

Sliding Pieces and Other 2D Manipulation Puzzles



Two dimensional manipulation puzzles include the movement of square pieces (e.g. *Fifteen*), rectangular pieces (e.g. *Traffic Jam*), rectilinear shaped pieces (e.g. *Neo Black and White*), pieces that can carry other pieces (e.g. *Trap*), balls (e.g. *Hungarian Rings*), and tokens (e.g. *TeeZ*), where sometimes movement may be mechanically assisted (e.g. *Top Spin*).

For the number of moves of a sliding block puzzle solution, cost metrics include:

Unit: *one move* = slide one piece one unit horizontally or vertically

Straight-line: *one move* = slide one piece any distance horizontally or vertically

Rectilinear: *one move* = slide one piece along a rectilinear path

One finger rule: These rules work by pushing a single piece with one finger, and do not allow a piece to push other pieces. However, when noted, *generalized* movements may allow other pieces to be pushed as the piece pushed by the finger moves (for example, when one piece has another one caught inside it and drags that piece along with it, when sliding a row of pieces is natural for a puzzle, or to shorten the presentation of a puzzle solution).