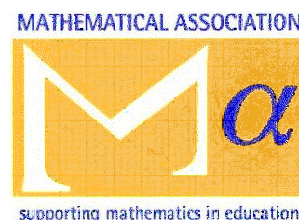


# Index to Volume 102 Number 554 July 2018



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



This document is based on contents as printed in the July 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>Allan J. Kroopnick</i>	Linear and non-linear models for national health expenditures in the USA	193-197	<a href="https://doi.org/10.1017/mag.2018.49">10.1017/mag.2018.49</a>
<i>K. Robin McLean</i>	Blocks of decimal digits	198-202	<a href="https://doi.org/10.1017/mag.2018.50">10.1017/mag.2018.50</a>
<i>Stanley R. Huddy and Michael A. Jones</i>	All parabolas through three non-collinear points	203-209	<a href="https://doi.org/10.1017/mag.2018.51">10.1017/mag.2018.51</a>
<i>Russell A. Gordon</i>	Rational arc length	210-225	<a href="https://doi.org/10.1017/mag.2018.52">10.1017/mag.2018.52</a>
<i>Peter Shiu</i>	Can our coinage system be improved?	226-232	<a href="https://doi.org/10.1017/mag.2018.53">10.1017/mag.2018.53</a>
<i>John D. Mahony</i>	Tethering in pastures new	233-245	<a href="https://doi.org/10.1017/mag.2018.54">10.1017/mag.2018.54</a>
<i>John D. Mahony</i>	From dawn to dusk	246-256	<a href="https://doi.org/10.1017/mag.2018.55">10.1017/mag.2018.55</a>
<i>Mowaffaq Hajja</i>	The existence of simplices with prescribed exradii	257-263	<a href="https://doi.org/10.1017/mag.2018.56">10.1017/mag.2018.56</a>
<i>Martin Josefsson</i>	Metric relations in crossed trapezia	264-269	<a href="https://doi.org/10.1017/mag.2018.57">10.1017/mag.2018.57</a>
<i>Luis Blanco, María García- García, Joaquín Gutiérrez, Andrea Rios</i>	Central force fields and Kepler's laws	270-279	<a href="https://doi.org/10.1017/mag.2018.58">10.1017/mag.2018.58</a>
<i>John R. Silvester</i>	The seven circles theorem revisited	280-301	<a href="https://doi.org/10.1017/mag.2018.59">10.1017/mag.2018.59</a>
<i>Martin Josefsson</i>	Importance of characterisations in geometry	302-307	<a href="https://doi.org/10.1017/mag.2018.61">10.1017/mag.2018.61</a>
	Growing the <i>Gazette</i>	301-301	<a href="https://doi.org/10.1017/mag.2018.60">10.1017/mag.2018.60</a>

