

829.

TABLES OF THE SYMMETRIC FUNCTIONS OF THE ROOTS, TO THE DEGREE 10, FOR THE FORM

$$1 + bx + \frac{cx^2}{1 \cdot 2} + \dots = (1 - \alpha x)(1 - \beta x)(1 - \gamma x) \dots$$

[From the *American Journal of Mathematics*, t. VII. (1885), pp. 47—56.]

THE tables are derived from the tables (b) of my "Memoir on the Symmetric Functions of the Roots of an Equation," *Phil. Trans.*, vol. CXLVII. (1857), pp. 489—496, [147]. These refer in effect to the form  $1 + bx + cx^2 + \dots$ , and we have consequently to change  $b, c, d, \dots$  into  $\frac{b}{1}, \frac{c}{1 \cdot 2}, \frac{d}{1 \cdot 2 \cdot 3}, \dots$  respectively. Thus in the heading of the original table V (b), we must instead of

write

$f$ ,	$be$ ,	$cd$ ,	$b^2d$ ,	$bc^2$ ,	$b^3c$ ,	$b^5$ ,
$\frac{f}{120}$ ,	$\frac{be}{24}$ ,	$\frac{cd}{12}$ ,	$\frac{b^2d}{6}$ ,	$\frac{bc^2}{4}$ ,	$\frac{b^3c}{2}$ ,	$\frac{b^5}{1}$
$= \frac{1}{120} (f, 5be, 10cd, 20b^2d, 30bc^2, 60b^3c, 120b^5);$						

the several columns of the original table are then multiplied by 1, 5, 10, 20, 30, 60, 120, and we thus obtain the new table with the heading

$$\frac{1}{120} (f, be, cd, b^2d, bc^2, b^3c, b^5).$$

In the original tables, there is a remarkable property (very easily proved) in regard to the sums of the numbers in a *column*. Thus for the table V (b) these sums are

$$-1, +2, +2, -3, -3, +4, -1,$$

where the sign is + or - according as the heading is the product of an even or an odd number of letters; and the numerical value depends only on the indices in the heading: these indices are

$$1, 11, 11, 21, 21, 31, 5,$$

and they give the foregoing values

$$1, 2, 2, 3, 3, 4, 1,$$

viz.  $b^3c = 31$  gives the value  $\Pi 4 \div \Pi 3$ .  $\Pi 11 = 4$ ;  $b^2d, bc^2$ , each = 21, give the value  $\Pi 3 \div \Pi 2$ .  $\Pi 1 = 3$ ; and so in other cases.

(Concluded *infra*.)

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VIII (b)													
<i>i</i>	<i>bh</i>	<i>cg</i>	<i>b<sup>2</sup>g</i>	<i>df</i>	<i>bef</i>	<i>b<sup>2</sup>f</i>	<i>e<sup>2</sup></i>	<i>bde</i>	<i>c<sup>2</sup>e</i>	<i>b<sup>2</sup>ce</i>	<i>b<sup>4</sup>e</i>	<i>cd<sup>2</sup></i>	
8	- 8	+ 64	+ 224	- 448	+ 448	- 2688	+ 2688	+ 280	- 4480	- 3360	+ 20160	- 13440	- 4480
71	+ 8	- 8	- 224	+ 56	- 448	+ 1512	- 336	- 280	+ 2520	+ 3360	- 8400	+ 1680	+ 4480
62	+ 8	- 64	+ 112	+ 112	- 448	+ 672	- 672	- 280	+ 4480	- 1680	- 5040	+ 3360	+ 1120
53	+ 8	- 64	- 224	+ 448	+ 392	+ 168	- 1008	- 280	+ 280	+ 3360	- 7560	+ 5040	- 3920
4 <sup>2</sup>	+ 4	- 32	- 112	+ 224	- 224	+ 1344	- 1344	+ 420	- 2240	- 1680	+ 3360	0	+ 2240
61 <sup>2</sup>	- 8	+ 8	+ 56	- 56	+ 448	- 504	+ 336	+ 280	- 2520	- 840	+ 3360	- 1680	- 2800
521	- 16	+ 72	+ 112	- 168	+ 56	- 1354	+ 1008	+ 560	- 2800	- 1680	+ 9240	- 5040	+ 2800
431	- 16	+ 72	+ 448	- 504	+ 56	- 1680	+ 1344	- 560	+ 2800	0	- 840	0	- 560
42 <sup>2</sup>	- 8	+ 64	- 112	- 112	+ 448	- 672	+ 672	- 280	0	+ 1680	- 1680	0	- 1120
3 <sup>2</sup>	- 8	+ 64	+ 56	- 280	- 392	+ 840	0	+ 280	- 280	- 840	0	0	+ 560
51 <sup>3</sup>	+ 8	- 8	- 56	+ 56	- 168	+ 504	- 336	- 280	+ 1120	+ 840	- 3360	+ 1680	± 4208
421 <sup>2</sup>	+ 24	- 80	- 168	+ 224	- 504	+ 1848	- 1344	+ 280	- 280	- 840	+ 840	± 3216	
3 <sup>2</sup> 1 <sup>2</sup>	+ 12	- 40	- 252	+ 280	+ 168	- 168	0	+ 140	- 560	+ 420	± 1020		
32 <sup>2</sup> 1	+ 24	- 136	0	+ 280	+ 336	- 504	0	- 280	+ 280	± 920			
2 <sup>4</sup>	+ 2	- 16	+ 56	0	- 112	0	0	+ 70	± 128				
41	- 8	+ 8	+ 56	56	+ 168	- 504	+ 336	± 568					
321 <sup>3</sup>	32	+ 88	+ 224	- 280	- 168	+ 168	± 480						
2 <sup>3</sup> 1 <sup>2</sup>	- 16	+ 72	- 112	0	+ 56	± 128							
31 <sup>5</sup>	+ 8	- 8	- 56	+ 56	± 64								
2 <sup>2</sup> 1 <sup>4</sup>	+ 20	- 48	+ 28	± 48									
21 <sup>6</sup>	8	+ 8	± 8										
1 <sup>8</sup>	+ 1	+ 1											

