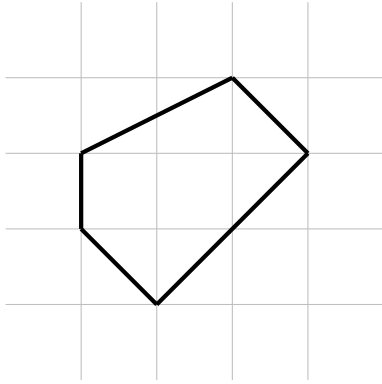


UW Math Circle
April 3, 2014

1. Find the area of the polygon below.



2. Let's say that a *lattice point* on a piece of graph paper is a point where two grid lines meet.
- (a) Count the number of lattice points *inside* the polygon above (not touching the boundary).
- (b) Count the number of lattice points on the *boundary* of the polygon.
3. Draw more polygons on your graph paper. For each one, find its area (A) and count the number of lattice points inside the polygon, (I), and the number of the lattice points on the boundary (B). Experiment with different polygons and write down your results!
4. Come up with a formula relating A to I and B .
5. Prove your formula is correct!