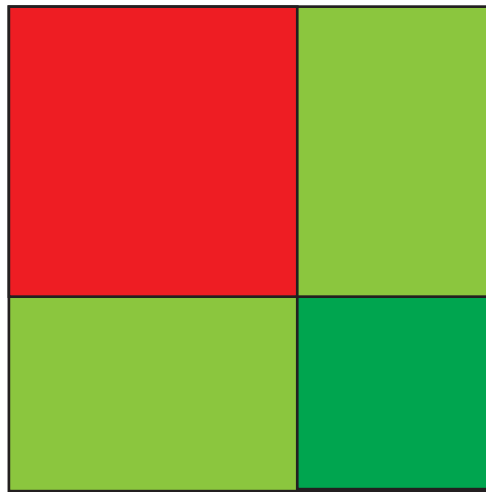
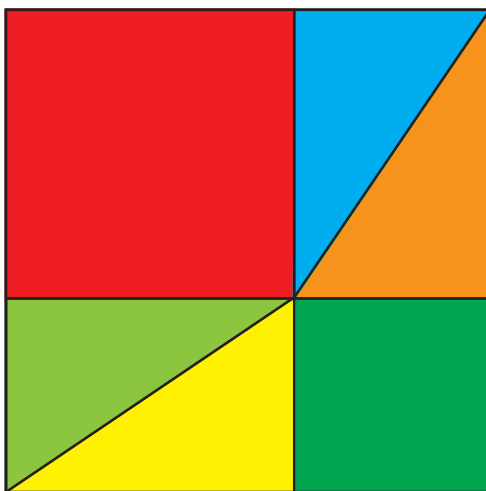


