

## REFERENCES

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This is really a rough draft of an incomplete bibliography on polyominoes, but I thought you might be interested.

## Polyominoes Bibliography

### Topics

Puzzles	P, PT
General	G
Enumeration	E
convex	EC
parallelogram	
stack	
directed	
Tiling	T
3-d polys	
Triangles	
Hexagons	

### Solid Polyomino Sets

If you are interested in a source for wooden pentacube sets, called quintillions and super quintillions, you should contact

Kadon Enterprises  
1227 Lorene DR suite 16  
Pasadena, MD 21122  
(301) 437-2163.

In addition to quintillions and super quints they have a selection of interesting puzzles.

### Abbreviations

JRM = Journal of Recreational Mathematics

### Puzzles - 2 Dimensional

[P91-1]      Martin, George E. Polyominoes: A Guide to Puzzles and Problems in Tiling, The Mathematical Association of America, 1991. ISBN 0-88385-501-1

## REFERENCES

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- [P79-1] Judd, R.L. and Zosel, M.E. "Pentomino Alphanumerics," *JRM* Vol. 11 No. 3 1978-1979. p. 182-185.
- [P73-1] Mayer, Jean. "A Pentomino Problem," *JRM* Vol. 6 No. 2 1973. p. 105-108. [10x10 staircase]

## REFERENCES

---

- [P72-1] Verbakel, J.M.M. "The F-Pentacube Problem," *JRM* Vol. 5 No. 1 1972. p. 20-21. solid [pentomino puzzles]
- [P66-1] Gardner, Martin. "Polyominoes and Fault-Free Rectangles" in New Mathematical Diversions from Scientific American, Simon and Schuster, New York 1966. 150-161.
- [P65-1] Fletcher, John G. "A Program to Solve the Pentomino Problem by the Recursive Use of Macros," *Communications of the ACM* Vol. 8 No. 10 1965. p. 621-623. [computer solution to puzzle solving]
- [P59-1] Gardner, Martin. "Polyominoes" in Scientific American Book Of Mathematical Puzzles and Diversions, Simon and Schuster, New York, 1959, p.124-140 [pentomino, hexomino puzzles]

### **Puzzles - 3 Dimensional**

- [PT73-2] Wagner, N.R. "Constructions with Pentacubes-2," *JRM* Vol. 6 No. 3 1973. p. 211-214. [pentacube puzzles]
- [PT73-1] Whinihan, Michael J. and Trigg, Charles W. "Parity and Centerness Applied to the SOMA Cube," *JRM* Vol. 6 No. 1 1973. p. 61-66. [SOMA cube puzzles]
- [PT72-1] Wagner, N.R. "Constructions with Pentacubes," *JRM* Vol. 5 No. 4 1972. p. 266-268. [pentacube puzzles]
- [PT67-1] Bouwkamp, C. J. "Catalogue of solutions of the rectangular 3x4x5 solid pentomino problem." 1967 The Netherlands. Technische Hogeschool Edinhoven, Department of Mathematics, Edinhoven.

### **General Interest**

- [G65-1] Golomb, Solomon W. Polyominoes, Charles Scribner's Sons, New York, 1965.

### **Enumeration of Polyominoes**

- [E91-2] Delest, M. Enumeration of polyominoes using MACSYMA. *Theoretical Computer Science* 79 (1991) 209-226.
- [E91-1] M. Delest. Polyominoes and Animals - Some Recent Results. *Journal of Mathematical Chemistry* V8 N1-3:3-18. Oct. 1991.
- [E87-1] M. Delest, Enumeration of parallelogram polyominoes with given bond and site perimeter, *Graphs Combin.* 3 (1987) 325-339.

## REFERENCES

---

- [E84-1] Delest, Marie-Pierre and Viennot, Gerard, Algebraic Languages and Polyominoes Enumeration, Theoretical Computer Science 34 (1984) 169-206
- [E81-1] Klarner, David A. "My Life Among The Polyominoes" in The Mathematical Gardner, 243-262. Wadsworth International, Belmont, CA 1981.

