

Being a Professional Mathematician

What makes a professional mathematician? – worksheet

Exercise	Tutor's comments
1) What is your definition of mathematician?	
You might consider the following: Someone who does mathematics Someone who uses mathematics Someone who proves theorems Someone who solves problems Someone who has a degree in mathematics Someone who has studied or is studying mathematics	Can you call yourself a mathematician, or do you need credentials?
Do you consider yourself to be a mathematician?	A medical student would call themselves a "medic". A language student would call themselves a "Linguist". Would the community regard a maths undergraduate as a mathematician?
Listen to what the case study interviewees at www.BeingAMathematician.org say about being a mathematician – eg Danny Brown: is a maths teacher a mathematician?	
What definition do professional bodies (LMS, IMA, RSS) use?	The LMS expects a PhD or similar. The RSS accepts anyone who says they want to be a member.
2) What makes something a "profession"?	Prompts: If students don't raise these, suggest the following
Think of examples and suggest what distinguishes them from non-professional activities.	Professions might include law, accountancy, medicine, etc
Which of the characteristics of other professions apply to the world of mathematics?	Characteristics might include: <ul style="list-style-type: none">• Existence of professional bodies?• Registration / credentials• Regulation / fitness to practice• Recognition by others• High salaries

- 3) What credentials might a mathematician have?
 In what circumstances would they be useful?
 (Think about the different views expressed in the case studies at www.BeingAMathematician.org – for example Nira Chamberlain, Peter Furness, Sue Merchant and Mason Porter)
- Degree
 Membership of professional body
 Chartered status
 Publications
- Useful in seeking employment, promotion, convincing clients you are qualified?
- Depends on age – once you are established credentials are less important?
- Less important for academics? (Porter interview)
- 4) What is the role of professional bodies? (You will find at www.BeingAMathematician.org/ProfessionalBodies interviews with representatives of the four main mathematical professional bodies and learned societies, together with links to the websites of other organisations)
- What are the professional bodies and learned societies in mathematics?
 - How many members do they have? How does this compare with, say, the Institute of Physics?
 - What kind of people are members of each society? Academics? Industry mathematicians? Teachers? Students? Retired people?
 - Do people join more than one of these societies? Why, or why not?
 - How do you join?
 - What grades of membership do they offer?
 - Do they offer credentials such as letters after your name?
 - What else do they offer to support professional mathematicians?
- In alpha order, IMA, LMS, ORSoc, RSS plus teaching bodies MA, ATM etc IOP has a lot more members than any single maths body?
- Difference between professional bodies supporting industry mathematicians and LMS for academics?
- Compare different criteria
 Compare different approaches
 Compare different approaches
- Conferences, research grants, magazines, journals etc. Compare different magazines!
- What are the consequences of the existence of so many professional bodies and learned societies in mathematics?
- Who puts the views of mathematicians to policy-makers?

Is there a single voice for mathematicians, like the Institute of Physics for physicists?

Would mathematics benefit from having a single professional body? Why has this not happened?

- 5) In a recent book (*Duel at Dawn: Heroes, Martyrs and the Rise of Modern Mathematics*) Amir Alexander has argued that since the nineteenth century mathematicians have seen their role model as the romantic rebel, working alone, and probably dying young and unappreciated by the established mathematics community. Examples would include Abel and Galois, as presented in E.T. Bell's *Men of Mathematics*. Is this your idea of a mathematician? Does it match the reality?

Listen to the interviews with Gwyneth Stallard and Rosemary Dyson at www.BeingAMathematician.org. Do they have similar views about being a mathematician?

Prompts:

Is this pure mathematics or applied?

Is mathematics still a solitary pursuit?
Was it ever?

Has the computer changed things?

Has email?

Has the way pure mathematicians disseminate their results?

Do these interviews suggest fundamental differences between the practice of pure and applied mathematics.

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