

1077-E5-72

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Mathematics and the Law: How Big Should a Jury Be, and How Should It Render Its Decision?

The standard American jury consists of 12 persons who must render a unanimous verdict, though the Supreme Court has ruled that other sizes and quotas are permissible. We'll show how statistics on conviction and reversal rates, combined with stochastic models of how juries make decisions, can shed light on the wisdom of changing the size of a jury or the means by which it renders a decision. The resulting problems are suitable for inclusion in a broad range of courses, from the most elementary of statistics courses to independent study and graduate courses. (Received July 18, 2011)