## REFERENCES

---

- [E74-1] Klarner, D.A. and Rivest, R. Asymptotic bounds for the number of convex n-ominoes. *Discrete Mathematics* 8 (1974) 31-40.
- [E73-1] Klarner, D.A. and Rivest, R.L. "A procedure for improving the upper bound for the number of n-ominoes." *Canadian Journal of Mathematics* 25 (3) (1973) 585-602
- [E72-1] Lunnon, W.F. "Symmetry of Cubical And General Polyominoes" in Graph Theory And Computing, Academic Press, London, 1972, p. 101-108
- [E72-2] Lunnon, W.F. "Counting Hexagonal And Triangular Polyominoes" in Graph Theory And Computing, Academic Press, London, 1972, p. 87-100
- [E71-1] Lunnon, W.F. "Counting Polyominoes" in Computers in Number Theory, 347-372, Academic Press, London 1971
- [E69-1] Madachy, Joseph, Pentominoes -- Some Solved And Unsolved Problems. *JRM* V2 #3, 1969.
- [E67-2] Klarner, D.A. Cell growth problems. *Canadian Journal of Mathematics* 19 (1967) 851-863.
- [E67-1] Parkin, T.R. and others, "Polyomino Enumeration Results," SIAM Fall Meeting, 1967.
- [E62-1] Read, R.C. Contributions to the Cell Growth Problem. *Canadian Journal of Mathematics* 14 (1962) 1-20.

M. Delest and J.M. Fedou, Exact formulas for fully compact animals, Rapport Interne LaBRIE, Bordeaux, no 89-06

### 10. CONFERENCE PAPER

Delest, M.P.; Fedou, J.M.

Counting polyominoes using attribute grammars.

IN: Attribute Grammars and their Applications. International Conference WAGA Proceedings. (Attribute Grammars and their Applications. International Conference WAGA Proceedings, Paris, France, 19-21 Sept. 1990). Edited by: Deransart, P.; Jourdan, M. Berlin, Germany: Springer-Verlag, 1990. p. 46-60.

Abstract available.

Pub type: Theoretical or Mathematical.

## Enumeration of Convex Polyominoes

- [ECxx-1] M. Delest and S. Dulucq, Enumeration of directed column-convex animals with given perimeter and area, Rapport LaBRI, Bordeaux, no.87-15

## REFERENCES

---

[EC88-1] M. Delest, Generating function for column-convex polyominoes, J. Combin Theory Ser. A 48 (1) (1988) 12-31.

2. BOUSOUETMELOU M; VIENNOT XG.  
HEAPS OF SEGMENTS AND Q-ENUMERATION OF DIRECTED CONVEX POLYOMINOES.  
JOURNAL OF COMBINATORIAL THEORY SERIES A, 1992 JUL, V60 N2:196-224.

## REFERENCES

---

4. BOUSQUETMELOU M.  
CONVEX POLYOMINOES AND HEAPS OF SEGMENTS.  
JOURNAL OF PHYSICS A-MATHEMATICAL AND GENERAL, 1992 APR 7, V25  
N7:1925-1934.
5. BOUSQUETMELOU M.  
CONVEX POLYOMINOES AND ALGEBRAIC LANGUAGES.  
JOURNAL OF PHYSICS A-MATHEMATICAL AND GENERAL, 1992 APR 7, V25  
N7:1935-1944.
1. BOUSQUETMELOU M.  
[CODING OF CONVEX POLYOMINOES AND EQUATIONS FOR THEIR ENUMERATION  
ACCORDING TO AREA].  
DISCRETE APPLIED MATHEMATICS, 1994 JAN 4, V48 N1:21-43.  
Language: French.
2. BOUSQUETMELOU M.  
[Q-ENUMERATION OF CONVEX POLYOMINOES].  
JOURNAL OF COMBINATORIAL THEORY SERIES A, 1993 NOV, V64 N2:265-288.  
Language: French.
6. BOUSQUETMELOU M.  
[BIJECTION BETWEEN DIRECTED CONVEX POLYOMINOES AND BILATERAL DYCK WORDS].  
RAIRO-INFORMATIQUE THEORIQUE ET APPLICATIONS-THEORETICAL INFORMATICS AND  
APPLICATIONS, 1992, V26 N3:205-219.  
Language: French.
1. CONFERENCE PAPER  
Barcucci, E.; Pinzani, R.; Sprugnoli, R.  
Directed column-convex polyominoes by recurrence relations.  
IN: TAPSOFT '93: Theory and Practice of Software Development. 4th  
International Joint Conference CAAP/FASE Proceedings. (TAPSOFT '93: Theory
3. CONFERENCE PAPER  
Beauquier, D.; Latteux, M.; Slowinski, K.  
A decidability result about convex polyominoes.  
IN: LATIN '92. 1st Latin American Symposium on Theoretical Informatics  
Proceedings. (LATIN '92. 1st Latin American Symposium on Theoretical  
Informatics Proceedings, Sao Paulo, Brazil, 6-10 April 1992). Edited by:  
Simon, I. Berlin, Germany: Springer-Verlag, 1992. p. 32-45.  
Abstract available.  
Pub type: Theoretical or Mathematical.
2. Domocos, V.; Hristea, F.  
A codification of column-convex polyominoes which generates a regular  
language.  
Bulletin of the European Association for Theoretical Computer Science, June

## REFERENCES

---

1993 (no.50):197-208.  
Abstract available.  
Pub type: Theoretical or Mathematical.



