

Part 1: Discovering Pick's Theorem

The given drawings are of polygons whose vertices are all lattice points.

Count the number of lattice points on the interior of each of these polygons.

Count the number of lattice points on the boundary of each of these polygons.

Calculate the area of each of these polygons.

Can you find the pattern? This pattern is called Pick's Theorem

Pick's Theorem:

Part 2: Proving Pick's Theorem

Now how do we prove Pick's Theorem?

Can we prove it for certain easy shapes first?

Part 3: Extending Pick's Theorem

Is there a version of Pick's Theorem for 3 dimensions?

What happens when the figure has "holes" in it, like the one below on the top right?



