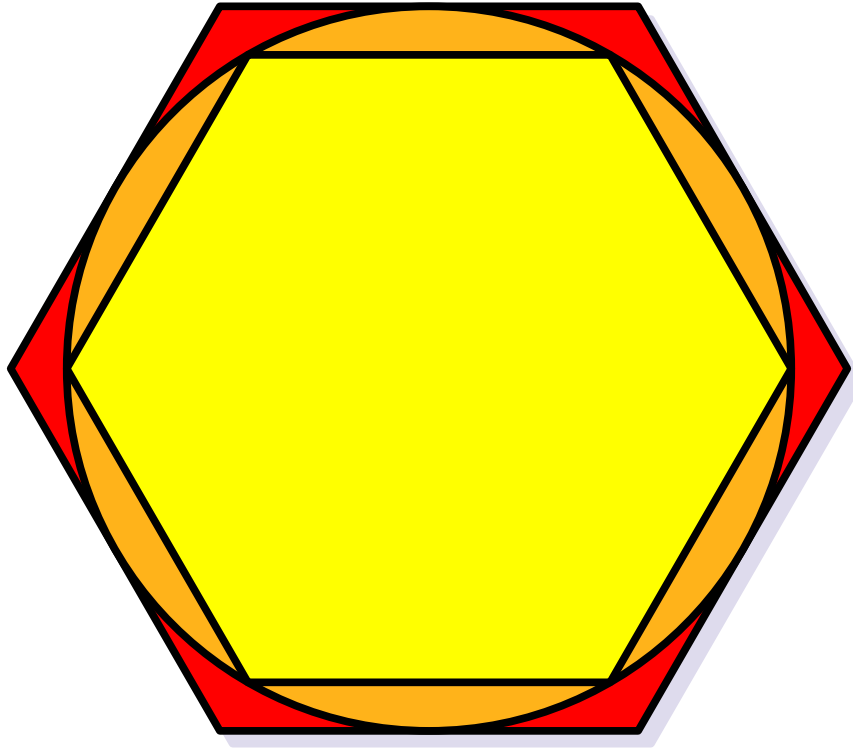


Hexagon-Circle-Hexagon

by Charles W. Trigg

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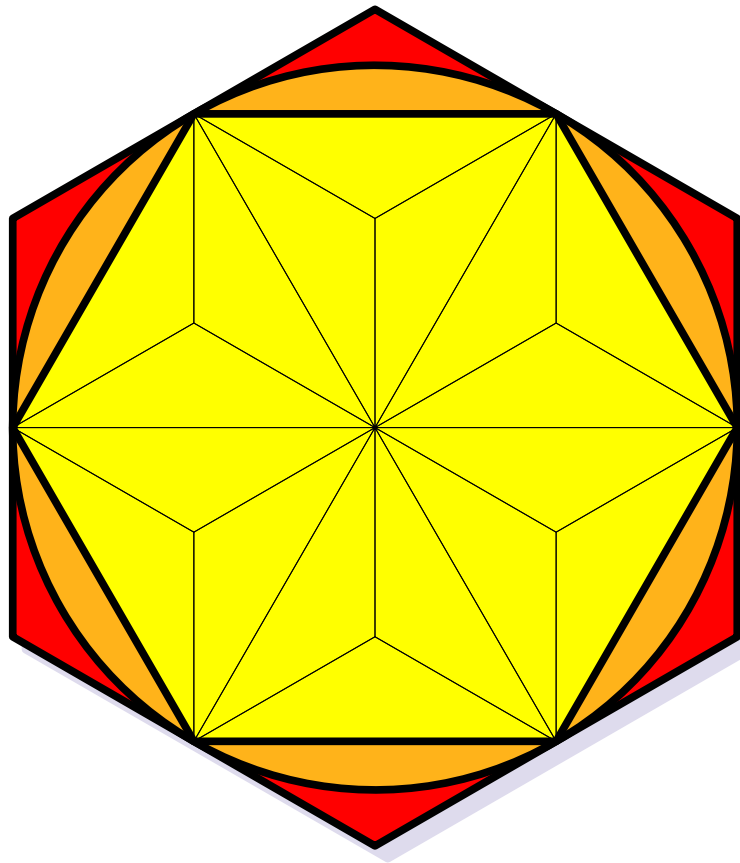


Regular hexagons are inscribed in and circumscribed outside a circle - as shown in the illustration.

If the smaller hexagon has an area of three square units, what is the area of the larger hexagon?

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To solve the puzzle it is enough to turn the smaller hexagon as shown in the illustration. The inner straight lines divide the larger hexagon into 24 congruent triangles, 18 of which form the smaller hexagon. The ratio of areas is $18 : 24 = 3 : 4$, and so if the smaller hexagon has an area of three, the larger one has an area of four.