## REFERENCES

---

### Tiling

- [T90-1] CONWAY JH; LAGARIAS JC.  
TILING WITH POLYOMINOES AND COMBINATORIAL GROUP THEORY.  
JOURNAL OF COMBINATORIAL THEORY SERIES A, 1990 MAR, V53 N2:183-208.
- [T91-1] BEAUQUIER D; NIVAT M.  
ON TRANSLATING ONE POLYOMINO TO TILE THE PLANE.  
DISCRETE & COMPUTATIONAL GEOMETRY, 1991, V6 N6:575-592.
- [T93-1] LAGARIAS JC; ROMANO DS.  
A POLYOMINO TILING PROBLEM OF THURSTON AND ITS CONFIGURATIONAL  
ENTROPY. JOURNAL OF COMBINATORIAL THEORY SERIES A, 1993 JUL, V63 N2:338-358.

#### 11. CONFERENCE PAPER

Girault- Beauquier, D.; Nivat, M.  
Tiling the plane with one tile (polyominoes).  
IN: Proceedings of the Sixth Annual Symposium on Computational Geometry.  
(Proceedings of the Sixth Annual Symposium on Computational Geometry,  
Berkeley, CA, USA, 6-8 June 1990). New York, NY, USA: ACM, 1990. p. 128-38.  
Abstract available.  
Pub type: Theoretical or Mathematical.

#### 12. Golomb, S.W.

Polyominoes which tile rectangles.  
Journal of Combinatorial Theory, Series A, May 1989, vol.51, (no.1):117-24.  
Abstract available.  
Pub type: Theoretical or Mathematical.

Bitner, James. "Tiling  $5n \times 12$  Rectangles with Y-Pentominoes." JRM 7(4) 1974. 276-282

Reingold, Yao, and Sands. "Tiling with Incomparable Rectangles." JRM 8(2) 1975-75. 112-119

Kramer, Earl. "Tiling Rectangles with T and C Pentominoes." JRM 16(2) 1983-84. 102-113

Kramer, Earl and Gobel, Frits. "Tiling Rectangles with Pairs of Pentominoes." JRM 16(3) 1983-84. 198-206

### Music

Just for fun:

- [M69-1] Bedford, David. Pentomino. [London] Universal Edition [c1969]. [music score]

## REFERENCES

---

### **Journal of Recreational Mathematics**

- Judd, R.L. and Zosel, M.E. "Pentomino Alphanumerics," JRM 7(3) 1978-79. 182-185.
- Mayer, Jean. "A Pentomino Problem." JRM 6(2) 1973. 105-108.
- Torbijn, Ir P.J. "The Unknown World of Octiamonds." JRM 7 (1) 1974. 1-7
- Haselgrove, Jenifer. "Packing a Square with Y-Pentominoes." JRM 7(3) 1974. 229

## REFERENCES

---

- Dekkers, A.J. "On a Problem of Dudeney's (letter)." JRM 7(4) 1974. 306-307  
Barwell, Brian. "Clever Construction." JRM 8(2) 1975-76. 130  
Gobel, F. and Jagers, A.A. "Generalized Coverings with Polyominoes." JRM 9(4) 1976-77. 252-257  
Philpott, Wade. "The Double-Double Pentomino Problem (letter)." JRM 14(1) 1981-82. 61  
Rosenheck, Bernard. "N-Omino Packing (solution)." JRM 14(1) 1981-82. 69-70  
Meeus, Jean. "Tesselation II (solution)." JRM 14(3) 1981-82. 224-225  
Liu, Andy. "Pentomino Problems." JRM 15(1) 1982-83. 8-13  
Ohno, Yoshio. "Pentomino Packing II (problem)." JRM 15(2) 1982-83. 143  
Nelson, Harry. "Hexomino Packing (solution)." JRM 15(2) 1982-83. 145  
Harary, Frank and Weisbach, Michael. "Polycube Achievement Games." JRM 15(4) 1982-83. 241-246  
Waitsman, Michael. "Contact: A Game for Polyoid Boards." JRM 15(4) 1982-83. 257-266  
Ohno, Yoshio. "Pentomino Packing (solution)." JRM 16(1) 1983-84. 65  
Ohno, Yoshio. "Pentomino Packing II (solution)." JRM 16(2) 1983-84. 149-150  
Coll, Pablo. "Pentomino Problem II (problem)." JRM 16(3) 1983-84. 221  
Signmaster, David. "Polyomino Problem (problem)." JRM 16(3) 1983-84. 224  
LIST OF REFERENCES "Vestpocket Bibliographies." JRM 16(4) 1983-84. 273-275  
Coll, Pablo. "Pentomino Problem III (problem)." JRM 16(4) 1983-84. 302  
Kierstead, F.H. and Campbell, T.M. "A Pentomino Problem (solution)." JRM 17(1) 1984-85. 75-77  
readers. "Pentomino Problem II (solution)." JRM 17(3) 1984-85. 220-225  
readers. "Polyomino Problem (solution)." JRM 17(3) 1984-85. 235-237  
readers. "Pentomino Problem III (solution)." JRM 17(4) 1984-85. 310-311