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<i>b<sup>2</sup>d<sup>2</sup></i>	<i>bc<sup>2</sup>d</i>	<i>b<sup>3</sup>cd</i>	<i>b<sup>3</sup>d</i>	<i>c<sup>4</sup></i>	<i>b<sup>2</sup>c<sup>3</sup></i>	<i>b<sup>4</sup>c<sup>2</sup></i>	<i>b<sup>5</sup>c</i>	<i>b<sup>8</sup></i>		
8	+ 13440	+ 40320	- 107520	+ 53760	+ 5040	- 80640	+ 201600	- 161280	+ 40320	± 377344
71	- 5600	- 28560	+ 36960	- 6720	- 5040	+ 45360	- 60480	+ 20160	± 116096	
62	- 10080	0	+ 26880	- 13440	+ 5040	- 20160	+ 10080	± 51864		
53	+ 3360	+ 10080	- 10080	0	- 5040	+ 5040	± 28176			
4 <sup>2</sup>	+ 2240	- 6720	0	0	+ 2520	± 12352				
61 <sup>2</sup>	+ 5600	+ 8400	- 16800	+ 6720	± 25208					
521	- 1120	- 5040	+ 3360	± 17208						
431	- 2240	+ 680	± 6400							
42 <sup>2</sup>	+ 1120	± 3984								
	± 1800									

VI (b)

+720

	<i>g</i>	<i>bf</i>	<i>ce</i>	<i>b<sup>2</sup>e</i>	<i>d<sup>2</sup></i>	<i>bcd</i>	<i>b<sup>3</sup>d</i>	<i>c<sup>3</sup></i>	<i>b<sup>2</sup>c<sup>2</sup></i>	<i>b<sup>4</sup>c</i>	<i>b<sup>6</sup></i>	
6	- 6	+ 36	+ 90	- 180	+ 60	- 720	+ 720	- 180	+ 1620	- 2160	+ 720	± 3246
51	+ 6	- 6	- 90	+ 30	- 60	+ 420	- 120	+ 180	- 720	+ 360		± 996
42	+ 6	- 36	+ 30	+ 60	- 60	+ 240	- 240	- 180	+ 180			± 516
3 <sup>2</sup>	+ 3	- 18	- 45	+ 90	+ 60	- 180	0	+ 90				± 243
41 <sup>2</sup>	- 6	+ 6	+ 30	- 30	+ 60	- 180	+ 120					± 216
321	- 12	+ 42	+ 60	- 90	- 60	+ 60						± 162
2 <sup>3</sup>	- 2	+ 12	- 30	0	+ 20							± 32
31 <sup>3</sup>	+ 6	- 6	- 30	+ 30								± 36
2 <sup>2</sup> 1 <sup>2</sup>	+ 9	- 24	+ 15									± 15
21 <sup>4</sup>	- 6	+ 6										± 6
1 <sup>6</sup>	+ 1											± 1