## Proofs without words

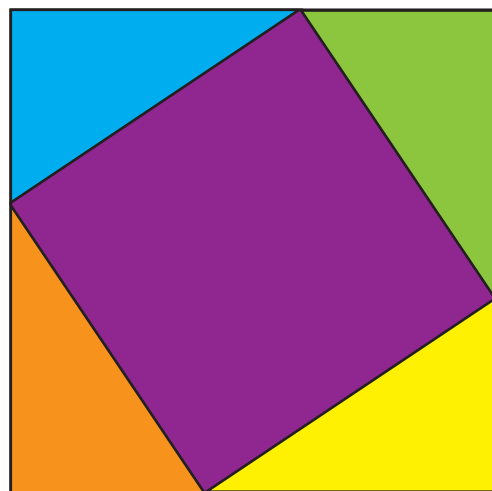
1.  $(a + b)^2 = a^2 + b^2 + 2ab$



2. Pythagorean Theorem:  $a^2 + b^2 = c^2$

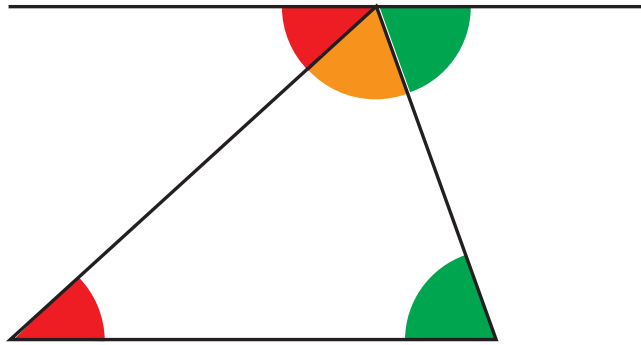


