Name: **Date:**

Pick's Theorem: Is it a fair representation of Lattice Polygons?
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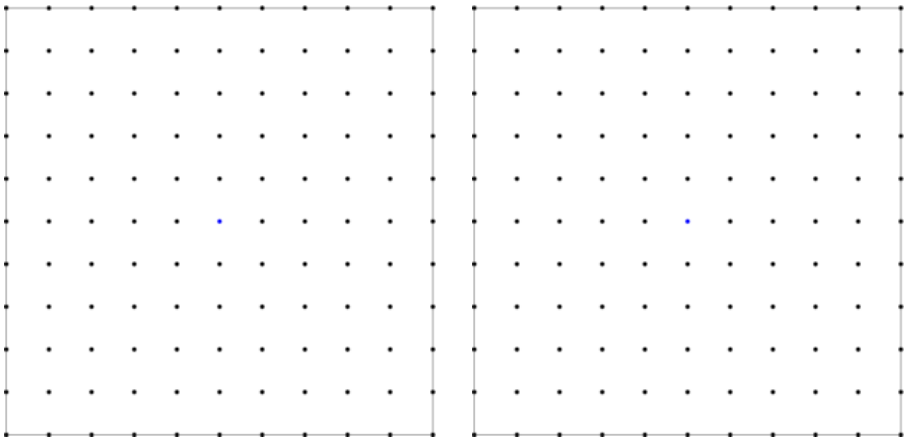
MTH 4040: Coordinating Seminar

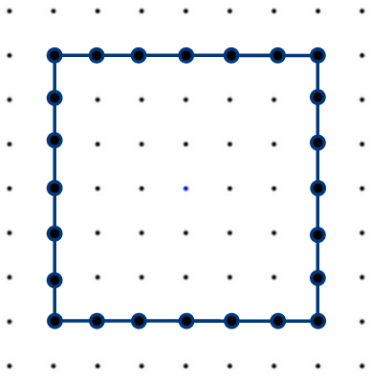
<u>Definition</u>: A *lattice polygon* is a polygon where the vertices are elements of Z^d for some d ≥ 2

Practice creating lattice polygons!



<u>Definition</u>: Pick's Theorem
Given that *A* is the area of a closed lattice polygon, *b* is the number of lattice points on the polygon edges, and *i* is the number of points in the interior, then

$$A = i + \tfrac{1}{2} b - 1$$



b = _____ i = _____

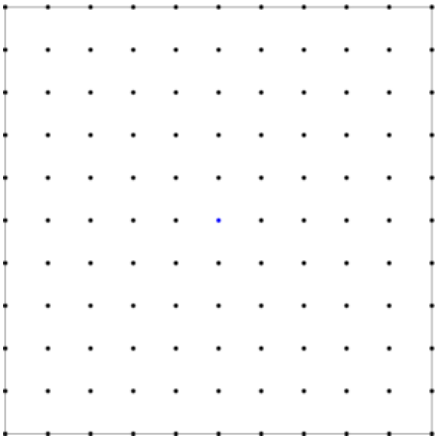
A = _____ + ½ (_____) - 1

A =

Is this answer correct? How can we check it?

Let's try again! This time with a different polygon!

$$A = i + \frac{1}{2} b - 1$$



b = _____ i = _____

A = _____ + ½ (_____) - 1

A =

Check...