VII (b)

÷5040

	<i>h</i>	<i>bg</i>	<i>cf</i>	<i>b<sup>2</sup>f</i>	<i>de</i>	<i>bce</i>	<i>b<sup>3</sup>e</i>	<i>bd<sup>2</sup></i>	<i>c<sup>2</sup>d</i>	<i>b<sup>2</sup>cd</i>	<i>b<sup>4</sup>d</i>	<i>bc<sup>3</sup></i>	<i>b<sup>3</sup>c<sup>2</sup></i>	<i>b<sup>5</sup>c</i>	<i>b<sup>7</sup></i>	
7	- 7	+ 49	+ 147	- 294	+ 245	+ 1470	+ 1470	- 980	- 1470	+ 8820	- 5880	+ 4410	- 17640	+ 17640	- 5040	± 32781
61	+ 7	- 7	- 147	+ 42	- 245	+ 840	- 210	+ 560	+ 1470	- 3780	+ 840	- 3150	+ 6300	- 2520		± 10059
52	+ 7	- 49	+ 63	+ 84	- 245	+ 420	- 420	+ 980	- 630	- 2520	+ 1680	+ 1890	- 1200			± 5124
43	+ 7	- 49	- 147	+ 294	+ 175	+ 210	- 630	- 700	+ 210	+ 1260	0	- 630				± 2156
51 <sup>2</sup>	- 7	+ 7	+ 42	- 42	+ 245	- 315	+ 210	- 560	- 420	+ 1680	- 840					± 2184
421	- 14	+ 56	+ 84	- 126	+ 70	- 840	+ 630	+ 140	+ 420	- 420						± 1400
3 <sup>2</sup> 1	- 7	+ 28	+ 147	- 168	- 175	+ 105	0	+ 280	- 210							± 560
32 <sup>2</sup>	- 7	+ 49	- 63	- 84	+ 35	+ 210	0	- 140								± 294
41 <sup>3</sup>	+ 7	- 7	- 42	+ 42	- 105	+ 315	- 210									± 364
321 <sup>2</sup>	+ 21	- 63	- 126	+ 168	+ 105	- 105										± 294
2 <sup>3</sup> 1	+ 7	- 35	+ 63	0	- 35											± 70
31 <sup>4</sup>	- 7	+ 7	+ 42	- 42												± 49
2 <sup>2</sup> 1 <sup>3</sup>	- 14	+ 35	- 21													± 35
21 <sup>5</sup>	+ 7	- 7														± 7
1 <sup>7</sup>	- 1															- 1

(Concluded *infra*.)

IX (b)

	$cde$	$e^2de$	$bc^2e$	$b^2ce$	$b^3e$	$d^3$	$bcd^2$	$b^3d^2$	$c^3d$	$b^2c^2d$
9	-22680	+68040	+102060	-272160	+136080	-5040	+136080	-181440	+68040	-816480
81	+22680	-27720	-71820	+90720	-15120	+5040	-95760	+60480	-68040	+453600
72	+5040	-50400	+3780	+60480	-30240	+5040	-65520	+110880	+37800	+75600
63	0	-22680	-34020	+90720	-45360	-10080	+90720	-30240	-22680	-136080
54	-2520	+32760	+11340	-30240	0	+5040	-35280	-20160	+7560	+60480
71 <sup>2</sup>	-13860	+27720	+18900	-37800	+15120	-5040	+60480	-60480	+15120	-136080
621	-5040	+32760	+45360	-105840	+45360	+5040	-35280	+10080	-15120	+60480
531	+2520	-12600	-7560	+7560	0	+5040	-20160	+20160	+15120	-15120
4 <sup>2</sup> 1	+2520	-12600	+3780	0	0	-5040	+15120	0	-7560	± 31995
52 <sup>2</sup>	+7560	0	-22680	+15120	0	-5040	+15120	-10080	± 29347	
432	-10080	+2520	+7560	0	0	+5040	-5040	± 24750		
3 <sup>3</sup>	+3780	0	0	0	0	-1680	± 6561			
61 <sup>3</sup>	+6300	-12600	-18900	+37800	-15120	± 54369				
521 <sup>2</sup>	-6300	+2520	+11340	-7560	± 41139					
431 <sup>2</sup>	+1260	+5040	-3780	± 13545						
42 <sup>2</sup> 1	+2520	-2520	± 11511							
3 <sup>2</sup> 21	-1260	± 6561								
	± 1467									