$(a + b)^2 = a^2 + b^2 + 2ab$

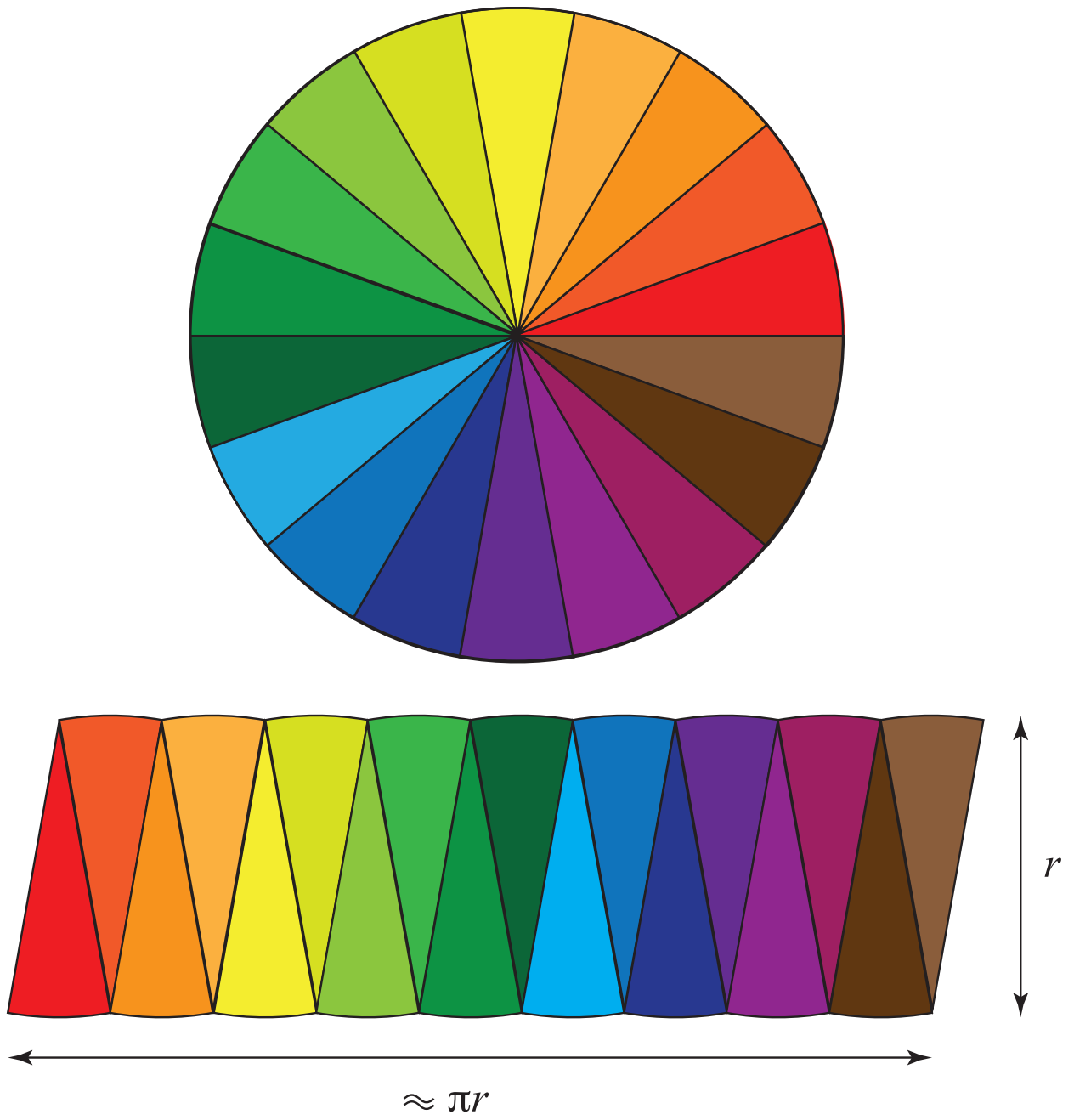


$(a + b)^2 = c^2 + 2ab$

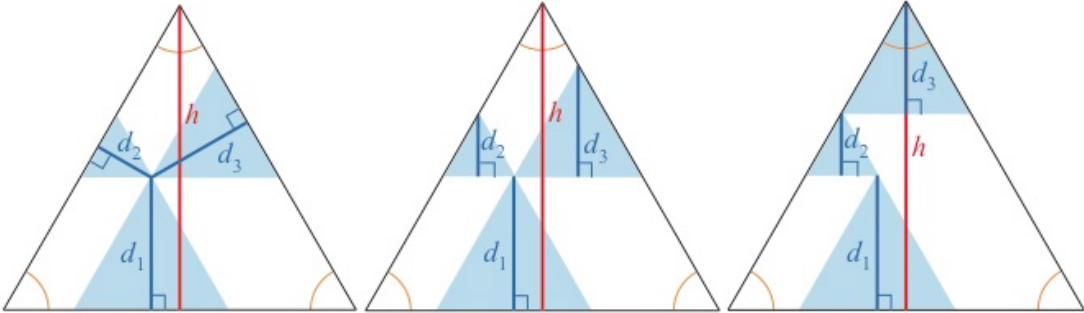
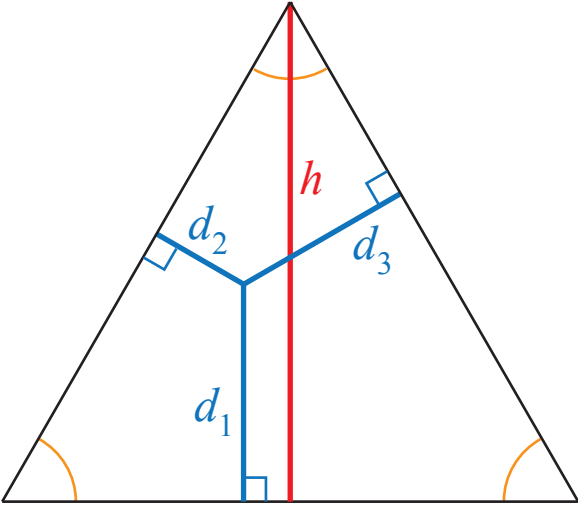
3.



