

Being Naturally Mathematical at Easter time: Upper Primary Solutions

These solutions show how mathematical problem solving can be enhanced using spreadsheets. The spreadsheet **2018 Upper Solutions.xls** gives the full solutions; this document discusses how the spreadsheets were put together.

Following the advice that we find the total of the numbers, we have

$$3 + 4 + 5 + 6 + 8 + 9 + 10 + 11 = 56$$

Mr Rebbitt will have to make sure that the extra egg makes it possible to share the lollies equally between his three children, Ann, Ben and Col. So we set up the spreadsheet to allow us to choose what the extra number should be. 57 is a multiple of 3 and so we can try looking for a solution in which the extra egg has just 1 lolly.

		Ann	Ben	Col
	3			
	4			
	5			
	6			
	8			
	9			
	10			
	11			
Extra	1			
Total	57	0	0	0
Each get	19			

I set this version to use the SUMPRODUCT() formula, as that allows you to enter a 1 to show which eggs Ann should get, which Ben should get and which Col should get. It turns out that when 1 is used, it is not possible to find a solution, but if the extra egg has 4 lollies, then a solution is possible:

		Ann	Ben	Col
	3			1
	4	1		
	5		1	
	6	1		
	8			1
	9			1
	10	1		
	11		1	
Extra	4		1	
Total	60	20	20	20
Each get	20			

The solution spreadsheet shows that the extra egg could contain 7, 10 or even 13 lollies in the extra egg. Any more than that and we are sure that Mr Rebbitt will not be that generous to his children.