Generation of finite groups

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Abstract

There is a beautiful result, due to Liebeck, Shalev, and others, that the probability that two random elements of a finite simple group G generate the whole of G tends to 1 as the order of G tends to infinity. Many variations on this result are known – for example, we could insist that one of the two elements lay in a specified conjugacy class, or had a specified order – and I shall discuss a few of them, together with some open problems.