

Salutation to your solution!

- Sudhakar Attili.

1. There are two equilateral triangles of side 6 cm arranged in such a way that they share a side as shown. What is the radius of the smallest circle that encloses both the triangles?



2. In a regular hexagon of area 120 square centimeters, six diagonals are drawn to form a smaller hexagon (shaded in the figure). What is the area of the smaller hexagon?

$$\frac{(4!)!}{4!} = a!$$

3. If the equation shown to left is a valid one, what is the value of 'a'?

4. The length of a rectangle is three times its width. A new rectangle is created by decreasing the length of the original rectangle by 9 feet and increasing its width by 4 feet. The area of the new rectangle is the same as the area of the original rectangle. What is the perimeter of the new rectangle?

5. Consider an arithmetic sequence with $a_3=165$ and $a_{12} = 615$. For what value of 'n' is $a_n=2015$?

*You can send your answers either by post or by e-mail to the below address on or before **June 15th**.*

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