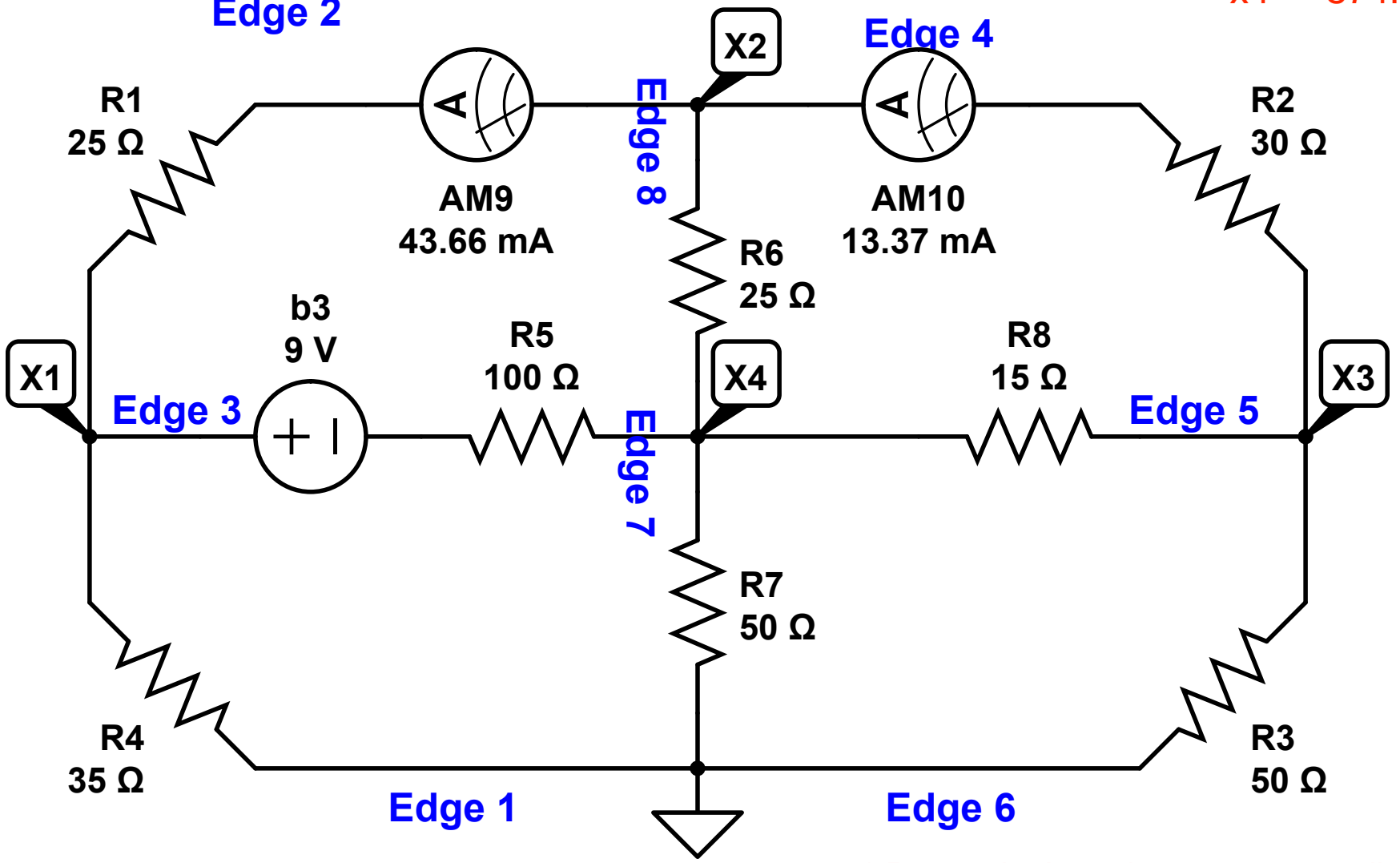
Solutions

x1 = 974.7 mV
x2 = -116.9 mV
x3 = -518.2 mV
x4 = -874.2 mV



How to create the adjacency matrix A :
* Choose directions for each edge
* For each row (corresponding to an edge) put a -1 in the column corresponding to the starting node.

* Put a 1 in the column corresponding to the ending node
* Your final matrix should have 8 rows (one for each edge and 4 columns (one for each node, excluding x0).