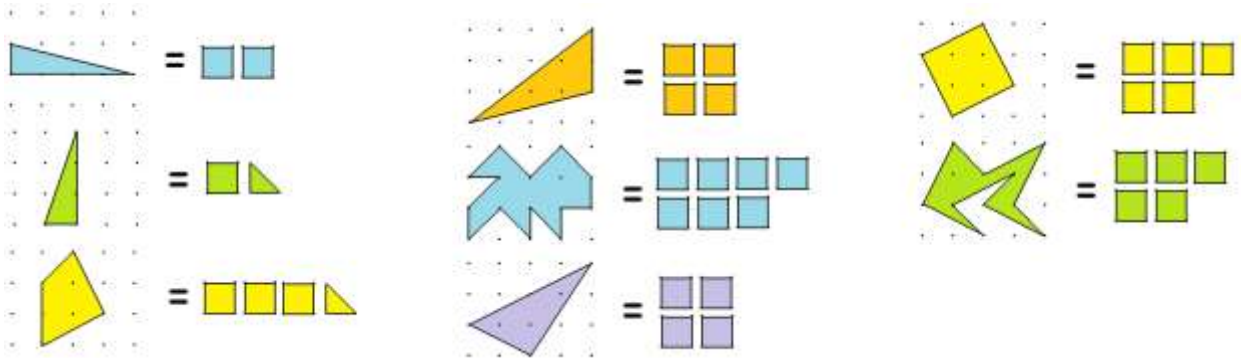


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Mathematical Puzzles to Confound and Delight



MWW 10: SOLUTION



We are being asked to compute the areas of different shapes.

Challenge: A famous theorem in mathematics called Pick's Theorem says that, for any polygon drawn on a square lattice of dots with corners on dots, the area of a polygon is given by the formula $I + \frac{B}{2} - 1$, where I is the number of lattice dots inside the polygon and B is the number of lattice dots on the boundary of the polygon.

- i) Verify Pick's formula for each of the figures given in this question.
- ii) Can you prove Pick's formula valid?