Quadratic Sequences - Find n^{th} term

		4	4	4		
	8	12	16	20		
	16,	24,	36,	52,	72	
$2n^2$	2	8	18	32	50	−
	14	16	18	20	22	
$+2n$	2	4	6	8	10	−
$+12$	12	12	12	12	12	

$$n^{th} \text{ term} = 2n^2 + 2n + 12$$

		1	1	1		
	8	9	10	11		
	16,	24,	33,	43,	54	
$\frac{1}{2}n^2$	$\frac{1}{2}$	2	$4\frac{1}{2}$	8	$12\frac{1}{2}$	−
	$15\frac{1}{2}$	22	$28\frac{1}{2}$	35	$41\frac{1}{2}$	
$+6\frac{1}{2}n$	$6\frac{1}{2}$	13	$19\frac{1}{2}$	26	$32\frac{1}{2}$	−
$+9$	9	9	9	9	9	

$$n^{th} \text{ term} = \frac{1}{2}n^2 + \frac{13}{2}n + 9$$