

ZMATH 2016f.01058

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Quadrature of the parabola with the square pyramidal number. (Quadratura della parabola con il numero piramidale quadrato.)

Archimede 66, No. 3, 139-144 (2014).

Summary: Drawing the parabolic segment with the Archimedes triangle, equivalent triangles are detected into the $n \times n$ trapezoids grid; so we can measure a figure circumscribed to the segment and the entire construction triangle. It is seen that these figures contains respectively: P_n (the square pyramidal number) and n^3 triangles. For n tending to infinity the ratio of these quantities tends to $1/3$, that proves the Archimedean theorem.

Classification: G70 K20

Keywords: parabolas; triangles; square pyramidal numbers