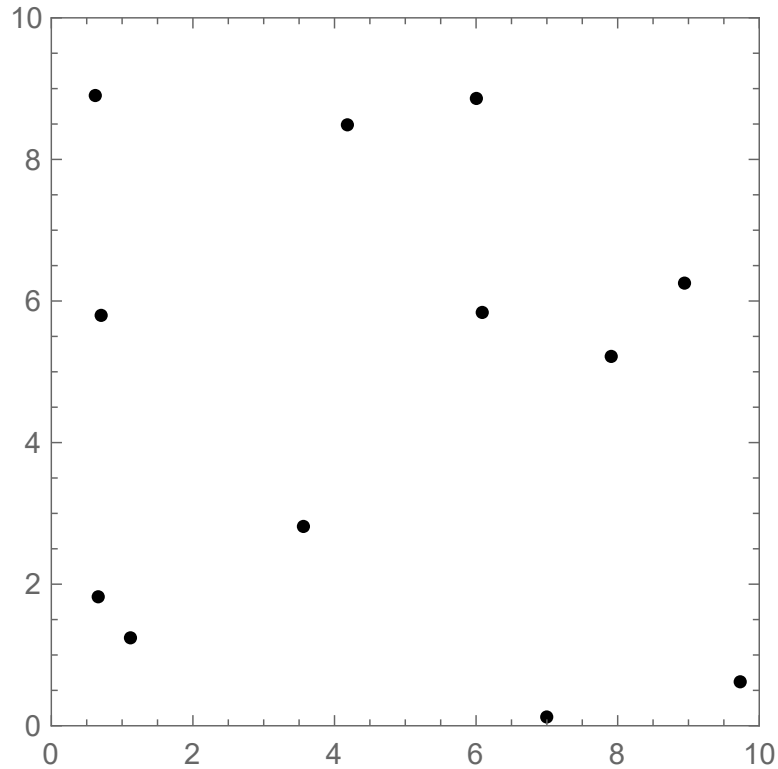


Voronoi Diagrams

Math 282 Computational Geometry

1. Suppose the CEO of a supermarket chain approaches you for help in selecting a location for a new supermarket. The CEO wants the new location to be as far away from existing supermarkets as possible. The dots on the map below show locations of existing supermarkets:



Where would you position the new supermarket? Defend your choice.

2. Draw the Voronoi diagram whose “sites” are the existing supermarkets. How does the diagram change when you add a site for the new supermarket?

- 3.** Fix $n \geq 3$. Find a point set S with n sites such that $\text{Vor}(S)$ has the maximum possible number of vertices. How about the maximum possible number of edges?