

# PRINCETON AND PUTNAM MATHEMATICS CONTEST

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I was never in the 'Putnam Crowd' in Princeton. I was relatively well-regarded in Mathematics but I was in a slightly different crowd. I spent my time with the graduate students and I was interested in research mathematics more than competition mathematics. Whether this was good or bad I don't know. My personality was more intellectually broad and philosophical and noble, more classical. I did not denigrate any of the Putnam Fellows at all, but I was getting good grades in my classes, and I was oriented towards Humanities and Literature as well.

Princeton is number 4 in top 5 placement, after Harvard, MIT, and Caltech and that's fair. Princeton did attract great Mathematical talent but I think the institutional support for competition mathematics at Harvard and MIT and Caltech were better. Princeton was much more focused on research orientation as Fine Hall was always a place of intellectual ferment and the issues were not as much directed towards competition mathematics.

Below is a table of teams by the number of appearances in the top five and number of titles.

The following table lists Teams finishing in Top Five (as of 2019 competition):

Top Five	Team (s)
65	Harvard
50	MIT
33	Caltech
31	Princeton
20	Waterloo
19	Toronto
14	Stanford
12	Duke
11	Chicago, Washington University in St. Louis, Yale
10	UC Berkeley, Cornell

I never really felt left out in Mathematics at Princeton. I gravitated towards research mathematics quite early on and did not even think to take the Putnam exam. I looked at some of the exams and I might do some of these to gain a bit more feel but I think that I will do much better with Stanford Ph.D. Quals problems in Analysis than Putnam Problems. They are different sorts of things; a good analogy would be that Stanford Analysis Quals is about piloting jet planes and Putnam is like sprinting or cycling. There is no guarantee that being good at one will allow you to do well on the others. Peter Sarnak mentions that Grisha Perelman was

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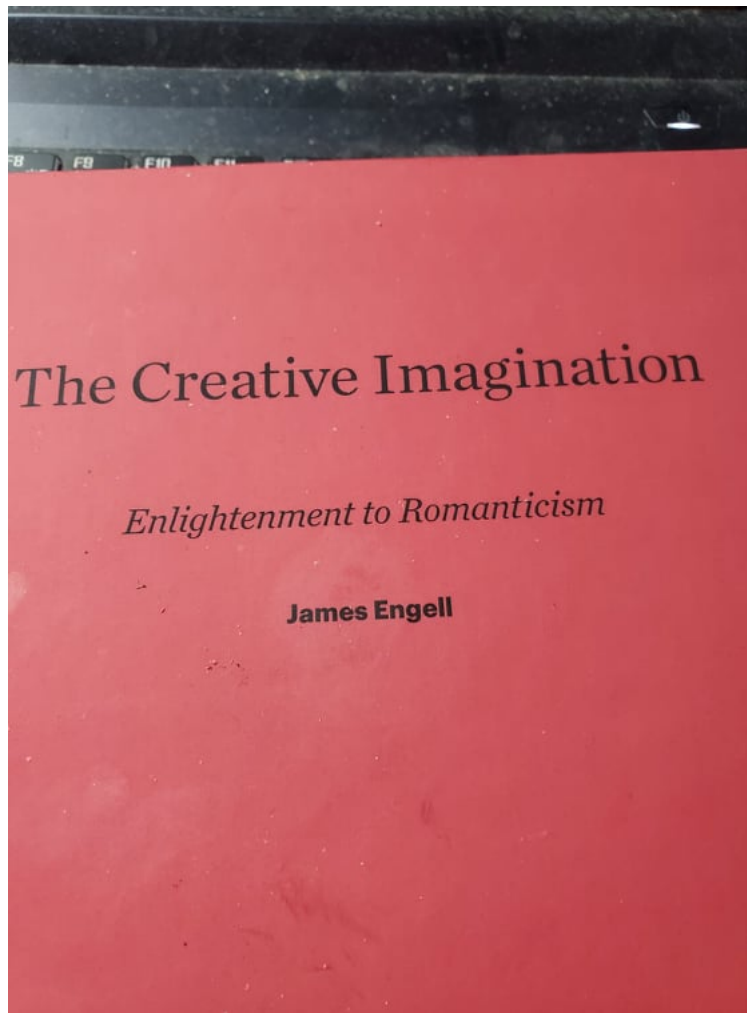
very good at these. But he also says that great research mathematicians exist who were not.

I ordered a book to train a bit on Putnam, as a hobby more than a serious interest. Stanford Spring 2017 Analysis problem II.3 was not hobby. It showed me how to establish matter field analysis using locally convex topology on  $C^\infty(\Sigma S^4)$  which is extremely serious for four-sphere theory. That's been a major work in my life so I don't consider those things hobby.

Kiran Kedlaya is a great mathematician and he was doing some considers surprised that Princeton was competitive at Putnam. Well I won't go into that since I was not the type.

You see, Princeton style is quite different. Even in Mathematics, and certainly in Humanities, Princeton people love to put on spectacles and pore over very old Medieval manuscripts and get obsessed by all sorts of esoteric scholars you never heard about from Islamic Spain and Chinese Ming Dynasty and Mathematical texts from the red district in Bangkok. Princeton Architecture does that to you. Suddenly you are inviting attractive women to check out your really exotic map of Tehran from the early 17th century and so on. It's very different from Harvard. You see, I belonged in Princeton. I have that sort of Medieval Theologian in me, and most Harvard guys really don't. I still love really old books. I was totally astounded to get a volume of Shelley's poetry for \$7 in 20th and Valencia some years ago. I was stunned because they were selling colourful books on architecture for \$125. I get overjoyed by those things. Princeton's Architecture does that. Harvard guys think that they are the best etc. I don't really think I thought that way. I was not even aware that Harvard existed when I was an undergraduate. I was mesmerised by Anthony Grafton's books on Renaissance scholars. And then Andrew Wiles proved Fermat theorem there and I had a copy too of his paper even though I was not developed enough in number theory. It's a different place than Harvard. To me it's part of my life. I would not have swapped Princeton for Harvard or Yale or MIT ever in a million years. I am a dyed-in-the-wool Princeton cat.

See I am still a student in humanities. I'll show you a book I am reading.



You can call my obsession with Romanticism and Modernism a 'hobby' if you wish, but for me it's about self-understanding and I am serious about these things. Princeton produces these sorts of scholarly obsessions quite regularly because Princeton respects the intellect of young people in a different way than many other universities. I take my own thought much more seriously I have discovered that many others who graduated from other universities.