Bug Byte

Fill in the edge weights in the graph below with the numbers 1 through 24, using each number exactly once. Labeled nodes provide some additional constraints:

(M) The sum of all edges directly connected to this node is M.

(N) There exists a non-self-intersecting path starting from this node where N is the sum of the weights of the edges on that path. Multiple numbers indicate multiple paths that may overlap.

Once the graph is filled, find the shortest (weighted) path from ✸ to ✸ and convert it to letters (1=A, 2=B, etc.) to find a secret message.