

A set of regular hexagons with sides 3, 4 and 5 is extended on the sides of a right triangle. This seems to suggest that the Pythagorean theorem can be extended beyond squares and is valid for hexagons as well. Is that really the case?

## Challenge Info

By: unknown

Version: for Teacher

Grade: 7-8

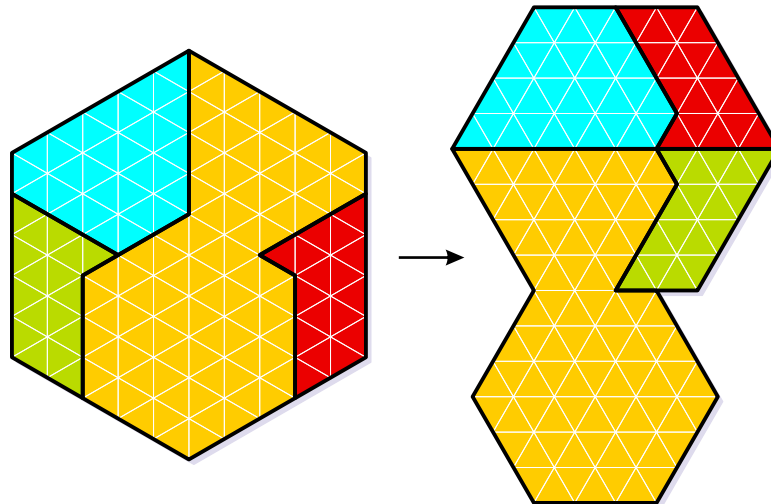
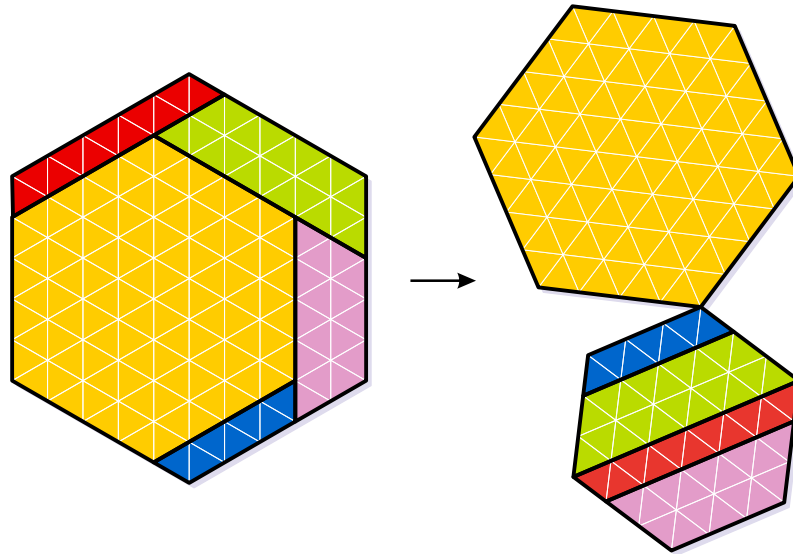
Difficulty level: Medium

Props: Pencil

Source: unknown

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In fact the Pythagorean theorem is valid not only for hexagons and squares but for any set of geometrical similar figures.

James Schmerl found a five-piece solution to his problem (shown in the upper illustration) and American mathematician Greg Frederickson found a "sneaky" four-piece solution (shown in the lower illustration).