

Introduction to Quadratics: Day 1 – First and Second Differences

First and Second Differences

Given a table of values you can determine the **first differences** and **second differences** of the relationship represented by the table.

To do this, find the difference between consecutive y-values as shown below:

x	y		
0	0	First Differences	Second Differences
		$2 - 0 = 2$	$6 - 2 = 4$
1	2	$8 - 2 = 6$	$10 - 6 = 4$
2	8	$18 - 8 = 10$	$14 - 10 = 4$
3	18	$32 - 18 = 14$	$18 - 14 = 4$
4	32	$50 - 32 = 18$	
5	50		

Always perform your subtraction in the correct order!

First Differences

If the first differences of a relationship are **constant**, that relationship is _____

Second Differences

If the second differences of a relationship are **constant**, that relationship is _____

If the second differences of a relationship are **zero**, that relationship is _____