

Info

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Polygons with integer vertices

(Pick's theorem) Let $P \subseteq \mathbb{R}^2$ be a simple polygon with such that $\text{vertices}(P) \subseteq \mathbb{Z}^2$. Then

$$m(P) = \left| \overset{\circ}{P} \cap \mathbb{Z}^2 \right| + \frac{1}{2} |\partial P \cap \mathbb{Z}^2| - 1$$

[1]

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- [stamp](#) stamp
 - [Rf](#) subobjects of and functions on $\mathbb{R}^n, T^n, S^n, \mathbb{C}^n$
 - [poly_int](#) Polygons with integer vertices

And it has 36 siblings.

- [stamp](#) stamp
 - [Rf](#) subobjects of and functions on $\mathbb{R}^n, T^n, S^n, \mathbb{C}^n$
 - [1Hol](#) Holomorphic functions on spaces over \mathbb{C} of dimension 1
 - [circle_packing](#) Circle packing on \mathbb{R}^2
 - [circle_packing_to_Riemann_map](#) Circle packing converges to the Riemann biholomorphism
 - [Cn conn open bounded](#) Bounded connected open subsets of \mathbb{C}^n
 - [Cn conn open circular](#) Connected circular open subsets of \mathbb{C}^n
 - [cont](#) Continuous functions on \mathbb{R}^d
 - [cube_dyadic](#) Dyadic cubes
 - [curves](#) Curves
 - [derivative](#) Differentiable functions
 - [forms](#) Differential forms on \mathbb{R}^n

- [Fourier-Wigner](#) Fourier-Wigner transform
- [harmonic composed conformal](#) Harmonic functions composed with conformal maps
- [Hilbert](#) Hilbert transform
- [hol harmonic disk-circle](#) Fourier-Cauchy-Poisson correspondence of holomorphic and harmonic functions on the unit disk and their boundary values
- [Hol sets](#) Holomorphic subsets of \mathbb{C}^n
- [hypersurf 2n reg](#) Regular hypersurfaces in \mathbb{R}^{2n}
- [hypersurf or](#) Orientable hypersurfaces in \mathbb{R}^n
- [KG](#)

$$\partial_t^2 + \sum_{i=1}^n v_i^2 \partial_{x_i}^2 + m^2$$

- [Laplace](#) Laplace operator on \mathbb{R}^n
- [Lmeas](#) Lebesgue measurable subsets of and functions on \mathbb{R}^n, T^n, S^n
- [Lmeas bd of open](#) Lebesgue measure of boundary of open sets in \mathbb{R}^n
- [met density](#) Metric density of subsets of \mathbb{R}^n
- [Mobius n-sphere](#) Mobius endomorphisms
- [monotone](#) Monotone functions on \mathbb{R}
- [periodic int Cauchy](#) Cauchy integral of periodic functions
- [poly int](#) Polygons with integer vertices
- [R 2 open smooth End](#) Open smooth maps $U \subseteq \mathbb{R}^2 \rightarrow \mathbb{C}$
- [R n discrete subg](#) Discrete subgroups of \mathbb{R}^n
- [R n discrete subg cocpt](#) Discrete cocompact subgroups of \mathbb{R}^n , flat tori
- [RC ramified germs](#) Ramified germs of smooth and holomorphic functions
- [Rn open](#) Open subsets of \mathbb{R}^n
- [Rn open Riem](#) Open subsets of \mathbb{R}^n equipped with the flat metric
- [smooth quasi-analytic](#) Quasi-analytic smooth functions on \mathbb{R}
- [star shaped](#) Star-shaped subsets of \mathbb{R}^n
- [Vec](#) ODEs in $\mathbb{R}^n \leftrightarrow$ Vector fields in \mathbb{R}^n
- [wave](#)

$$\partial_t^2 + \sum_{i=1}^n v_i^2 \partial_{x_i}^2$$

1. <https://math.mit.edu/research/highschool/primes/circle/documents/2025/Hannah-Carolena-Final.pdf>

