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Stacking Ellipses -- Revisited

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Stacking Ellipses -- Revisited

Abstract

Response to the article "Stacking Ellipses" by Richard E. Pfiefer in *The College Mathematics Journal*, Vol. 22, No. 4 (Sep., 1991), pp. 312-313.

Keywords

ellipse, mathematics, analytic geometry, conics

Disciplines

Mathematics

Comments

- The version of record is available at the publisher's website at <http://www.maa.org/programs/faculty-and-departments/classroom-capsules-and-notes/stacking-ellipses-revisited>
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Stacking Ellipses -- Revisited

Calvin Jongsma

The College Mathematics Journal

Vol. 24, No. 5 (Nov., 1993), p. 453

I recently read the September 1991 issue of the *CMJ* and the article *Stacking Ellipses*. The point of the article wasn't expressly stated, but I surmised that it was to determine the area of an ellipse without resorting to calculus, given Cavalieri's principle and the area of a circle. If this is the case, a much simpler proof in the same vein exists, which also does not need to distinguish between rational and irrational values for the semiaxes. Merely inscribe the ellipse $x^2/a^2 + y^2/b^2 = 1$ in circumscribing circle $x^2/a^2 + y^2/a^2 = 1$ and compare y values. Since they are in the ratio b/a , the areas must be likewise. Hence the area of the ellipse is πab .