|du|/SC)	cap	f_e
2	1	4	3	0	∞	0
3	1	6	3	0	∞	0
4	2	3	1	0	∞	0
5	2	5	1	0	∞	0
6	3	4	0	0	∞	0
7	4	5	0	0	∞	0
8	5	6	0	0	∞	0

post_u[1..6]: 3, 1, 0, 0, 0, 0

A3 — Loom P-Block (Filled)

Tick 6

tick	seq	s_t	C_t
6	6	9	759821701

Edge flux summary (f_e):

e_id	f_e
2	0
3	0
4	0
5	0
6	0
7	0
8	0

C_6 = (17*927048329 + 23*9 + 6) mod 1000000007 = 759821701

A1 — NAP Envelope (Prefill Placeholder)

Tick 6 — payload_ref will be set to window manifest_check

v 1	tick 6
gid GF01	nid N/A
layer DATA	mode P
payload_ref (set after Press)	seq 6
prev_chain 927048329	sig (witness at I-block)

A2 — UMX Tick Ledger (Filled)

Tick 7

tick	Σ pre_u	Σ post_u	Σ_check (must match)
7	4	4	OK

pre_u[1..6]: 3, 1, 0, 0, 0, 0

Edges (ID order) with du, raw, f_e:

e_id	u	v	du	raw=floor(k*|du|/SC)	cap	f_e
2	1	4	3	0	∞	0
3	1	6	3	0	∞	0
4	2	3	1	0	∞	0
5	2	5	1	0	∞	0
6	3	4	0	0	∞	0
7	4	5	0	0	∞	0
8	5	6	0	0	∞	0

post_u[1..6]: 3, 1, 0, 0, 0, 0

A3 — Loom P-Block (Filled)

Tick 7

tick	seq	s_t	C_t
7	7	9	916969047

Edge flux summary (f_e):

e_id	f_e
2	0
3	0
4	0
5	0
6	0
7	0
8	0

C_7 = (17*759821701 + 23*9 + 7) mod 1000000007 = 916969047

A1 — NAP Envelope (Prefill Placeholder)

Tick 7 — payload_ref will be set to window manifest_check

v 1	tick 7
gid GF01	nid N/A
layer DATA	mode P
payload_ref (set after Press)	seq 7
prev_chain 759821701	sig (witness at I-block)

A2 — UMX Tick Ledger (Filled)

Tick 8

tick	Σ pre_u	Σ post_u	Σ_check (must match)
8	4	4	OK

pre_u[1..6]: 3, 1, 0, 0, 0, 0

Edges (ID order) with du, raw, f_e:

e_id	1	2	du	raw=floor(k*|du|/SC)	cap	f_e
2	1	4	3	0	∞	0
3	1	6	3	0	∞	0
4	2	3	1	0	∞	0
5	2	5	1	0	∞	0
6	3	4	0	0	∞	0
7	4	5	0	0	∞	0
8	5	6	0	0	∞	0

post_u[1..6]: 3, 1, 0, 0, 0, 0

A3 — Loom P-Block (Filled)

Tick 8

tick	seq	s_t	C_t
8	8	9	588473909

Edge flux summary (f_e):

e_id	f_e
2	0
3	0
4	0
5	0
6	0
7	0
8	0

C_8 = (17*916969047 + 23*9 + 8) mod 1000000007 = 588473909

A1 — NAP Envelope (Prefill Placeholder)

Tick 8 — payload_ref will be set to window manifest_check

v	tick
1	8
gid	**nid**
GF01	N/A
layer	**mode**
DATA	P
payload_ref	**seq**
(set after Press)	8
prev_chain	**sig**
916969047	(witness at I-block)

A4 — Loom I-Block (Filled)

Checkpoint at t=8

tick	W	C_t	Profile version
8	8	588473909	CMP-0

post_u[1..6]: 3, 1, 0, 0, 0, 0

Topology & params snapshot:

e_id	1	2	k	cap	SC	t
2	1	4	2	∞	32	1
3	1	6	1	∞	32	1
4	2	3	1	∞	32	1
5	2	5	2	∞	32	1
6	3	4	1	∞	32	1
7	4	5	1	∞	32	1
8	5	6	1	∞	32	1