



# The Magical Growth of Numbers

## Student Activity

Name \_\_\_\_\_

Class \_\_\_\_\_

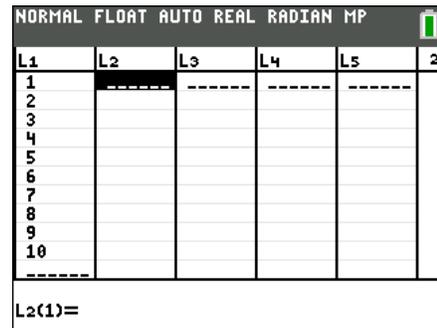
### Part 1 – Magic Sum Part 1

Have you ever seen anyone do mental math tricks quickly and wonder how they did it? In this activity, you will learn a trick that will involve adding a list of ten numbers in a split second.

1. Fill in the following table with the numbers generated by your class.

1	2	3	4	5	6	7	8	9	10

2. Enter the two lists in L1 and L2. Find the sum of the numbers in the table above. On the Home screen, press  $\text{[2nd] [LIST] } \blacktriangleright \blacktriangleright$  and select **5:sum(**. Press  $\text{[2nd] [L2] } \text{[ ] } \text{[ENTER]}$  to select **L2** and carry out the command.



3. Was your teacher's sum correct? \_\_\_\_\_

### Part 2 – Magic Sum Part 2

4. Complete the table based on the rules discussed, using the numbers 7 and 5.

L1	Each Element	Distributive Property	L2
1	7		
2	5		
3			
4			
5			
6			
7			
8			
9			
10			



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5. In the table, how many 7s are there? \_\_\_\_\_

6. How many 5s are there? \_\_\_\_\_

7. Write the mathematical expression as: \_\_\_\_\_  $\times$  7 + \_\_\_\_\_  $\times$  5

8. What factor do 55 and 88 have in common? \_\_\_\_\_

9. Rewrite the expression as:  $(11)(5)(7) + (11)(8)(5) = 11(5 \times 7 + 8 \times 5)$ . Verify that the expression is the same the one in Question 7. (Use your calculator to find the value of all three mathematical expressions.)

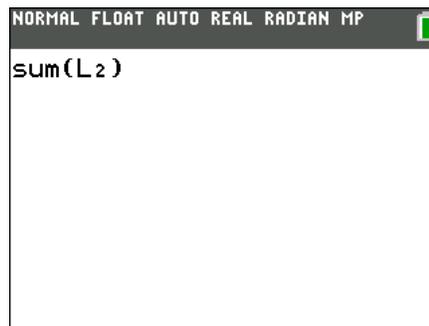
Are the expressions the same? \_\_\_\_\_

10. Is the number  $5(7) + 8(5)$  in the numerically generated list in the table for Question 4? If so, what number in the list? \_\_\_\_\_

11. Use **sum(L2)** to find the sum of the numbers generated in your table. Press  $\boxed{2nd} \boxed{[LIST]} \blacktriangleright \blacktriangleright$  and select **5:sum(**. Press  $\boxed{2nd} \boxed{[L2]} \boxed{)} \boxed{ENTER}$  to select **L2** and execute the command.

Sum = \_\_\_\_\_

What is the *summagic* rule? \_\_\_\_\_



12. Work with a partner to choose your own numbers and find the sum using the *summagic* rule. Check your sum using **sum(L2)**.