

Applying for a Mathematics PhD in the UK

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- Getting started/basics

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- Finding a supervisor

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- Make a shortlist of schools to apply for, and a potential supervisor for each.

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If you develop a good rapport with a potential supervisor, they may plead your case to their department, increasing your chances of acceptance. They can also let you know about funding opportunities and institution specific aspects of the application process.

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Application Materials

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It is common to receive an offer without funding, so you may wish to consider searching online and applying for an external funding source. These are typically very competitive.

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The interview is usually conducted by your potential supervisor and one of their colleagues, and is about 30 minutes long. The type of questions you are asked can vary between institutions/interviewers.

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- What led you to be interested in [the area you researched for your honours thesis/masters thesis/research paper] or [the field you want to study in your PhD]?

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- What led you to be interested in [the area you researched for your honours thesis/masters thesis/research paper] or [the field you want to study in your PhD]?
- State a theorem you have learned while reading for research that you find particularly interesting. Why is it interesting to you?

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- (Measure Theory) Describe the construction of Lebesgue measure (let's denote it λ) on the unit circle S^1 . Define the pushforward $\varphi_*\lambda$ of λ by a measurable function $\varphi : S^1 \rightarrow S^1$, and compute $\varphi_*\lambda$ when $\varphi(z) = z^2$.

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- (Galois Theory) Let K be a field with $\text{char}(K) \neq 2$, and let $f \in K[X]$ be a separable quartic polynomial. Describe and justify a procedure for determining the Galois group of f .

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The acceptance deadline for US applications is around the middle of April, but some UK institutions will give you a deadline as early as the beginning of March. It doesn't hurt to ask for an extension on UK acceptance deadlines, but you may be forced to accept an offer with other applications still pending.

Thank you for listening!