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	$b^4cd$	$b^6d$	$bc^4$	$b^2c^3$	$b^3c^2$	$b^7c$	$b^9$			
9	+1360800	-544320	-204120	+1360800	-2449440	+1632960	-362880	± 4912515		
81	-393120	+60480	+158760	-635040	+635040	-181440	± 1507419			
72	-302400	+120960	-113400	+226800	-90720	± 668511				
63	+90720	0	+68040	-45360	± 363159					
54	0	0	-22680	± 135855						
71 <sup>2</sup>	+181440	-60480	± 327303							
621	-30240	± 219726								
	± 79164									

÷ 362880		IX (b)												
	<i>j</i>	<i>bi</i>	<i>ch</i>	<i>b<sup>2</sup>h</i>	<i>dg</i>	<i>bcg</i>	<i>b<sup>2</sup>g</i>	<i>ef</i>	<i>bdf</i>	<i>c<sup>2</sup>f</i>	<i>b<sup>2</sup>cf</i>	<i>b<sup>4</sup>f</i>	<i>be<sup>2</sup></i>	
9	- 9	+ 81	+324	- 648	+ 756	-4536	+4536	+1134	-9072	- 6804	+40824	-27216	-5670	
81	+ 9	- 9	-324	+ 72	- 756	+2520	- 504	-1134	+5040	+6804	-16632	+ 3024	+3150	
72	+ 9	- 81	+180	+144	- 756	+1008	-1008	-1134	+9072	-3780	- 9072	+ 6048	+5670	
63	+ 9	- 81	-324	+648	+ 756	0	-1512	-1134	0	+6804	-13608	+ 9072	+5670	
54	+ 9	- 81	-324	+648	- 756	+4536	- 4536	+1386	-1008	- 756	-10584	+12096	-6930	
71 <sup>2</sup>	- 9	+ 9	+ 72	- 72	+ 756	- 756	+ 504	+1134	-5040	-1512	+ 6048	- 3024	-3150	
621	-18	+ 90	+144	-216	0	-2016	+1512	+2268	-5040	-3024	+16632	- 9072	-8820	
531	-18	+ 90	+648	-720	0	-2520	+2016	- 252	-2520	-6048	+22680	-12096	+3780	
4 <sup>2</sup> 1	- 9	+ 45	+324	-360	+ 756	-3528	+2520	-1386	+3024	+ 756	- 1512	0	+3150	
52 <sup>2</sup>	- 9	+ 81	-180	-144	+ 756	-1008	+1008	- 126	-4032	0	+ 9072	- 6048	+ 630	
432	-18	+162	+144	-792	0	-1008	+2520	- 252	+1008	+4536	- 7560	0	+1260	
3 <sup>3</sup>	- 3	+ 27	+108	-216	- 504	+ 756	0	+ 378	+1512	-2268	0	0	-1890	
61 <sup>3</sup>	+ 9	- 9	- 72	+ 72	- 252	+ 756	- 504	-1124	+2016	+1512	- 6048	+ 3024	+3150	
521 <sup>2</sup>	+27	- 99	-216	+288	- 756	+2772	-2016	- 882	+7560	+4536	-22680	+12096	- 630	
431 <sup>2</sup>	+27	- 99	-720	+792	- 756	+3276	-2520	+1638	-2520	0	+ 1512	0	-3150	
42 <sup>2</sup> 1	+27	-171	+ 36	+360	- 756	+3024	-2520	+ 378	-1008	-4536	+ 4536	0	+ 630	
3 <sup>2</sup> 21	+27	-171	-468	+864	+1512	-1764	0	- 882	-2016	+2268	0	0	+1890	
32 <sup>3</sup>	+ 9	- 81	+180	+144	- 252	- 504	0	+ 126	+1008	0	0	0	- 630	
51 <sup>4</sup>	- 9	+ 9	+ 72	- 72	+ 252	- 756	+ 504	+ 504	-2016	-1512	+ 6048	- 3024	±7389	
421 <sup>3</sup>	-36	+108	+288	-360	+1008	-3528	+2520	- 504	+ 504	+1512	- 1512	± 5940		
3 <sup>2</sup> 1 <sup>3</sup>	-18	+ 54	+396	-432	- 252	+ 252	0	- 252	+1008	- 756	± 1710			
32 <sup>2</sup> 1 <sup>2</sup>	-54	+270	+180	-648	- 756	+1008	0	+ 504	- 504	±1962				
2 <sup>4</sup> 1	- 9	+ 63	-180	0	+ 252	0	0	- 126	± 315					
41 <sup>5</sup>	+ 9	- 9	- 72	+ 72	- 252	+ 756	- 504	± 837						
321 <sup>4</sup>	+45	-117	-360	+432	+ 252	- 252	± 729							
2 <sup>3</sup> 1 <sup>3</sup>	+30	-126	+180	0	- 84	± 210								
31 <sup>6</sup>	- 9	+ 9	+ 72	- 72	± 81									
2 <sup>2</sup> 1 <sup>5</sup>	-27	+ 63	- 36	± 63										
21 <sup>7</sup>	+ 9	- 9	± 9											
1 <sup>9</sup>	- 1	- 1												

