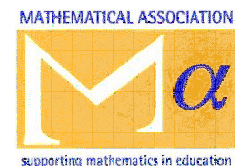


**Index to Volume 103  
Number 558  
November 2019**



The Mathematical Gazette  
is for all mathematicians  
and is produced by The  
Mathematical Association.



This document is based on contents as printed in the November issue but with the addition of the book reviews and including the DOI with its hyper-link to the *Gazette* archive.

**Articles**

AUTHOR(S)	TITLE	PAGES	DOI
<i>Irene Ault</i>	Margaret E Rayner	385-387	<a href="https://doi.org/10.1017/mag.2019.98">10.1017/mag.2019.98</a>
<i>Paul Glaister</i>	Alice's adventures in inverse tan land – mathematical argument, language and proof	388-400	<a href="https://doi.org/10.1017/mag.2019.99">10.1017/mag.2019.99</a>
<i>Sadi Abu-Saymeh and Mowaffaq Hajja</i>	New proofs of certain characterisations of cyclic circumscribable quadrilaterals	401-408	<a href="https://doi.org/10.1017/mag.2019.100">10.1017/mag.2019.100</a>
<i>Ulrich Abel</i>	Coincidence of the barycentre and the geometric centre of weighted points	409-415	<a href="https://doi.org/10.1017/mag.2019.101">10.1017/mag.2019.101</a>
<i>Steven J. Kilner and David L. Farnsworth</i>	Characterisations of the parabola	416-430	<a href="https://doi.org/10.1017/mag.2019.102">10.1017/mag.2019.102</a>
<i>Curtis Cooper</i>	The Chinese Ring puzzle, the Crazy Elephant Dance puzzle, the <i>b</i> -Spinout puzzle, and Gray codes	431-441	<a href="https://doi.org/10.1017/mag.2019.103">10.1017/mag.2019.103</a>
<i>Andrew J. Simoson</i>	The morphology of $\mathbb{Z}[\sqrt{10}]$	442-460	<a href="https://doi.org/10.1017/mag.2019.104">10.1017/mag.2019.104</a>
<i>Stan Dolan</i>	A diagram for inequalities of symmetric functions	461-470	<a href="https://doi.org/10.1017/mag.2019.105">10.1017/mag.2019.105</a>
<i>Martin Josefsson</i>	Eight formulae for the area of triangle <i>OIH</i>	470-479	<a href="https://doi.org/10.1017/mag.2019.107">10.1017/mag.2019.107</a>
<i>Hans Humenberger and Franz Embacher</i>	Iterating circum-medial triangles	480-487	<a href="https://doi.org/10.1017/mag.2019.108">10.1017/mag.2019.108</a>
<i>Gerry Leversha</i>	An Appreciation	488-488	<a href="https://doi.org/10.1017/mag.2019.109">10.1017/mag.2019.109</a>

**Notes 103.28 to 103.46**

AUTHOR(S)	NO.	TITLE	PAGES	DOI
<i>K. B. Subramaniam</i>	103.28	On a link between Triangular and Fibonacci numbers	489-489	<a href="https://doi.org/10.1017/mag.2019.110">10.1017/mag.2019.110</a>
<i>Stan Dolan</i>	103.29	Heronian triangles and squares in arithmetic progression	490-493	<a href="https://doi.org/10.1017/mag.2019.111">10.1017/mag.2019.111</a>
<i>Mehdi Hassani</i>	103.30	Tests for divisibility by prime numbers	494-495	<a href="https://doi.org/10.1017/mag.2019.112">10.1017/mag.2019.112</a>
<i>Peter Shiu</i>	103.31	Factorising numbers with oracles	495-499	<a href="https://doi.org/10.1017/mag.2019.113">10.1017/mag.2019.113</a>
<i>G. J. O. Jameson</i>	103.32	More on the gaps between sums of two squares	499-503	<a href="https://doi.org/10.1017/mag.2019.114">10.1017/mag.2019.114</a>
<i>Purwanto</i>	103.33	Conditions for the terms of an arithmetic sequence to form a multiplicative modular group	504-508	<a href="https://doi.org/10.1017/mag.2019.115">10.1017/mag.2019.115</a>
<i>Carlo Del Noce</i>	103.34	Indefinite integration by parts as a translation of functions	508-512	<a href="https://doi.org/10.1017/mag.2019.116">10.1017/mag.2019.116</a>
<i>K. Razminia</i>	103.35	Hölder's inequality revisited	512-514	<a href="https://doi.org/10.1017/mag.2019.117">10.1017/mag.2019.117</a>
<i>Nick Lord</i>	103.36	Three footnotes to Cartwright's proof that $\pi$ is irrational	514-517	<a href="https://doi.org/10.1017/mag.2019.118">10.1017/mag.2019.118</a>
<i>Tamsin and Tony Forbes</i>	103.37	A sudoku puzzle with a big rectangular hole	517-517	<a href="https://doi.org/10.1017/mag.2019.119">10.1017/mag.2019.119</a>
<i>Eoghan Bradley and Mark McCartney</i>	103.38	Four hundred years of the fractal coastline of Scotland	518-521	<a href="https://doi.org/10.1017/mag.2019.120">10.1017/mag.2019.120</a>
<i>Yongcheng Chen</i>	103.39	A lemma to solve Langley's problem	521-524	<a href="https://doi.org/10.1017/mag.2019.121">10.1017/mag.2019.121</a>
<i>Aldo Scimone</i>	103.40	Identifying golden and equilateral triangles that arise from the golden Arbelos	525-531	<a href="https://doi.org/10.1017/mag.2019.122">10.1017/mag.2019.122</a>
<i>Francisco Javier González Vieli, Marion Maillard</i>	103.41	A spatial characterisation of Pascal limaçons	531-536	<a href="https://doi.org/10.1017/mag.2019.123">10.1017/mag.2019.123</a>

