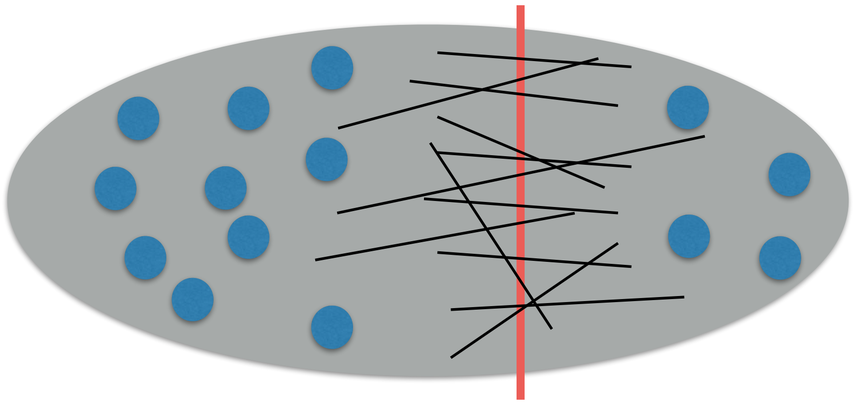
Maxcut

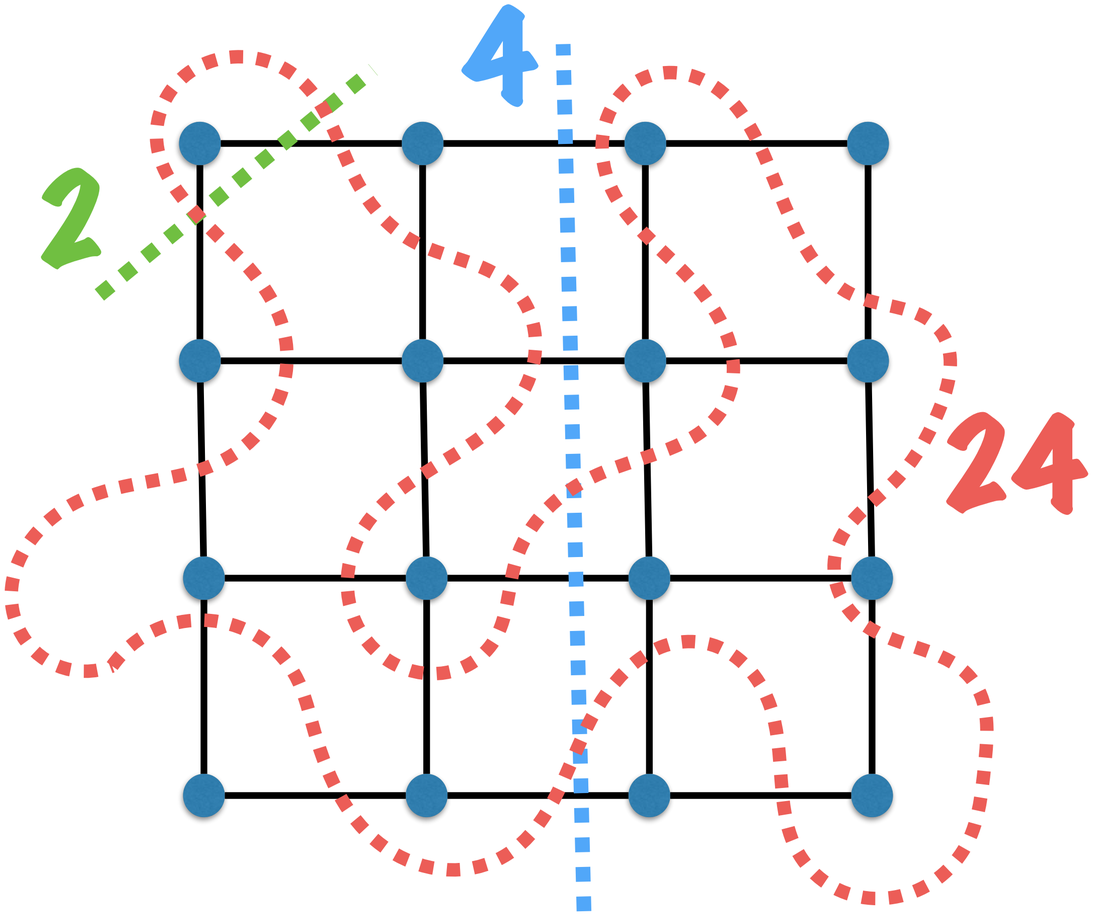
The Maxcut problem

Given:
a graph with non-negative edge weights
Find:
a partition of the vertices into two sets
that maximizes:
the weight of edges across the resulting cut



