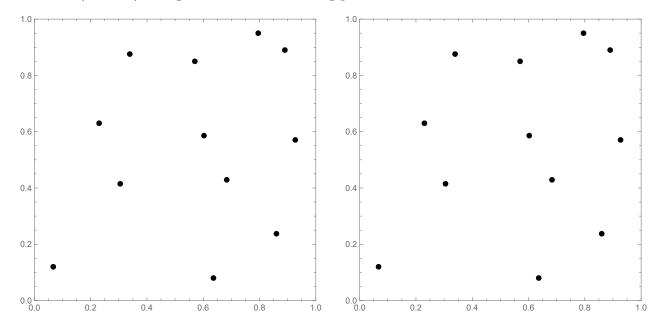
The "Best" Triangulation

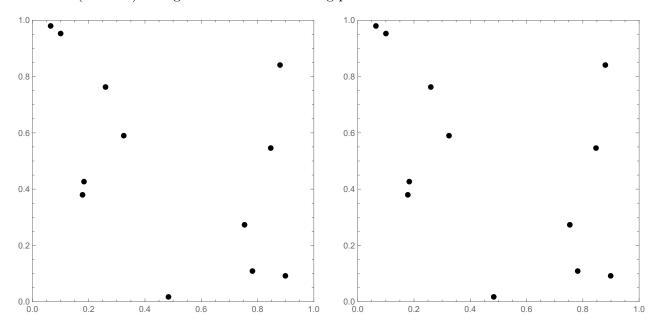
MATH 261 Computational Geometry

Suppose that the "best" triangulation of a point set avoids long narrow triangles as much as possible. How would you make this mathematically precise?

Make two (or more) triangulations of the following point set. Which one is "best"?



Make two (or more) triangulations of the following point set. Which one is "best"?



How would you write a precise definition for the "best" triangulation of a point set?

"Legal" Edges

MATH 261 Computational Geometry

1. Justify the following: Let a, b, c, d be points in the plane, with a triangulation consisting of triangles Δabc and Δacd . Then edge \overline{ac} is a legal edge if and only if d is outside of the circumcircle of Δabc .

2. Justify the following: Let a and b be points in a planar point set S. If there exists a circle passing through a and b that contains no other points of S in its interior, then edge \overline{ab} is a legal edge.