RING FINAL CIRCUITS, STEP 2: THE FIGURE OF EIGHT, LINE TO NEUTRAL

WHY DIVIDE BY FOUR?

8 Take the **neutral of one leg** and join it to the **line of the other leg**, and the **line of the first leg** to the **neutral of the other**. That cross-connection is the **figure of eight**.

Then test at **every socket on the ring**, using a **socket outlet adapter** — no probes or clips needed, the leads plug straight in.

✋ **Every switch must be on.** You need a **closed circuit** all the way round. A switched-off socket gives you an open-circuit reading and the tester's error symbol, and people waste a lot of time on it.

WHAT YOU SHOULD EXPECT

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Expected R1 + Rn = (r1 + rn) ÷ 4

With those readings:
(0.01 + 0.52) ÷ 4 = 0.13 Ω
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Why divide by four?

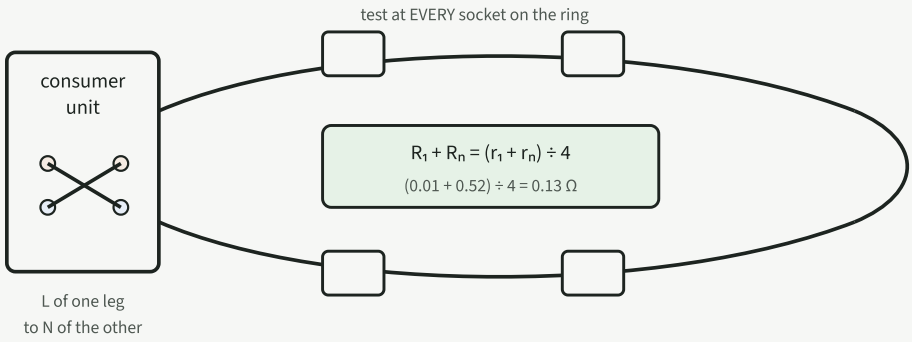
With the figure of eight made up, the ring becomes **one loop** of resistance r1 + rn. Wherever you plug in, you are measuring **two halves of that loop in parallel**: each half is (r1 + rn) ÷ 2, and two equal halves in parallel give half of that again — (r1 + rn) ÷ 4. It's the parallel resistance rule doing the work.

DO YOU RECORD IT?

✋ **No.** There is no **R1 + Rn** column on the schedule of test results. If you're a stickler you could note the highest value in the **remarks** column — and recording everything is good self-protection as well as good practice — but it is **not required**.

The readings at each socket should be substantially the same. A socket on a **spur** will read slightly higher, because of the extra length of cable out to it.

GN3 · 2.6.6 · p.63 · ring final continuity, step 2 ★



✋ Every switch on the ring must be ON — one switched-off socket reads open circuit and wastes ten minutes.

Cross-connect line and neutral at the board, then plug a socket adapter into every outlet. Readings should be substantially the same all the way round.

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