

Re: Closed convex hull and cube

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Timothy Little <tim-via-n.i.net@little-possums.net> wrote:

> "Gerry Myerson" <gerry@maths.mq.edu.au> wrote:

>> *Take a cylinder.*

>> *Shear it so its cross-sections are ellipses and*

>> *its axis is not orthogonal to its base.*

>> *Can you inscribe a cube in that?*

>

>*If we rotate it so that its axis is vertical, then it is just a*

>*squashed cylinder with elliptical cross-sections in the horizontal*

>*planes. Inscribe a square in the cross-section, and extend it*

>*vertically to a cube.*

That only works if the cylinder is long enough. But if the cylinder is short enough, we can put a cube between the two end parallel end planes.

Is there a combination of eccentricity, angle between base and axis and length for which neither construction holds?

Mike Guy