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Locating a Robber on a Graph

A cop chooses a vertex of a connected graph to probe; if she locates the robber she wins. Otherwise she receives the distance to him. The robber may move to any vertex adjacent to his location other than the probe. The cop wants to minimize the number of probes to win, while the robber wants to avoid detection. This is a synthesis of the cop-and-robber game with the metric dimension problem.