A Simple Plan

27 May 2022

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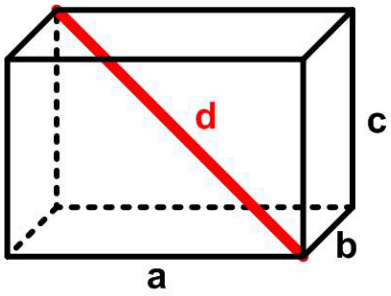

This is a slightly stimulating thought puzzle from Futility Closet ([1]).

You have three identical bricks and a ruler. How can you determine the length of a brick's interior diagonal without any calculation?

My Solution

Figure 1 shows the solution. Put the third brick beside the second one, thus creating a virtual fourth brick whose diagonal can be measured with the ruler.

This is the same solution given by Futility Closet. But they also provide another, niftier solution.

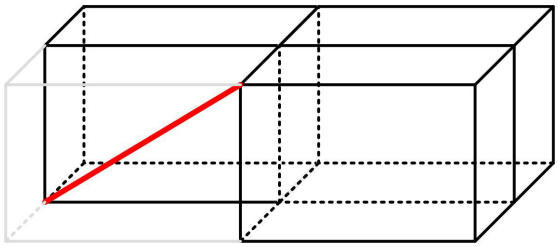

Figure 1

Futility Closet Solution

(Bonus: If the bricks' edges and face diagonals all have integer lengths, and you find that the interior diagonal is an integer as well, you'll have solved an open problem in mathematics.)

01/03/2021 UPDATE: Reader Paul-Georg Becker points out that the task can be accomplished with two bricks and a ruler [Figure 2]. (Thanks, Paul-Georg.)

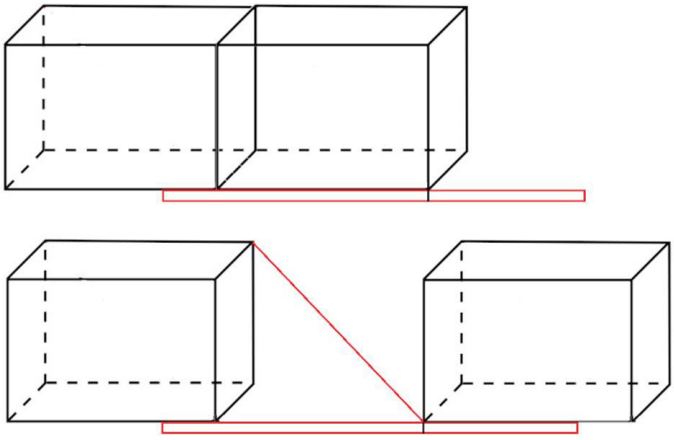

Figure 2

References

[1] "A Simple Plan," *Futility Closet*, 3 January 2022. (https://www.futilitycloset.com/2022/01/03/a-simple-plan/, retrieved 1/4/2022)