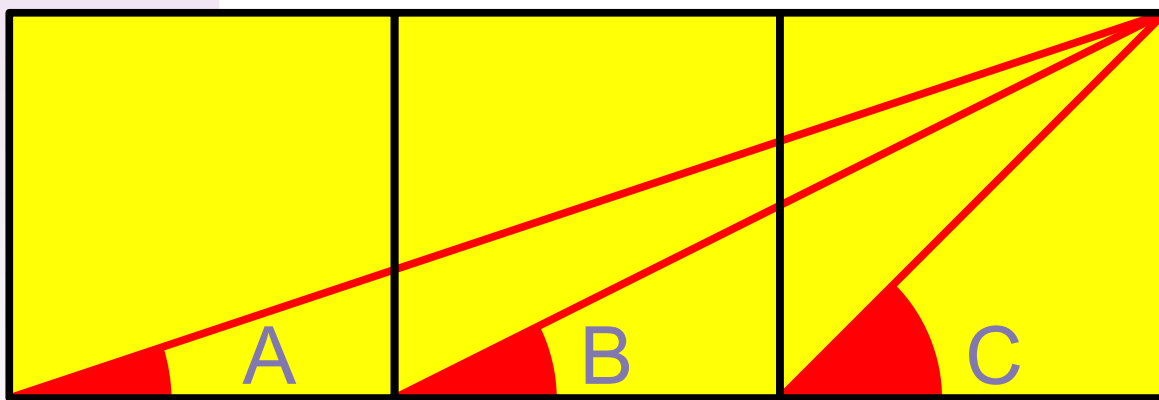


Treasure of Classic  
and Modern Puzzles

## Geometrical Puzzles



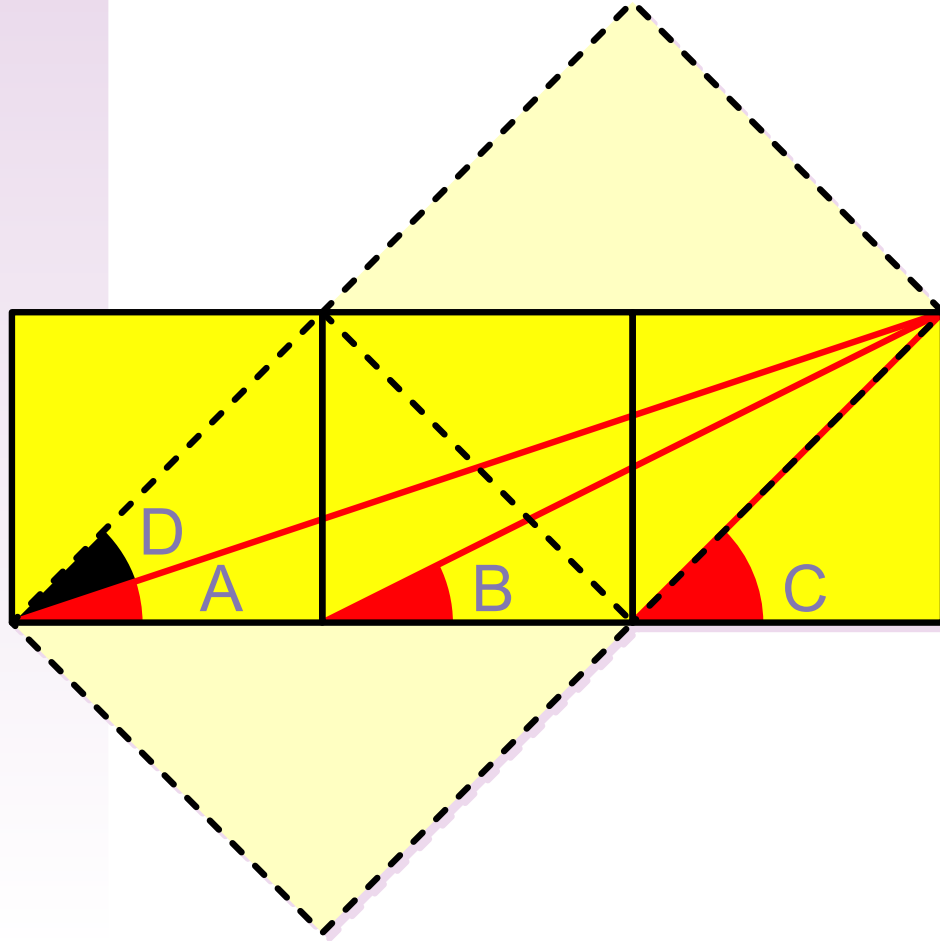
### Rays Through the Squares

*after Martin Gardner*

Using only elementary geometry (not even trigonometry), prove that angle C in the illustration equals the sum of angles A and B.

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## Geometrical Puzzles



### Rays Through the Squares (solution)

Let's construct the additional squares indicated by dotted lines. It is clear from the illustration that angle C is the sum of angles A and D. Angle B equals angle D because they are corresponding angles of similar right triangles (with the respective legs in the 1:2 proportion). That means B can be substituted for D, which automatically makes the C equals the sum of A and B.