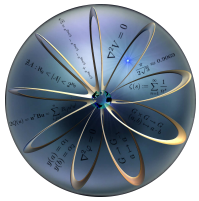

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isepiphanic inequality

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The classical *isepiphanic inequality*

$$36\pi V^2 \leqq A^3,$$

concerns the volume V and the area A of any solid in $\mathbb{R}^3$. It asserts that the ball has the greatest volume among the solids having a given area.

For a ball with radius r, we have

$$V = \frac{4}{3}\pi r^3, \qquad A = 4\pi r^2,$$

whence it follows the equality

$$36\pi V^2 = A^3.$$

Cf. the isoperimetric inequality and the isoperimetric problem.

References

[1] Patrik Nordbeck: *Isoperimetriska problemet eller Varför ser man så få fyrkantiga träd?* Examensarbete. Lund University (1995).