

1154-60-1680

Jordan S. Ellenberg* (ellenber@math.wisc.edu). *Geometry, Inference, and Democracy*.

Every ten years, after the census, each U.S. state is divided into legislative districts. This might sound like a dry technical exercise, but it's now red-hot political issue. That's because it's now clear that the same group of voters can send a Republican or Democratic majority to make the laws, depending who gets to draw those districts. The problem of gerrymandering — drawing districts with an intent to lock in control by one political faction — intertwines mathematics, law, and politics into an uncuttable knot. How can we tell whether a district map was gerrymandered? How much unfairness is too much? What does a “fair map” even mean, anyway? I'll talk about the rapidly moving current mathematical developments in this area, and the way these developments have translated (and sometimes failed to translate) into legal doctrines when mathematicians meet the judicial system. (Received September 16, 2019)