CQE Ledger Pack (Printable)

Purpose: run ring-by-ring beats with open/close (phi/greedy) cadence, log contradictions, and observe sine-like envelopes (natural geometry).

How to use: print; one tick per beat. Use dice for cadence, cards for tokens, journals for mirrors.

Ring 1 Sheet

RING 1 (n=1) — Identity

Beats: 1

Open (φ): P → P′

Close (greedy): P′ → P

Notes: No braid; establish baseline; log zero contradictions.

Ring 2 Sheet

RING 2 (n=2) — First coupling

Beats: 1–2 (odd=open φ, even=close greedy)

Open: P → W

Close: (W, P) → (P, W)

Invariants: P ⊕ W stable

Braid: 1 (two-strand); log any mirror-only contradictions.

Ring 4 Sheet

RING 4 (n=4) — Two axes (T time, M mirror)

Odd beats open; even beats close.

T: (P, W) emit → pack to (P ↔ W)

M: (PW)′ visible → reconcile

Gates closed: T, M (2 closures).

Ring 8 Sheet

RING 8 (n=8) — 3-strand loop stabilization

Open beats: C → R → L via G

Close beats: L → R → C via G

One soft contradiction may be quarantined; braid loop stabilizes.

Checkpoint: look for sinusoidal envelope.

Ring 16 Sheet

RING 16 (n=16) — Quorum & ECC-like behavior

Add lanes: {S, H, K, E, D, F, N, Q}.

Quorum every 4th beat; Shannon budget (E) enforced.

Closures: 5 (T, M, + quorum + 2 locals).

Expected: sine envelope cleaner; knee at 12-beat harmonic (3×4).

Ring 32 Sheet

RING 32 (n=32) — ϕ lead scheduling

Staggered IO lanes; φ leads by ~0.618 beat; prefetch micro-gate at φ/2 ≈ 0.309.

Entropy plateaus; prune redundant paths.

Closures: 8 clustered; quarantine transient contentions.

Ring 64 Sheet

RING 64 (n=64) — Full governance closure

Safety/Assurance/Portability complete; projection to skeleton.

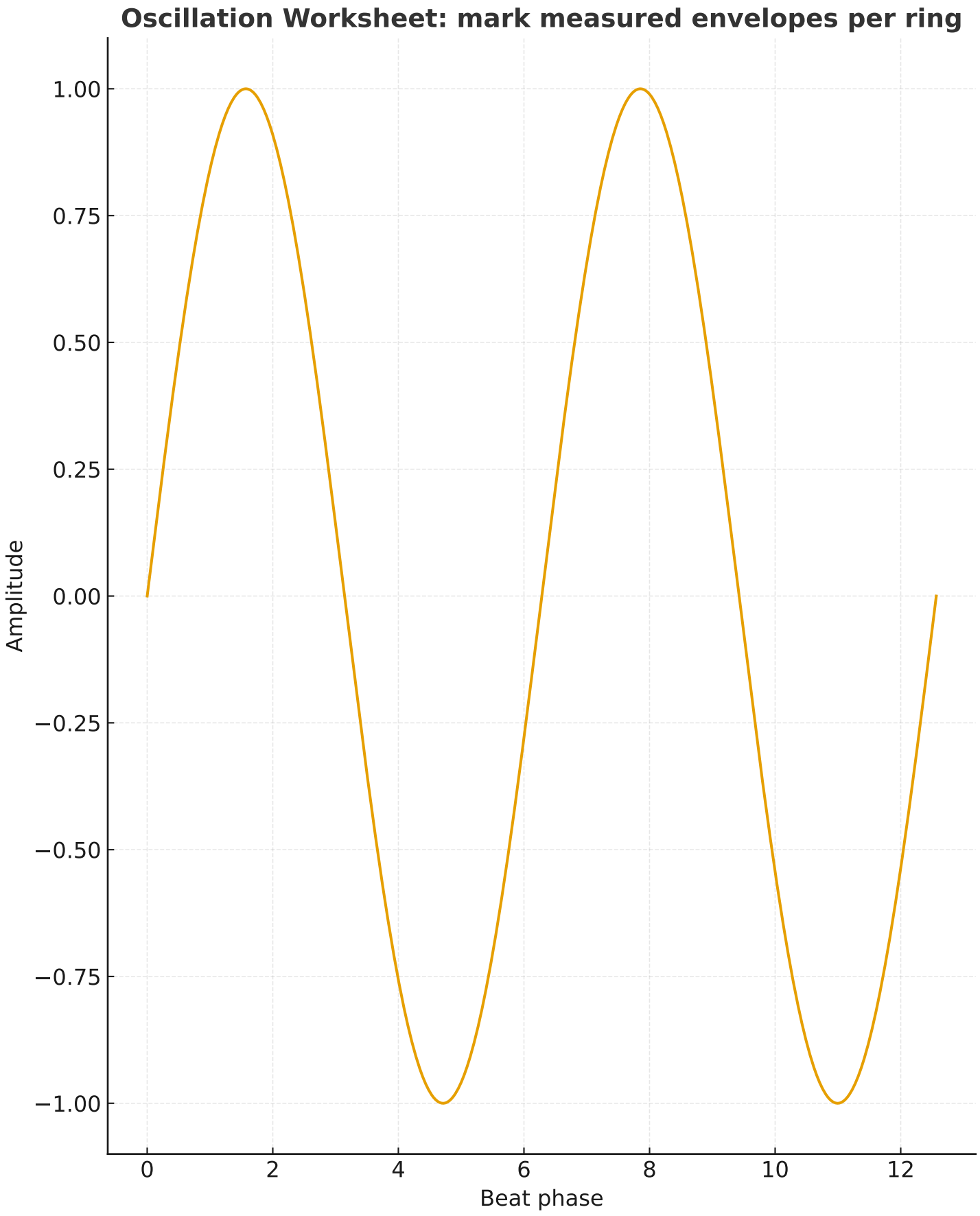
Closures: 13 (3,5,8 cascade).

Outcome: stable sine envelope; zero unresolved contradictions.

Patterns Reference

NEW PATTERNS CARD

- ϕ/2 (0.309) pre-ack window reduces contention at Rings ≥32.
- Odd-prime bias (3,5) precedes composite consolidator (8).
- Quorum acts as (4,2) ECC-like block code (native self-heal).
- Mirror latency floor: 2 beats + 1 mirror hop, scale-invariant.
- Entropy–gate L-knee: natural Pareto front for cluster count.
- Context/ledger trade-off (conjugate): keep quorum+mirrors on.
- Harmonic plateau at 12 (3×4)—use for mid-cycle snapshot.
- Greedy selects/prunes; novelty appears on φ-open beats.
- Mirror-only contradictions are potential futures (defer, don’t discard).
- Oscillation amplitude ∝ √(closures).


Oscillation Worksheet: mark measured envelopes per ring
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
Amplitude
0
2
4
6
8
10
12
Beat phase

High-Symmetry Checkpoints

Checkpoint Map (Cartan, Golay, Conway, Lie)

• Cartan (root systems): sample at braid counts {2,3,5,8}; log emergent simple-root symmetries.

• Golay (24-code) / Leech: at 24-like substructures, expect extra inter-gates; map to 3×8 braids.

• Conway stabilizers: watch for automorphisms aligning mirror closures.

• Lie algebras: track closure products; note when structure constants stabilize across beats.

Blank Field Log

Field Log — use one page per run