

Parallelogram It -Nrich

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COMMENTS:




1ST Move Advantage: The 1st player can get into the centre point of the board and improve the chance of winning.

If computer is the 1st player, the computer would always choose the centre point and will always win.


If the 1st player is a human, it will depend on human's strategy. The screenshot shows here, human as 1st player winning the computer (2nd player) by starting at centre point. Screenshots capture the steps of some strategies involved.

SCREENSHOT	GAME REPORT
Here are picture I took after game with computer. I have the advantage of as 1 st player.	1 st player (Human) started with point at centre point. Then put 2 nd point on either side of this centre point. Then these first two points are on one line and it forms one of the parallel sides of the Parallelogram. The other two vertices, 3 rd and 4 th of parallelogram can be located on either sides(Up or down) of 1 st and 2 nd points, also on the same line Also, the 3 rd and 4 th points have the option to be on the left of 1 st point or on the right side of the 2 nd point, hence when computer (2 nd player) block one of the option, 1 st player can choose the other option and complete the parallelogram first.

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 **Bendy Quad**
 Four rods are hinged at their ends to form a convex quadrilateral. Investigate the different shapes that the quadrilateral can take. Be patient this problem may be slow to load.
 **Lawnmower**
 A kite shaped lawn consists of an equilateral triangle ABC of side 130 feet and an isosceles triangle BCD in which BD and CD are of length 169 feet. A gardener has a motor mower which cuts strips of grass exactly one foot wide and wishes to cut the entire lawn in parallel strips. What is the minimum number of strips the gardener must mow?
 **Long Short**
 What can you say about the lengths of the sides of a quadrilateral whose vertices are on a unit circle?


Parallelogram It


Age 11 to 16
 Challenge Level *
 This game is part of a set of three. We recommend you play this version after having a go at [Square It](#) and before having a go at [Rhombus It](#).
 [Parallelogram It printable sheet](#)
 [Printable dotted grid](#)

This game can be played against a friend or against the computer.
 Players take it in turns to click on a dot on the grid - the first player will place blue triangles and the second player will place pink squares.
 The winner is the first to have chosen four dots that can be joined to form a parallelogram.
 Parallelograms can be anywhere and any size.
 Clicking on the purple settings cog allows you to select the size of the grid, who the players are, and who goes first.
 Once you've played a few times against a friend, you might like to discuss your strategies, and then test them by playing against the computer.

Can you find a winning strategy?
 If you are not using the interactive game, you may like to print off some [dotty paper](#).

Parallelogram It

Player 1 (Human) is placing blue triangles 

Player 2 (Computer) is placing pink squares 

Player 1 wins

[New game](#)

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