

Being a Professional Mathematician

Equal opportunities in mathematics? – worksheet

Exercise	Tutor's comments
<p>1) Find on the internet group photographs of participants in mathematics conferences.</p> <p>Look at staff lists of university mathematics departments.</p> <p>Consider the classes you take as a mathematics undergraduate.</p> <p>Look at the list of mathematicians at the MacTutor history of mathematics website (http://www-history.mcs.st-and.ac.uk/).</p> <p>Look at the list of Fields Medallists, or other lists of eminent mathematicians.</p> <p>Are these evidence of diversity in mathematics?</p> <p>What is the gender balance? (In the case of conferences, has this changed over time?)</p> <p>Does the mix reflect that of the communities from which they are drawn?</p>	<p>Note: there are dangers that, for example, a focus on the gender balance in mathematics may discourage female students from pursuing a career in, say, research mathematics. The interview with Rosemary Dyson at www.BeingAMathematician.org is a particularly good resource in this respect because she is so positive in what she says.</p> <p>The excellent novel by Sue Woolfe, <i>Leaning towards infinity</i>, contains an account of a (hopefully fictitious) conference in which female mathematicians are very badly treated. If you have access to this book, you could discuss with students whether this account is plausible.</p>
<p>2) Research some of the following mathematicians. What obstacles, if any, did they face as a result of their gender, race or other factors? Were and are there differences in equal opportunities in different parts of the world?</p> <p>Emilie du Chatelet (listen to Patricia Fara's account at www.BeingAMathematician.org)</p> <p>Florence Nightingale (listen to Noel-Ann Bradshaw's account at www.BeingAMathematician.org)</p> <p>James Joseph Sylvester (listen to Karen Parshall's account at www.BeingAMathematician.org)</p>	

David Blackwell
Emmy Noether
S. Ramanujan

Mathematicians in the
www.BeingAMathematician.org case studies
- Danny Brown, Rosemary Dyson, Nira
Chamberlain, Sue Merchant, Mason Porter,
Gwyneth Stallard (listen to the recorded
interviews)

Jonathan Farley (see
[http://www.guardian.co.uk/commentisfree/
cifamerica/2012/apr/12/black-
mathematicians-john-derbyshire-fields-
medal](http://www.guardian.co.uk/commentisfree/cifamerica/2012/apr/12/black-mathematicians-john-derbyshire-fields-medal))

See also the book *Loving + Hating
Mathematics* by Reuben Hersh and Vera
John-Steiner for discussion of lack of equal
opportunities in the US mathematics world
in the second half of the twentieth century.

- 3) Is there concern in the UK mathematics
community about equal opportunities?

The London Mathematical Society as a
“Women in Mathematics” Committee (see
Gwyneth Stallard interview at
www.BeingAMathematician.org). What
does this tell us about the situation?

It tells us that there is a problem!

Consider the LMS policy on Women in
Mathematics at
[http://www.lms.ac.uk/sites/default/files/M
athematics/wim_statement.pdf](http://www.lms.ac.uk/sites/default/files/Mathematics/wim_statement.pdf)

What does this tell us about the situation?
Do you support this policy?

What is the “leaky pipeline” in UK
mathematics? (In the
www.BeingAMathematician.org case
studies, listen to Mason Porter talking about
this. Listen to Gwyneth Stallard and Sue
Merchant talking about returning to their
mathematical careers after maternity leave,
and listen to Rosemary Dyson about her
experience as a woman in mathematics.)

What can be done to reduce the leaks in this pipeline?

Are things happening?

Is there similar concern about the racial equality in UK mathematics? Why, or why not?

What steps could be taken to make the UK mathematical community more representative of the population as a whole?

Is there a class dimension to the problem? Is the under-representation of black mathematicians because black children aspire to be doctors or lawyers rather than mathematicians?

Role models may be important. There is a separate worksheet on role models which follows on naturally from this one.

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