<i>J. A. Scott</i>	103.42	The Feuerbach hyperbola revisited	536-538	<a href="https://doi.org/10.1017/mag.2019.124">10.1017/mag.2019.124</a>
<i>Martin Lukarevski</i>	103.43	An inequality arising from the inarc centres of a triangle	538-541	<a href="https://doi.org/10.1017/mag.2019.125">10.1017/mag.2019.125</a>
<i>G. J. O. Jameson</i>	103.44	The denominators of the Bernoulli numbers	541-548	<a href="https://doi.org/10.1017/mag.2019.126">10.1017/mag.2019.126</a>
<i>Robin Murphy</i>	103.45	Improving elementary numerical integration using numerical differentiation	548-556	<a href="https://doi.org/10.1017/mag.2019.127">10.1017/mag.2019.127</a>
<i>P. Stanley</i>	103.46	A four-hundred year calendar	556-558	<a href="https://doi.org/10.1017/mag.2019.128">10.1017/mag.2019.128</a>

<b>In the pipeline</b>	For March 2020 (repeated below)	460-460	<a href="https://doi.org/10.1017/mag.2019.106">10.1017/mag.2019.106</a>
<b>Problem Corner</b>	Problems 103.I, 103.J, 103.K, 103.L	559-559	<a href="https://doi.org/10.1017/mag.2019.129">10.1017/mag.2019.129</a>
<i>Nick Lord</i>	Solutions 103.A, 103.B, 103.C, 103.D (March 2019)	560-566	<a href="https://doi.org/10.1017/mag.2019.129">10.1017/mag.2019.129</a>
<b>Student Problems</b>	Problems 2019.5, 2019.6	567-567	<a href="https://doi.org/10.1017/mag.2019.130">10.1017/mag.2019.130</a>
<i>Stan Dolan</i>	Solutions 2019.3, 2019.4	568-569	<a href="https://doi.org/10.1017/mag.2019.130">10.1017/mag.2019.130</a>

## Reviews

AUTHOR(S)	TITLE	REVIEWER	PAGES	DOI
<i>Robin Bevan, Paul Metcalf and Chris Pritchard</i>	Leadership to count on	Andy Ashworth Jones	570-570	<a href="https://doi.org/10.1017/mag.2019.131">10.1017/mag.2019.131</a>
<i>Keith Kendig</i>	Never a dull moment: Hassler Whitney, mathematics pioneer	Peter Giblin	571-571	<a href="https://doi.org/10.1017/mag.2019.132">10.1017/mag.2019.132</a>
<i>Angelo Alessandro Mazzotti</i>	All sides to an oval	Owen Toller	572-572	<a href="https://doi.org/10.1017/mag.2019.133">10.1017/mag.2019.133</a>
<i>Stephen Boyd and Lieven Vandenberghe</i>	Introduction to applied linear algebra	Owen Toller	573-574	<a href="https://doi.org/10.1017/mag.2019.134">10.1017/mag.2019.134</a>
	<b>Referee Acknowledgements</b>	The Editor	574-574	<a href="https://doi.org/10.1017/mag.2019.135">10.1017/mag.2019.135</a>

## In the pipeline for March 2020

<i>Mike Askew</i>	The 2019 Presidential Address
<i>Jennifer Switkes and Randall Swift</i>	Worst average encountered highway velocity
<i>Paul Lescot</i>	An arithmetical question related to perfect numbers
<i>Damjan Kobal</i>	Matrix zeros of polynomials
<i>Alan F. Beardon and Russell A. Gordon</i>	The convexity of the function $y = E(x)$ defined by $x^y = y^x$
<i>Glyn George</i>	Limits and Second Order ODEs
<i>Sadi Abu-Saymeh and Mowaffaq Hajja</i>	Notes on the Brocard points and angles of a triangle
<i>Michael Fox</i>	Constructing tetrahedra with given face areas
<i>Raymond Viglione</i>	The Thébault configuration keeps on giving
<i>Rory Allen</i>	Lie group approach to solving differential equations
<i>K. Robin McLean</i>	What is the significance of $b^2 = \frac{1}{2}(3 + \sqrt{5})ac$ ?
<i>Grigore Călugăreanu</i>	Matrices that are similar to their inverses
<i>Stan Dolan</i>	Ratios in Heronian triangles
<i>John R. Silvester</i>	Desargues, Pascal and Kirkman
<i>Ulrich Abel</i>	On the relative error between the binomial and the hypergeometric distribution