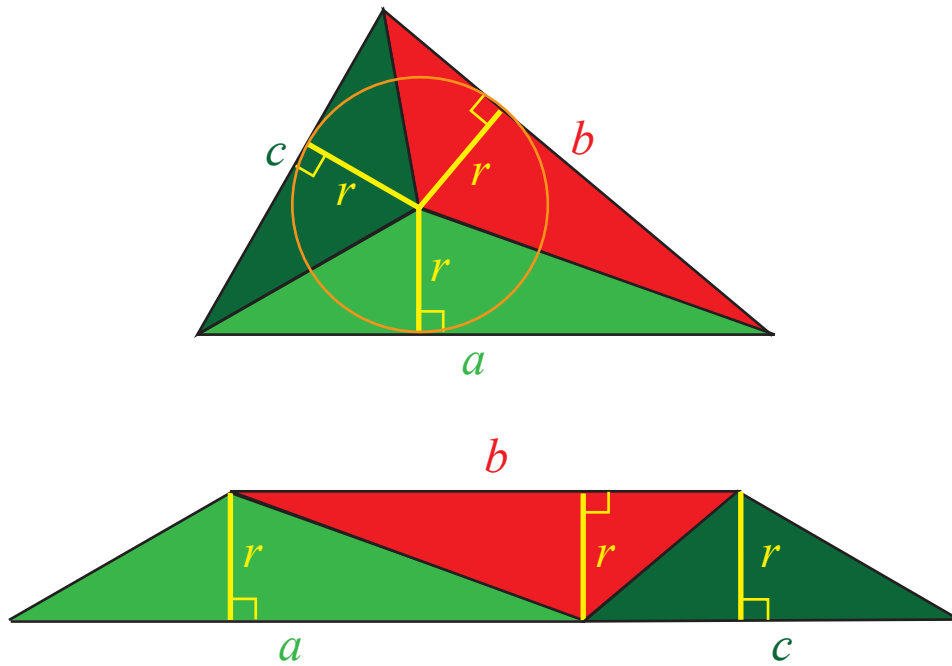
4.  $A = \pi r^2$



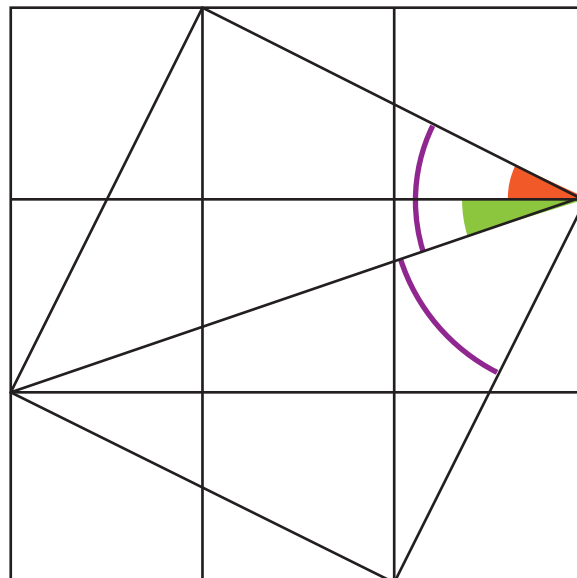
5. Viviani's Theorem:  $d_1 + d_2 + d_3 = h$



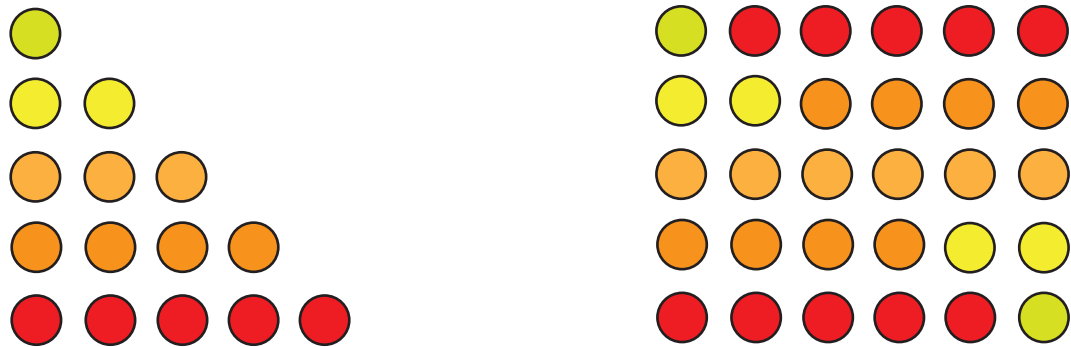
$$6. A = \frac{1}{2}r(a + b + c)$$



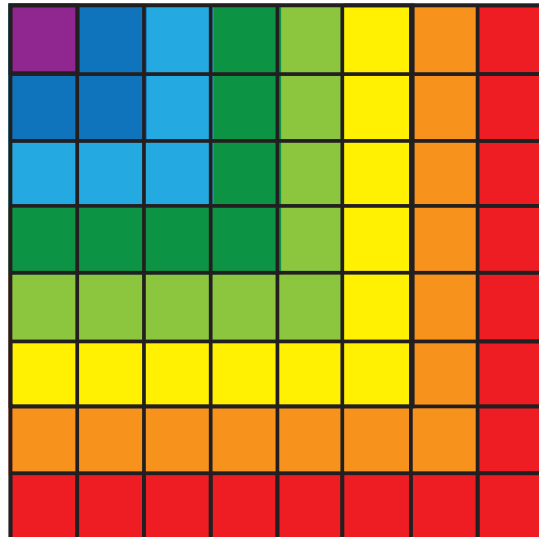
$$7. \arctan \frac{1}{2} + \arctan \frac{1}{3} = \arctan 1$$