## Other References of Interest

Gardner, Martin. "Polycubes" in Knotted Doughnuts and Other Mathematical Entertainments, Freeman, New York 1986. 28-43.  
(also, pentomino puzzles)

Bouwkamp, C. J. "Packing a rectangular box with the twelve solid pentominoes." 1969. *Journal of Combinatorial Theory* 7: 278-280.

[xxx] Philpott, Wade E. "Domino and Superdomino Recreations - Part 4," *JRM* Vol. 5 No. 2 1972. p. 102-122.

[xxx] Philpott, Wade E. "Domino and Superdomino Recreations - Part 5," *JRM* Vol. 5 No. 3 1972. p. 177-196.

Eden, M. A two-dimensional growth process. Proc. 4th Berkeley Symp. on Mathematical Statistics and Probability, IV (Univ. of California Press, Berkeley, 1961) 223-239

Harary, Frank, "Graphical Enumeration Problems," in Graph Theory and Theoretical Physics, Academic

## REFERENCES

---

Press, London, 1967, p. 1-41  
[applications to physics]

Klarner, D.A. Some results concerning polyominoes. *Fibonacci Quarterly* 3 (1965) 9-20.

*Discrete Math* 36 (1981) 246-264.

## REFERENCES

---

Golomb, Rec. Math Mag. 4,5,6,8 (1962) "General Theory of Polyominoes"

Journal of C, I, SS: vol. 1 1976, p.1-8.

Publ. Math. Inst. Hungarian Acad. Sci. 5 (1960) 63-95

1. STEWART IN; WORMSTEIN A.  
POLYOMINOES OF ORDER-3 DO NOT EXIST.  
Pub type: Note.  
JOURNAL OF COMBINATORIAL THEORY SERIES A, 1992 SEP, V61 N1:130-136.
3. BOUSQUETMELOU M.  
[BIJECTION BETWEEN DIRECTED CONVEX POLYOMINOES AND BILATERAL DYCK WORDS].  
Language: French.  
RAIRO-INFORMATIQUE THEORIQUE ET APPLICATIONS-THEORETICAL INFORMATICS AND APPLICATIONS, 1992, V26 N3:205-219.
7. BEAUQUIER D.  
AN UNDECIDABLE PROBLEM ABOUT RATIONAL SETS AND CONTOUR WORDS OF POLYOMINOES.  
INFORMATION PROCESSING LETTERS, 1991 MAR 14, V37 N5:257-263.
3. LALANNE JC.  
[PARALLELOGRAM POLYOMINOES WITH BORDERS AND BESSEL FUNCTIONS].  
DISCRETE MATHEMATICS, 1993 MAY 15, V115 N1-3:217-230.  
Language: French.
10. BEAUQUIER D.  
AN UNDECIDABLE PROBLEM ABOUT RATIONAL SETS AND CONTOUR WORDS OF POLYOMINOES.  
INFORMATION PROCESSING LETTERS, 1991 MAR 14, V37 N5:257-263.
7. Beauquier, D.  
An undecidable problem about rational sets and contour words of polyominoes.  
Information Processing Letters, 14 March 1991, vol.37, (no.5):257-63.  
Abstract available.  
Pub type: Theoretical or Mathematical.
1. Hands on pentominoes. Pal Alto, CA : Creative Publications, c1986.  
UCSB Main Lib QA459 .H295 1986 Curriculum Lab
2. Picciotto, Henri.  
Pentomino activities lessons and puzzles / Henri Picciotto. Sunnyvale, Calif. : Creative Publications, c1984-1986.  
UCSB Main Lib QA459 .P52 1984 Curriculum Lab