## Notes 102.20 to 102.36

AUTHOR(S)	NO.	TITLE	PAGES	DOI
<i>Stephan Berendonk</i>	102.20	The sum of the first $n$ cubes is a square (PWW)	308-308	<a href="https://doi.org/10.1017/mag.2018.62">10.1017/mag.2018.62</a>
<i>Ashvin Rajan</i>	102.21	An addendum to Estermann's proof of the irrationality of $\sqrt{2}$	308-309	<a href="https://doi.org/10.1017/mag.2018.63">10.1017/mag.2018.63</a>
<i>Günhan Caglayan</i>	102.22	Sums of sums of factorials is one less than a factorial	309-310	<a href="https://doi.org/10.1017/mag.2018.64">10.1017/mag.2018.64</a>
<i>Nick Lord</i>	102.23	A visual proof that $\sqrt{N}$ is irrational	311-312	<a href="https://doi.org/10.1017/mag.2018.65">10.1017/mag.2018.65</a>
<i>Howard Sporn</i>	102.24	Area of a circle via the Fundamental Theorem of Calculus	312-314	<a href="https://doi.org/10.1017/mag.2018.66">10.1017/mag.2018.66</a>
<i>Nick Lord</i>	102.25	On an alternative formula for the area of a spherical cap	314-316	<a href="https://doi.org/10.1017/mag.2018.67">10.1017/mag.2018.67</a>
<i>J. A. Scott</i>	102.26	An ad hoc limiting process	317-317	<a href="https://doi.org/10.1017/mag.2018.68">10.1017/mag.2018.68</a>
<i>J. A. Scott</i>	102.27	The theorem of means for terms in AP and GP	317-320	<a href="https://doi.org/10.1017/mag.2018.69">10.1017/mag.2018.69</a>
<i>G.J.O. Jameson</i>	102.28	Note on series of positive and negative terms	320-325	<a href="https://doi.org/10.1017/mag.2018.70">10.1017/mag.2018.70</a>
<i>Pedro Ribeiro</i>	102.29	Another proof of the Fundamental Theorem of Algebra	326-328	<a href="https://doi.org/10.1017/mag.2018.71">10.1017/mag.2018.71</a>
<i>Michael de Villiers, Heinz Schumann</i>	102.30	A surprising 3-D result involving a hexagon	328-331	<a href="https://doi.org/10.1017/mag.2018.72">10.1017/mag.2018.72</a>
<i>Paul Stephenson</i>	102.31	Cyclic gridpoint polygons	331-332	<a href="https://doi.org/10.1017/mag.2018.73">10.1017/mag.2018.73</a>
<i>Tony Foster</i>	102.32	Panning for gold in the streams of a regular pentagon	332-335	<a href="https://doi.org/10.1017/mag.2018.74">10.1017/mag.2018.74</a>
<i>M. G. Mahmoudi</i>	102.33	A geometrical construction involving two intersecting circles	335-339	<a href="https://doi.org/10.1017/mag.2018.75">10.1017/mag.2018.75</a>

<i>J. A. Scott</i>	102.34	On the vertices of the Kiepert hyperbola	339-343	<a href="https://doi.org/10.1017/mag.2018.76">10.1017/mag.2018.76</a>
<i>Martin Griffiths</i>	102.35	On repetition and divisibility of parts in partitions	344-347	<a href="https://doi.org/10.1017/mag.2018.77">10.1017/mag.2018.77</a>
<i>Martin Griffiths</i>	102.36	A difference property amongst certain pairs of Beatty sequences	348-350	<a href="https://doi.org/10.1017/mag.2018.78">10.1017/mag.2018.78</a>

## Teaching Notes

AUTHOR	TITLE	PAGES	DOI
<i>Nick Lord</i>	Extending runs of composite numbers	351-352	<a href="https://doi.org/10.1017/mag.2018.79">10.1017/mag.2018.79</a>
<i>Nick Lord</i>	Two quick observations about rough inclined planes	352-353	<a href="https://doi.org/10.1017/mag.2018.80">10.1017/mag.2018.80</a>
<b>Feedback</b>	On Note 101.41 On Conics:	354-354	<a href="https://doi.org/10.1017/mag.2018.103">10.1017/mag.2018.103</a>
	On ‘Pappus in two dimensions, Mamikon in three’,	354-354	
<b>Problem Corner</b>	Problems 102.E, 102.F, 102.G, 102.H	355-355	<a href="https://doi.org/10.1017/mag.2018.81">10.1017/mag.2018.81</a>
<i>Nick Lord</i>	Solutions 101.I, 101.J, 101.K, 101.L (November 2017)	356-360	<a href="https://doi.org/10.1017/mag.2018.81">10.1017/mag.2018.81</a>
<b>Student Problems</b>	Problems 2018.3, 2018.4	361-361	<a href="https://doi.org/10.1017/mag.2018.82">10.1017/mag.2018.82</a>
<i>Stan Dolan</i>	Solutions 2018.1, 2018.2	362-363	<a href="https://doi.org/10.1017/mag.2018.82">10.1017/mag.2018.82</a>

