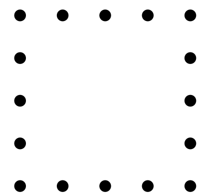
Comprehension questions

PROBLEM 28.1. *Draw a triangulation of this:*

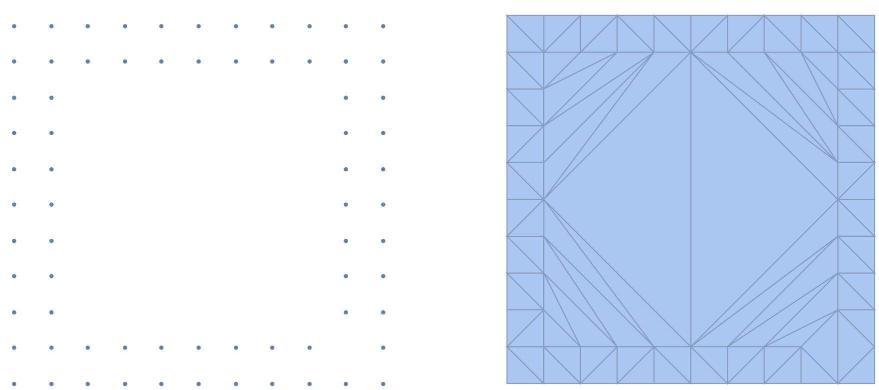


PROBLEM 28.2. *For every $n \geq 3$, find a set of n points, not all lying on a line, which admits only one triangulation.*

PROBLEM 28.3. *Here are two triangulations of the square $P = [-1,1] \times [-1,1]$, using all its integer points as vertices. Use those to give approximate values for $\int_P x^2 + y^2$, and compare that with the actual value.*

PROBLEM 28.4. *Find a set of 5 points, no three of which lie on the same line, and such that every possible triangulations is Delaunay.*

PROBLEM 28.5. *Here is a picture of the point set (i,j) where $i,j \in \{0,\ldots,10\}$ and at least one of the coordinates i and j lies in $\{0,1,9,10\}$; together with a Delaunay triangulation.*



What is the shape complex at scale $\sigma = 3$? Just drawing it is enough.

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18.900 Geometry and Topology in the Plane
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