

# A319092

## Triangle of Coefficients in Expansion of $(1 + 2x + 3x^2 + 4x^3 + 5x^4 + 6x^5)^n$

### Center-justified Triangle

Row Sum																							
$n$	$S_n$	$\alpha^n$																					
0	1	$21^0$																					
1	21	$21^1$																					
2	441	$21^2$																					
3	9261	$21^3$																					
4	194481	$21^4$																					
			1	8	36	120	330	792	1688	3232	5619	8944	13088	17568	21642	24456	25236	23528	19489	14232	8856	4320	1296

### Left-justified Triangle

$k$	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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$n$	$S_n$	$\alpha^n$																					
0	1	$21^0$																					
1	21	$21^1$																					
2	441	$21^2$																					
3	9261	$21^3$																					
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			1	2	3	4	5	6	7	10	13	16	21	28	36	45	54	63	72	81	90	100	111
			1	4	10	20	35	56	70	76	73	60	36										
			1	6	21	56	126	252	441	684	954	1204	1365	1344	1169	882	540	216					
			1	8	36	120	330	792	1688	3232	5619	8944	13088	17568	21642	24456	25236	23528	19489	14232	8856	4320	1296

**REFERENCE:**

Shara Lalo and Zagros Lalo, Polynomial Expansion Theorems and Number Triangles, Zana Publishing, 2018, ISBN: 978-1-9995914-0-3