(Continued next page.)

(Concluded *infra*.)

IX (b)

	$cde$	$e^2de$	$bc^2e$	$b^3ce$	$b^5e$	$d^3$	$bcd^2$	$b^3d^2$	$c^3d$	$b^2c^2d$
9	-22680	+68040	+102060	-272160	+136080	-5040	+136080	-181440	+68040	-816480
81	+22680	-27720	-71820	+90720	-15120	+5040	-95760	+60480	-68040	+453600
72	+5040	-50400	+3780	+60480	-30240	+5040	-65520	+110880	+37800	+75600
63	0	-22680	-34020	+90720	-45360	-10080	+90720	-30240	-22680	-136080
54	-2520	+32760	+11340	-30240	0	+5040	-35280	-20160	+7560	+60480
71 <sup>2</sup>	-13860	+27720	+18900	-37800	+15120	-5040	+60480	-60480	+15120	-136080
621	-5040	+32760	+45360	-105840	+45360	+5040	-35280	+10080	-15120	+60480
531	+2520	-12600	-7560	+7560	0	+5040	-20160	+20160	+15120	-15120
4 <sup>2</sup> 1	+2520	-12600	+3780	0	0	-5040	+15120	0	-7560	± 31995
52 <sup>2</sup>	+7560	0	-22680	+15120	0	-5040	+15120	-10080	± 29347	
432	-10080	+2520	+7560	0	0	+5040	-5040	± 24750		
3 <sup>3</sup>	+3780	0	0	0	0	-1680	± 6561			
61 <sup>3</sup>	+6300	-12600	-18900	+37800	-15120	± 54369				
521 <sup>2</sup>	-6300	+2520	+11340	-7560	± 41139					
431 <sup>2</sup>	+1260	+5040	-3780	± 13545						
42 <sup>2</sup> 1	+2520	-2520	± 11511							
3 <sup>2</sup> 21	-1260	± 6561								
	± 1467									

÷ 40320

	$b^4cd$	$b^6d$	$bc^4$	$b^3c^3$	$b^5c^2$	$b^7c$	$b^9$	
9	+1360800	-544320	-204120	+1360800	-2449440	+1632960	-362880	± 4912515
81	-393120	+60480	+158760	-635040	+635040	-181440	± 1507419	
72	-302400	+120960	-113400	+226800	-90720	± 668511		
63	+90720	0	+68040	-45360	± 363159			
54	0	0	-22680	± 135855				
71 <sup>2</sup>	+181440	-60480	± 327303					
621	-30240	± 219726						
	± 79164							

X (b)

