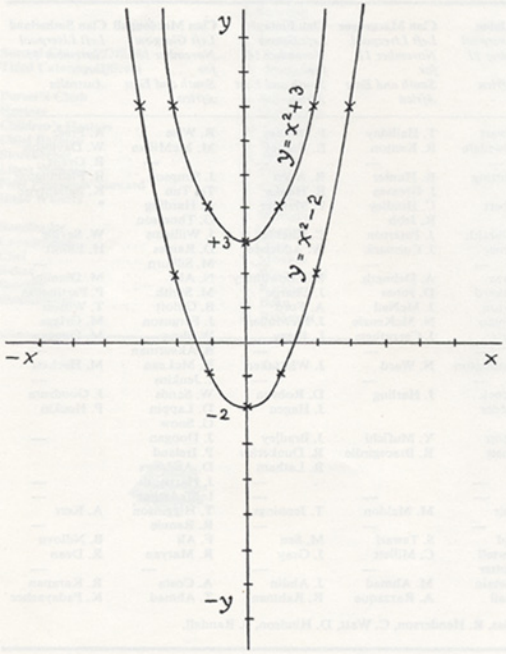
	Clan Grant *Left Liverpool* *November 16* *for* *India and Pakistan*	Sarah Bowater *Left Ellesmere* *November 16* *for* *Holmsund*	Kinnaird Castle *Left Rotterdam* *November 23* *for* *Australia*	Alice Bowater *Left Northfleet* *November 23* *for* *Risor*	Elbe Ore *Left Rotterdam* *November 25* *for* *Port Etienne*	Riebeeck Cartle *Left Southampton* *November 27* *for* *Mauritius*	Elizabeth Bowater *Left Ellesmere* *November 29* *for* *Holmsund*	Clan Macilwraith *Left Liverpool* *November 30* *for* *South and East Africa*
Master	W. Rodger	R. Miller	M. Ure	E. Besley	G. Russ	N. Upham	W. Bosanquet	P. Rewell
Chief Officer	C. Gowans	D. Grant	O. Ross	J. Buttress	M. Whitely	P. Ward	F. Yeulett	J. Apsey
Second Officer	L. Roy	J. Bell	J. Howell	W. Walker	D. Pope	R. Stephens	I. Dewar	I. Cameron
Third Officer	F. Hugo	G. Jackson	P. Pears	M. Newlands	E. Drylie	D. Reid	M. Garton	R. Williams
Cadets	M. Worth	J. Roberts	A. Edwards	S. Hemsley	R. Dixon-Carter	—	M. Hemmings R. Head	P. Silver B. Goldsworthy
Radio Officer	D. Norris	M. Hesketh	C. Pratt	J. Tomlinson	W. McIntosh	P. Donegan	J. Hubbard	E. Kelly
Carpenter	W. Huges	D. Tinsley	D. MacPhail	—	T. Kelly	M. Rudham	—	A. Minton
Boatswain	Azizullah	I. Barnett	A. Tabeta	D. Collins	E. Ahmad	E. Anderson	J. Ross	G. Debnath
Chief Engineer	N. Haley	L. Doyle	A. McLean	R. Brown	L. German	R. Welch	H. Finch	J. Sherriff
Snr. Second Engineer	W. Newton	B. Duckles	R. French	M. Minnis	J. Smillie	J. Eckford	G. Fell	B. Morgan
Jnr. Second Engineer	F. Chatterton	—	C. Johnston	—	L. Atkinson	C. Willey	—	A. Gowans
Third Engineer	J. Ashcroft	J. Edmonds	M. Ritchie	D. Tranter	W. Mathieson	G. Watson	J. Davies	W. McRoberts
Fourth Engineer	C. Beadell	J. Heard	T. Dunlop	J. Hair	—	D. Matthews	J. Bone	E. Lamb
Jnr. Engineers	A. Walker B. Allen	R. Hull D. O'Connell	B. Ingram B. Johnson	M. Weaver	—	H. Walton D. Jones	R. Wilson	J. Garrigan G. Birtles
Engineer Cadets	C. Smith K. Ager	—	—	—	—	—	—	N. Allen A. Okelo
First Electrician	J. McCulloch	—	J. Penston	P. Dennis	J. Anderson C. Griffiths (Supy)	J. Baines	J. Evans	D. Tucker
E. R. Storekeeper	M. Ali	H. Ledger	F. Mzobe	E. Chalkley	N. Ali	A. Gardner	S. Hooker	A. Chakraborty
Purser/Chief Steward	H. Mason	R. Hinton	C. Fowler	L. Tomkinson	P. McCormick	K. Jesson	T. O'Neill	R. Duff
Asst. Purser/Chief Steward	A. Vernolini	—	B. Trubody	—	—	—	—	—
Chief and Ship's Cook	G. Mohd	R. Figg	M. Veerappen	J. Bowie	L. Gomes	H. Lynes	J. Cruickshank	Bassoo
Second Steward	B. Khan	A. Fatkin	—	—	—	H. Kimmings	P. Brannan	M. Yusuf

Calling Cadets

WHAT TO DO ABOUT CONSTANTS

An Introduction to the Differential Calculus, Part IV



OPEN any book on algebra and you will find that the majority of functions contained in it, unless they are linear, will consist of x (or another letter of the alphabet) raised to some power, x without an index, and a number standing by itself. Up to this point we have seen how to set about differentiating terms containing x. We must now concern ourselves with what happens to this last term, a number known as a constant because it has a constant value in the function, when differentiation takes place.

To study the behaviour of the constant, let us plot the curves of two separate equations in x each containing a different value for the constant. The first curve is the curve of the equation $y=x^2+3$, and the second the curve of the equation $y=x^2-2$. On inspection it will be seen that the constant has affected only the position of the curves up or down the y-axis. It has not affected the slope of the curves. The change has been purely in position and not in gradient. Both curves, therefore, have the same slope. We are concerned only with the slope of curves when dealing with the calculus, you may remember, and this means that the constant can be ignored when it comes to differentiating a function. We do not bother to differentiate a constant because its value does not affect the value of the slope of the curve we are finding the gradient of, and it is left out of our calculations. Thus the slopes of the equations $y=x^2+3$, and $y=x^2-2$ are identical and when differentiated have the value of $2x$. The gradient or slope of each curve is equivalent to twice the value of x at any point on the curve. To summarise, ignore constants when differentiating and differentiate only those terms containing x (or any other letter of the alphabet).

DENNIS FRANCE