The intermediate value theory helps your table but not necessarily your beer

April 26, 2007

Raymond Chen

An Australian mathematician <u>applied intermediate value theory to the problem of keeping a table from wobbling</u>: Just rotate the table and you'll eventually find a spot. A few things struck me about that article. First, that it explains that intermediate value theory "is the same principle underlying the fact that there will always be two points with exactly the same temperature somewhere on Earth." While that's true, it's way overkill. Intermediate value theory lets you find two points on any *circle* with the same temperature; you don't need a whole sphere. (Perhaps they got the scenario mixed up with the Borsuk-Ulam theorem, which shows the significantly stronger result that you can find two *antipodal* points on the Earth with the same temperature *and pressure*.) The next thing that struck me is that the author *twice* used beer to illustrate the article. But then again, it was an Australian article, so maybe that's just normal for Australia.

Finally, the article concludes that the theorem may help you place your refrigerator. Well, sure, *if you don't care which direction the door faces*.

Raymond Chen

Follow