÷ 3628800

		<i>k</i>	<i>b<sub>j</sub></i>	<i>c<sub>i</sub></i>	<i>b<sup>2</sup><sub>i</sub></i>	<i>dh</i>	<i>bch</i>	<i>b<sup>3</sup><sub>h</sub></i>	<i>eg</i>	<i>bdg</i>	<i>c<sup>2</sup><sub>g</sub></i>	<i>b<sup>2</sup><sub>c<sub>g</sub></sub></i>	<i>b<sup>4</sup><sub>g</sub></i>
1	10	-10	+100	+ 450	- 900	+1200	- 7200	+7200	+2100	-16800	-12600	+75600	-50400
2	91	+10	- 10	- 450	+ 90	-1200	+ 3960	- 720	-2100	+ 9240	+12600	-30240	+ 5040
3	82	+10	-100	+ 270	+ 180	-1200	+ 1440	-1440	-2100	+16800	- 7560	-15120	+10080
4	73	+10	-100	- 450	+ 900	+1320	- 360	-2160	-2100	- 840	+12600	-22680	+15120
5	64	+10	-100	- 450	+ 900	-1200	+ 7200	-7200	+2940	- 3360	- 2520	-15120	+20160
6	5 <sup>2</sup>	+ 5	- 50	- 225	+ 450	- 600	+ 3600	-3600	-1050	+ 8400	+ 6300	-37800	+25200
7	81 <sup>2</sup>	-10	+ 10	+ 90	- 90	+1200	- 1080	+ 720	+2100	- 9240	- 2520	+10080	- 5040
8	721	-20	+110	+ 180	- 270	- 120	- 2880	+2160	+4200	- 8400	- 5040	+27720	-15120
9	631	-20	+110	+ 900	- 990	- 120	- 3600	+2880	- 840	- 3360	-10080	+37800	-20160
10	541	-20	+110	+ 900	- 990	+2400	-11160	+7920	- 840	- 5880	-10080	+45360	-25200
11	62 <sup>2</sup>	-10	+100	- 270	- 180	+1200	- 1440	+1440	- 420	- 6720	.	+15120	-10080
12	532	-20	+200	+ 180	-1080	- 120	- 1080	+3600	+4200	-15960	- 5040	+37800	-25200
13	4 <sup>2</sup> 2	-10	+100	+ 90	- 540	+1200	- 4320	+4320	-2940	+ 3360	+12600	-15120	.
14	43 <sup>2</sup>	-10	+100	+ 450	- 900	-1320	+ 360	+2160	- 420	+10920	- 5040	- 7560	.
15	71 <sup>3</sup>	+10	- 10	- 90	+ 90	- 360	+ 1080	- 720	-2100	+ 3360	+ 2520	-10080	+ 5040
16	621 <sup>2</sup>	+30	-120	- 270	+ 360	-1080	+ 3960	-2880	-1260	+12600	+ 7560	-37800	+20160
17	531 <sup>2</sup>	+30	-120	- 990	+1080	-1080	+ 4680	-3600	-1260	+12600	+12600	-47880	+25200
18	4 <sup>2</sup> 1 <sup>2</sup>	+15	- 60	- 495	+ 540	-1800	+ 6120	-4320	+1890	- 2520	- 1260	+ 2520	.
19	52 <sup>2</sup> 1	+30	-210	+ 90	+ 450	-1080	+ 4320	-3600	-3780	+15120	+ 5040	-42840	+25200
20	4321	+60	-420	-1260	+2340	+ 360	+ 7560	-8640	+2520	-12600	-10080	+17640	.
21	3 <sup>3</sup> 1	+10	- 70	- 450	+ 630	+1320	- 1440	.	+ 420	- 5880	+ 5040	.	.
22	42 <sup>3</sup>	+10	-100	+ 270	+ 180	-1200	+ 1440	-1440	+2100	.	- 5040	+ 5040	.
23	3 <sup>2</sup> 2 <sup>2</sup>	+15	-150	+ 45	+ 630	+ 720	- 2520	.	-1890	+ 2520	+ 2520	.	.
24	61 <sup>4</sup>	-10	+ 10	+ 90	- 90	+ 360	- 1080	+ 720	+ 840	- 3360	- 2520	+10080	- 5040
25	521 <sup>3</sup>	-40	+130	+ 360	- 450	+1440	- 5040	+3600	+3360	-15960	-10080	+47880	-25200
26	431 <sup>3</sup>	-40	+130	+1080	-1170	+1440	- 5760	+4320	-1680	+ 4200	.	- 2520	.
27	42 <sup>2</sup> 1 <sup>2</sup>	-60	+330	+ 180	- 810	+2160	- 8280	+6480	-2520	+ 2520	+10080	-10080	.
28	3 <sup>2</sup> 21 <sup>2</sup>	-60	+330	+1260	-1890	-2880	+ 3240	.	.	+ 5040	- 5040	.	.
29	32 <sup>3</sup> 1	-40	+310	- 360	- 630	- 240	+ 1800	.	+1680	- 2520	.	.	.
30	2 <sup>5</sup>	- 2	+ 20	- 90	.	+ 240	.	.	- 420	.	.	.	.