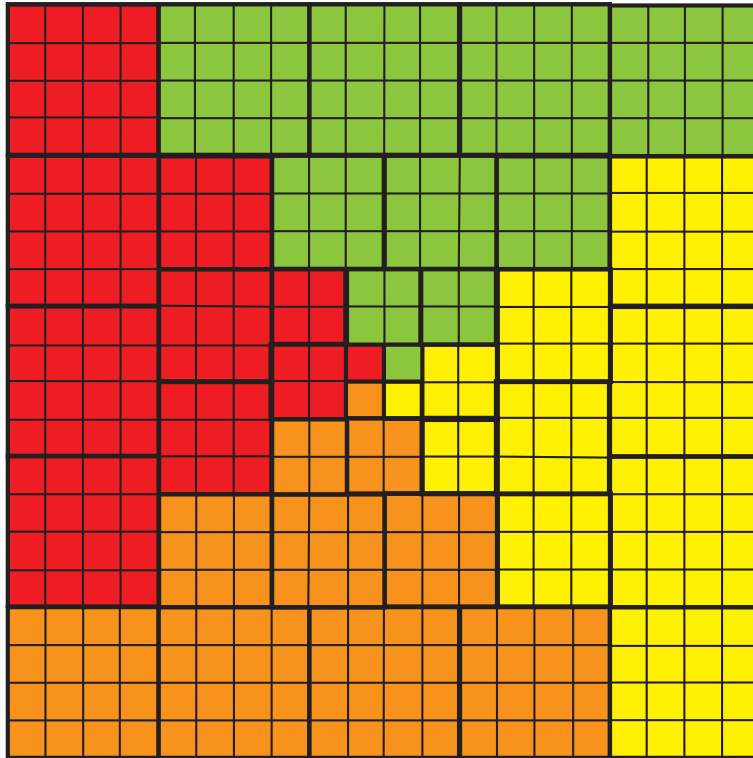
8.  $1 + 2 + \dots + n = n(n + 1)/2$



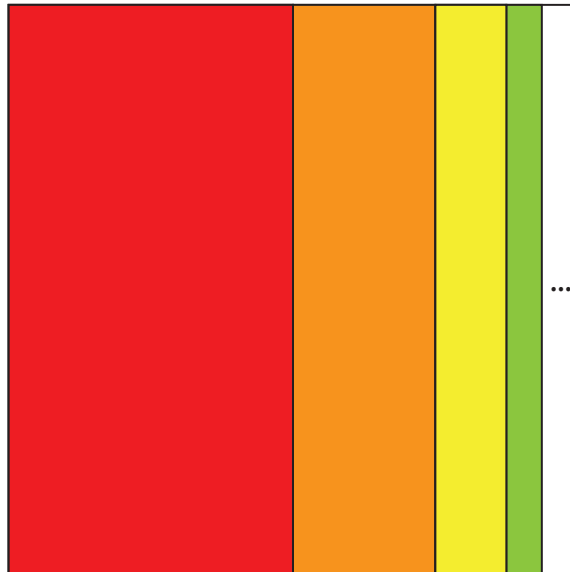
9.  $1 + 3 + \dots + (2n - 1) = n^2$



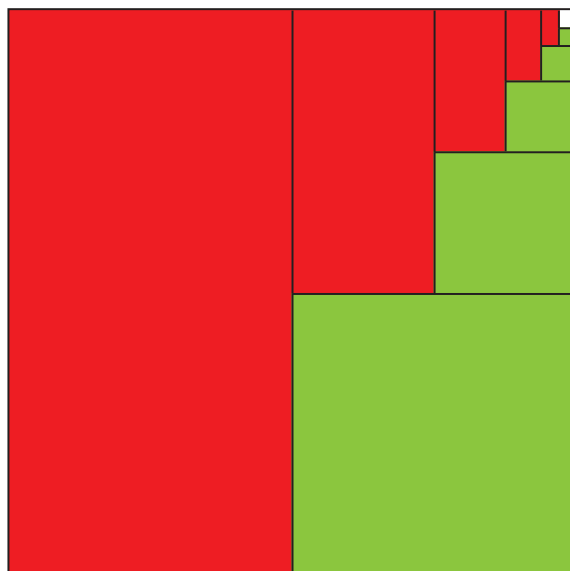
$$10. 1^3 + 2^3 + 3^3 + \dots + n^3 = \frac{1}{4}(n \times (n + 1))^2$$