Example

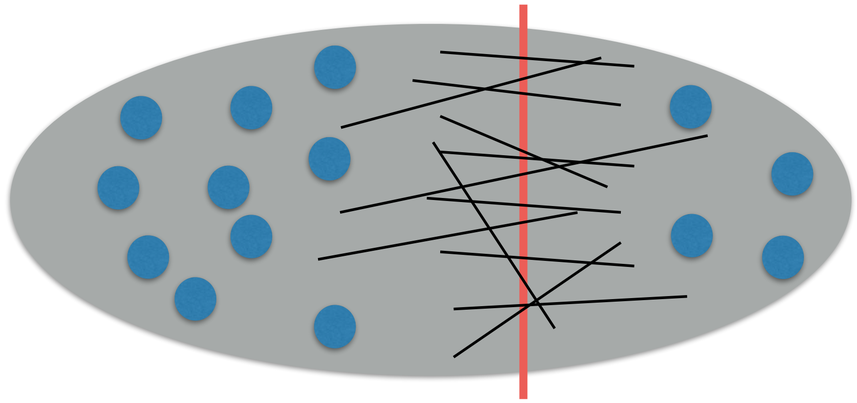
If every edge has weight 1



Maxcut

Given: a graph with non-negative edge weights
Find:a partition of the vertices into two sets
that maximizes:
the weight of edges across the resulting cut

- Does not have to separate a particular pair {s,t}
- Does not have to be balanced



Maxcut

Mincut

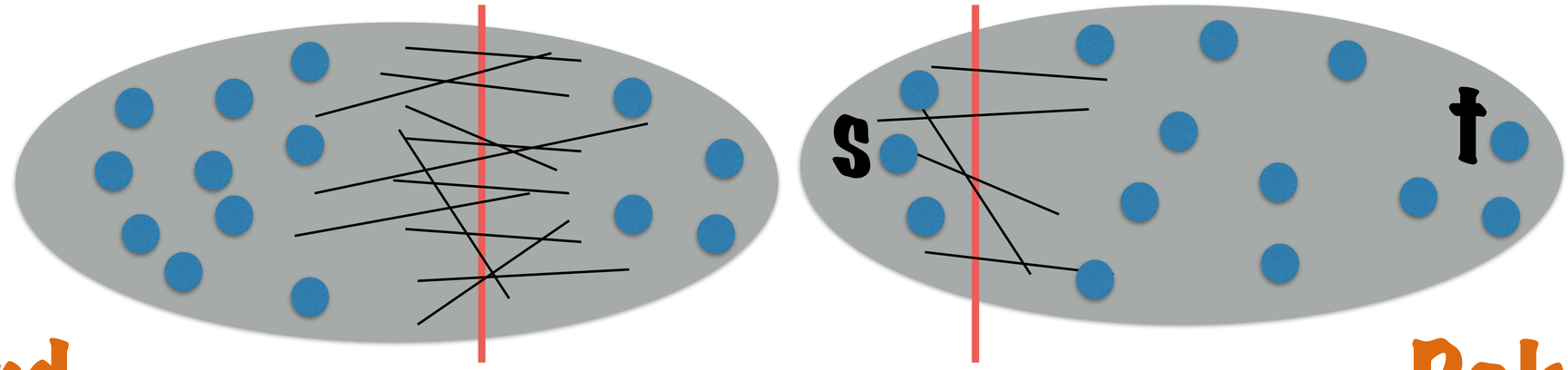
Given: graph, non-negative edge weights and two vertices s and t

Find: partition of vertices into two sets, separating s from t

Maximizing

Minimizing

weight of edges across the resulting cut



NP-hard

Polynomial

Maxcut