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		X (b)									
		$f^2$	$bef$	$cdf$	$b^2df$	$bc^2f$	$b^3cf$	$b^5f$	$ce^2$	$b^2e^2$	$d^2e$
1	10	+1260	-25200	-50400	+151200	+226800	-604800	+302400	-31500	+94500	-42000
2	91	-1260	+13860	+50400	-60480	-158760	+196560	-30240	+31500	-37800	+42000
3	82	-1260	+25200	+10080	-110880	+15120	+120960	-60480	+6300	-69300	+42000
4	73	-1260	+25200	-2520	-45360	-68040	+181440	-90720	+31500	-94500	-46200
5	64	-1260	-5040	+50400	-30240	-136080	+241920	-120960	-44100	+56700	-8400
6	5 <sup>2</sup>	+2520	-18900	-37800	+50400	+75600	-75600	.	+15750	+31500	+21000
7	81 <sup>2</sup>	+1260	-13860	-30240	+60480	+37800	-75600	+30240	-18900	+37800	-42000
8	721	+2520	-39060	-7560	+65520	+90720	-211680	+90720	-37800	+107100	+4200
9	631	+2520	-8820	-47880	+75600	+136080	-287280	+120960	+12600	-18900	+54600
10	541	-3780	+28980	+25200	-60480	-7560	+15120	.	+12600	-50400	-33600
11	62 <sup>2</sup>	+1260	-10080	-10080	+50400	+30240	-120960	+60480	+31500	-6300	-16800
12	532	-3780	+12600	+42840	-20160	-98280	+75600	.	-37800	+6300	+4200
13	43 <sup>2</sup>	+1260	+5040	-30240	+10080	+15120	.	.	+6300	-18900	+8400
14	43 <sup>2</sup>	+1260	-10080	+2520	-15120	+22680	.	.	+6300	+18900	-4200
15	71 <sup>3</sup>	-1250	+13860	+12600	-25200	-37800	+75600	-30240	+18900	-37800	+12600
16	621 <sup>2</sup>	-3780	+22680	+37800	-95760	-128520	+287280	-120960	-18900	+6300	-12600
17	531 <sup>2</sup>	+2520	-15120	-10080	+15120	+15120	-15120	.	+6300	+12600	-12600
18	42 <sup>1</sup> 2	+1260	-10080	+2520	+10080	-7560	.	.	-9450	+18900	+12600
19	52 <sup>2</sup> 1	+2520	-1260	-32760	+10080	+68040	-45360	.	+6300	-6300	+12600
20	4321	-1260	.	+12600	+20160	-22680	.	.	+12600	-18900	-12600
21	3 <sup>2</sup> 1	-1260	+6300	-2520	.	.	.	.	-6300	.	+4200
22	42 <sup>3</sup>	-1260	.	+10080	-10080	.	.	.	-6300	+6300	±25420
23	3 <sup>2</sup> 2 <sup>2</sup>	+1260	-1260	-5040	.	.	.	.	+3150	±10860	
24	61 <sup>4</sup>	+1260	-6300	-12600	+25200	+37800	-75600	+30240	±106600		
25	521 <sup>3</sup>	-1260	+1260	+12600	-5040	-22680	+15120	±85750			
26	431 <sup>3</sup>	-1260	+6300	-2520	-10080	+7560	±25030				
27	42 <sup>2</sup> 1 <sup>2</sup>	+1260	-1260	-5040	+5040	±28050					
28	3 <sup>2</sup> 21 <sup>2</sup>	+1260	-3780	+2520	±13650						
29	32 <sup>2</sup> 1	-1260	+1260	±5050							
30	2 <sup>5</sup>	+252	±512								

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X (b)