## Reviews

AUTHOR	TITLE	REVIEWER	PAGES	DOI
David Acheson	The story of calculus	<i>Peter Giblin</i>	364-364	<a href="https://doi.org/10.1017/mag.2018.83">10.1017/mag.2018.83</a>
A.S. Posamentier, et al	The joy of mathematics	<i>Owen Toller</i>	364-365	<a href="https://doi.org/10.1017/mag.2018.84">10.1017/mag.2018.84</a>
Mircea Pitici (ed.)	Best writing on Mathematics 2016	<i>Gerry Leversha</i>	365-366	<a href="https://doi.org/10.1017/mag.2018.85">10.1017/mag.2018.85</a>
Oscar E. Fernandez	The calculus of happiness	<i>Anne Haworth</i>	367-367	<a href="https://doi.org/10.1017/mag.2018.86">10.1017/mag.2018.86</a>
Asok Kumar Mallik	The story of numbers	<i>Martin Griffiths</i>	367-368	<a href="https://doi.org/10.1017/mag.2018.87">10.1017/mag.2018.87</a>
T.C. Burness, M. Giudici	Classical groups, derangements and primes	<i>Mark Hunacek</i>	368-369	<a href="https://doi.org/10.1017/mag.2018.88">10.1017/mag.2018.88</a>
M. Clay and D. Margalit	Office hours with a geometric group theorist	<i>Mark Hunacek</i>	369-371	<a href="https://doi.org/10.1017/mag.2018.89">10.1017/mag.2018.89</a>
Sheng Gong	Concise calculus	<i>David Hopkins</i>	371-372	<a href="https://doi.org/10.1017/mag.2018.90">10.1017/mag.2018.90</a>
Alexander J. Hahn	Calculus in context: ....	<i>Peter Shiu</i>	372-374	<a href="https://doi.org/10.1017/mag.2018.91">10.1017/mag.2018.91</a>
S. R. Garcia, R.A. Horn	A second course in linear algebra	<i>Peter Shiu</i>	374-375	<a href="https://doi.org/10.1017/mag.2018.92">10.1017/mag.2018.92</a>
Craig P. Bauer	Unsolved!	<i>Owen Toller</i>	375-376	<a href="https://doi.org/10.1017/mag.2018.93">10.1017/mag.2018.93</a>
Miklós Bóna	A walk through combinatorics	<i>Martin Griffiths</i>	376-377	<a href="https://doi.org/10.1017/mag.2018.94">10.1017/mag.2018.94</a>
Sheldon M. Ross	Introductory statistics	<i>Owen Toller</i>	377-378	<a href="https://doi.org/10.1017/mag.2018.95">10.1017/mag.2018.95</a>
D.E. Neuenschwander	Emmy Noether's wonderful theorem	<i>Ken Zetie</i>	378-379	<a href="https://doi.org/10.1017/mag.2018.96">10.1017/mag.2018.96</a>
Øystein Linnebo	Philosophy of mathematics	<i>A. C. Paseau</i>	379-381	<a href="https://doi.org/10.1017/mag.2018.97">10.1017/mag.2018.97</a>
Roi Wanger	Making and breaking mathematical sense	<i>Dominic Yeo</i>	381-382	<a href="https://doi.org/10.1017/mag.2018.98">10.1017/mag.2018.98</a>
Andrew Jobbings	Junior problems	<i>George Tsaknakis</i>	382-382	<a href="https://doi.org/10.1017/mag.2018.99">10.1017/mag.2018.99</a>
P. Curzon, P.W. McOwan	The power of computational thinking	<i>Peter Giblin</i>	382-383	<a href="https://doi.org/10.1017/mag.2018.100">10.1017/mag.2018.100</a>

## In the pipeline for November 2018

<i>Tom Roper</i>	The Presidential Address
<i>M. Amram, M. Dagan, S. Levi, A. Mouftahkov</i>	Redundant axioms in teaching linear algebra
<i>King-Shun Leung</i>	Activities to demonstrate five-fold symmetry
<i>Zoltan Retkes</i>	Generalisation and refinement of Problem 101.A
<i>Stephen Kaczowski</i>	On obtaining limiting values of a class of infinite products
<i>R. Michael Range</i>	A natural approach to derivatives and continuity
<i>Anthony F. and George A. Constantinides</i>	Spindown polyhedra
<i>Vincent J. Matsko</i>	Lattice dissections: plainer and less fancy
<i>John R. Silvester</i>	On touching circles
<i>Tony Gardiner</i>	Nature-nurture: Finding-feeding

This info-sheet is available at

[www.m-a.org.uk/the-mathematical-gazette](http://www.m-a.org.uk/the-mathematical-gazette)

&

[www.wpr3.co.uk/MG-IS/2018b.pdf](http://www.wpr3.co.uk/MG-IS/2018b.pdf)