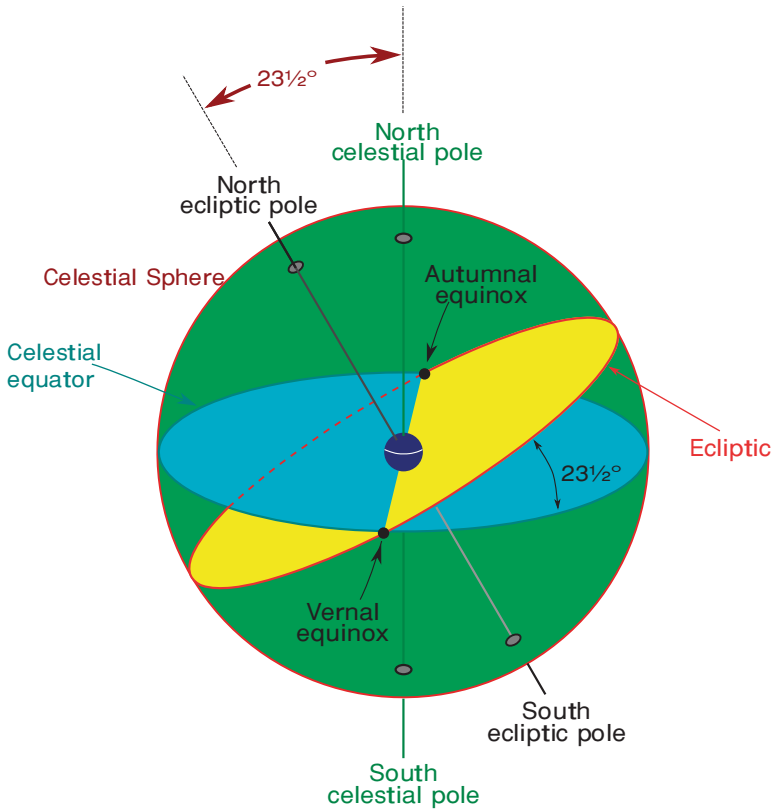




The Mathematical Gazette



The geometry of the celestial sphere

Volume 107
Number 570
November 2023

MATHEMATICAL ASSOCIATION



Supporting mathematics in education

THE MATHEMATICAL ASSOCIATION

THE MATHEMATICAL ASSOCIATION

AN ASSOCIATION OF TEACHERS AND STUDENTS
OF ELEMENTARY MATHEMATICS

I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavour themselves by way of amends to be a help and an ornament thereunto.'
BACON

THE COUNCIL

| | |
|--------------------------|-----------------------|
| PRESIDENT | CHAIR OF COUNCIL |
| Dr Nira Chamberlain, OBE | Dr Ems Lord |
| IMMEDIATE PAST PRESIDENT | SECRETARY |
| Dr Colin Foster | Dr Paul Harris |
| PRESIDENT DESIGNATE | TREASURER |
| Mr Charlie Stripp | Mr Sudeep Gokarakonda |

REPRESENTATIVES OF COMMITTEES

| | | |
|--------------------------|-----------------------|---------|
| BRANCHES | Mrs Cindy Hamill | (Chair) |
| CHALLENGES | Dr Amanda Moon | (Chair) |
| CONFERENCES | Dr Andy Kemp | (Chair) |
| MEMBERSHIP | Mrs Jemma Sherwood | (Chair) |
| PROFESSIONAL DEVELOPMENT | Mrs Louise Pennington | (Chair) |
| PUBLICATIONS | Mrs Jill Trinder | (Chair) |
| TEACHING COMMITTEE | Mr David Miles | (Chair) |

| | | |
|-------------------|-------------------------|-----------------------|
| EDITOR IN CHIEF | Mr Ed Southall | |
| MEMBERS | Miss Stella Dudzic | Dr Chris Pritchard |
| WITHOUT | Mrs Charlotte Hawthorne | Mr Bill Richardson |
| OFFICE | Mrs Jo Morgan | Mrs Manina Tyler-Mort |
| | Miss Cherri Moseley | |
| EXECUTIVE OFFICER | Ms Sandi Atkinson | |

EDITORIAL COMMITTEE OF THE MATHEMATICAL GAZETTE

| | |
|--------------------------|--|
| <i>Editor</i> | Dr Gerry Leversha |
| <i>Production Editor</i> | Mr Bill Richardson |
| <i>Reviews Editor</i> | Mr Owen Toller |
| <i>Problems Editors</i> | Mr Nick Lord, Ms Tuyá Sa |
| <i>Assistant Editors</i> | Mr Tom Roper, Mr Colin Davis, Mr Michael Fox, Mr Graham Howlett, Professor Adam McBride |