$$11. 1 = \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \dots$$

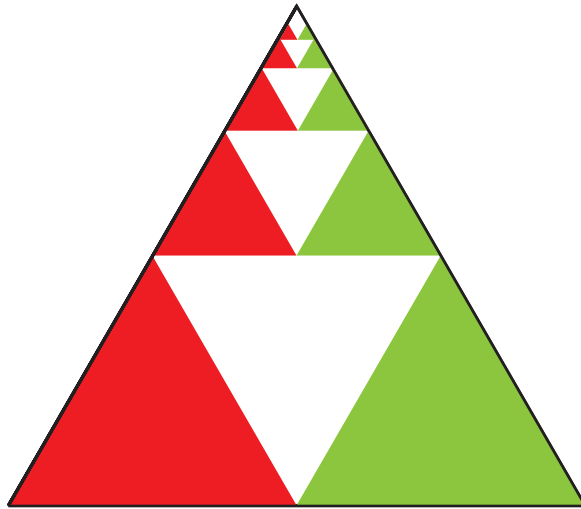


$$12. \frac{1}{3} = \left(\frac{1}{4}\right) + \left(\frac{1}{4}\right)^2 + \left(\frac{1}{4}\right)^3 + \left(\frac{1}{4}\right)^4 + \dots$$

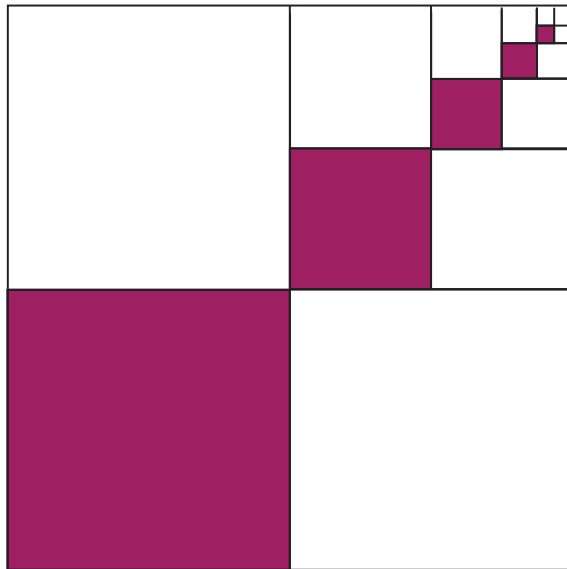




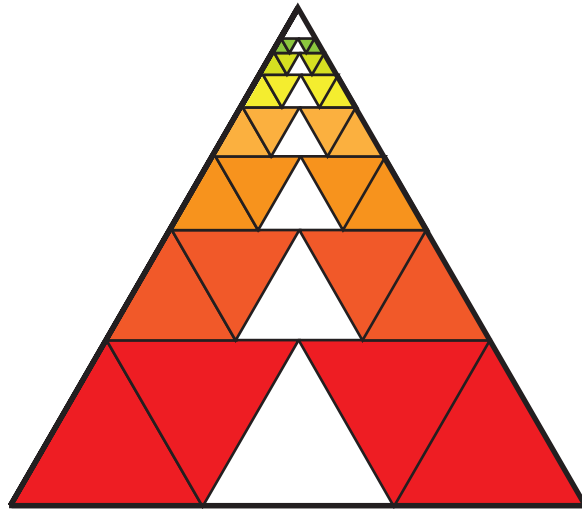
$$13. \frac{1}{3} = \left(\frac{1}{4}\right) + \left(\frac{1}{4}\right)^2 + \left(\frac{1}{4}\right)^3 + \left(\frac{1}{4}\right)^4 + \dots$$



$$14. \frac{1}{3} = \frac{1}{4} + \left(\frac{1}{4}\right)^2 + \left(\frac{1}{4}\right)^3 + \left(\frac{1}{4}\right)^4 + \dots$$



$$15. \frac{1}{5} = \frac{1}{9} + \frac{1}{9} \times \frac{4}{9} + \frac{1}{9} \times \left(\frac{4}{9}\right)^2 + \frac{1}{9} \left(\frac{4}{9}\right)^3 + \dots$$



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