The Newnham Philippa Fawcett Mathematics Prize 2021-22

The Philippa Fawcett Mathematics Prize is open to all female students **currently in Year 12** (Lower Sixth) at a **UK state school**. The prize may be of particular interest to those studying Mathematics, Statistics or Further Mathematics but we welcome entries from interested students studying any combination of subjects.

Entrants are invited to submit a response to any **one** of the questions below. Submissions should comply with the following:

• 4-6 A4 sides maximum including all figures, diagrams, tables and bibliography
• 12 point font minimum
• 2 cm margins minimum
• 2500 words max.

All sources must be appropriately acknowledged and cited, and a bibliography, including websites consulted, should be included. Up to **four** entries may be submitted per school.

There are many angles from which to approach each topic. Good submissions will present a clear argument and demonstrate understanding of the underlying mathematical ideas. Use of formulae is encouraged but every presented piece of mathematics has to be carefully explained.

Newnham will be running a programme of essay writing skills advice and guidance webinars in the new year. Dates and information can be found here.

Each of the Newnham Essay Prizes have a first prize of £400, a second prize of £200 and a third prize of £100. Prize money is split 50:50 between the Essay Prize winner and the funding of resources for their school.

The completed **cover sheet** must also be submitted. Please ensure that a school/college representative has completed the appropriate section before submission. Entries without an appropriately completed coversheet will be invalid.

Entrants should submit their entry to the webform, found here:
https://cambridge.eu.qualtrics.com/jfe/form/SV_cHgegW9EBBIKTpY

The deadline for submission is **12pm on Friday 11 March 2022.** For any queries not answered here, please contact essayprizes@newn.cam.ac.uk.

The Philippa Fawcett Mathematics Prize 2021-22 Questions

1. How does mathematics protect your privacy online?

2. What are the most fascinating aspects behind the mathematics of music? Discuss how mathematics is related to the theory of musical structures and/or instruments.

3. Mathematics and climate change: What role do you think mathematics can play in guiding policy makers and in helping public understanding?