		$bcd e$	$b^2 d e$	$c^3 e$	$b^2 c^2 e$	$b^4 c e$	$b^6 e$	$b d^3$	$c^2 d^2$	$b^2 c d^2$	$b^4 d^2$
1	10	+756000	-1008000	+189000	-2268000	+3780000	-1512000	+168000	+378000	-3024000	+2520000
2	91	-529200	+327600	-189000	+1247400	-1058400	+151200	-117600	-378000	+1663200	-705600
3	82	-352800	+604800	+113400	+151200	-756000	+302400	-168000	+25200	+1411200	+1310400
4	73	+37800	+302400	-189000	+680400	-1134000	+453600	+184800	+151200	-1209600	+302400
5	64	+151200	-201600	+189000	-453600	+302400	.	+33600	-226800	.	+201600
6	5 <sup>2</sup>	-63000	-126000	-94500	+189000	.	.	-84000	+126000	+252000	.
7	81 <sup>2</sup>	+327600	-327600	+37800	-340200	+453600	-151200	+117600	+176400	-1058400	+705600
8	721	+264600	-403200	+75600	-869400	+1285200	-453600	-67200	-176400	+453600	-100800
9	631	-189000	+126000	.	+113400	-75600	.	-117600	+75600	+302400	-201600
10	541	.	+126000	.	-37800	.	.	+84000	-25200	-151200	.
11	62 <sup>2</sup>	-100800	.	-75600	+302400	-151200	.	+67200	+50400	-201600	+100800
12	53 <sup>2</sup>	+63000	-25200	+75600	-75600	.	.	-16800	-50400	+50400	± 376520
13	4 <sup>2</sup>	+50400	.	-37800	.	.	.	-33600	+25200	± 143470	
14	43 <sup>2</sup>	-37800	.	.	.	.	.	+16800	± 82450		
15	71 <sup>3</sup>	-151200	+151200	-37800	+340200	-453600	+151200	± 788260			
16	621 <sup>2</sup>	+88200	-25200	+37800	-151200	+75600	± 600330				
17	531 <sup>2</sup>	+50400	-50400	-37800	+37800	± 196050					
18	4 <sup>2</sup> 1 <sup>2</sup>	-37800	.	+18900	± 75345						
19	52 <sup>2</sup> 1	-37800	+25200	± 174990							
20	4321	+12600	± 88440								
		± 17920									

(Continued next page.)

X (b)

	$bc^3d$	$b^3c^2d$	$b^5cd$	$b^7d$	$c^5$	$b^2c^4$	$b^4c^3$	$b^6c^2$	$b^8c$	$b^{10}$	
1 10	-3024000	+15120000	-18144000	+6048000	-226800	+5670000	-22680000	+31752000	-18144000	+3628800	±7
2 91	+2343600	-6955200	+4536000	-604800	+226800	-3628800	+9072000	-7257600	+1814400	±21747460	
3 82	-604800	-1814400	+3628800	-1209600	-226800	+2041200	-2721600	+907200	±9433840		
4 73	-151200	+1814400	-907200	.	+226800	-907200	+453600	±4875490			
5 64	+604800	-604800	.	.	-226800	+226800	±2089630				
6 5 <sup>2</sup>	-378000	.	.	.	+113400	±921125					
7 81 <sup>2</sup>	-529200	+2116800	-2116800	+604800	±4721980						
8 721	+378000	-756000	+302400	±3154550							
9 631	-226800	+151200	±1212650								
10 541	+75600	±424190									
	±712540										

	$k$	$bj$	$ci$	$b^2i$	$dh$	$bch$	$b^3h$	$eg$	$bdg$	$c^2g$	$b^2cg$	$b^4g$
31 51 <sup>5</sup>	+10	-10	-90	+90	-360	+1080	-720	-840	+3360	+2520	-10080	+5040
32 421 <sup>4</sup>	+50	-140	-450	+540	-1800	+6120	-4320	+840	-840	-2520	+2520	±10070
33 3 <sup>2</sup> 1 <sup>4</sup>	+25	-70	-585	+630	+360	-360	.	+420	-1680	+1260	±2695	
34 32 <sup>2</sup> 1 <sup>3</sup>	+100	-460	-540	+1260	+1440	-1800	.	-840	+840	±3640		
35 241 <sup>2</sup>	+25	-160	+405	.	-480	.	.	+210	±640			
36 41 <sup>6</sup>	-10	+10	+90	-90	+360	-1080	+720	±1180				
37 321 <sup>5</sup>	-60	+150	+540	-630	-360	+360	±1050					
38 2 <sup>3</sup> 1 <sup>4</sup>	-50	+200	-270	.	+120	±320						
39 31 <sup>7</sup>	+10	-10	-90	+90	±100							
40 2 <sup>2</sup> 1 <sup>6</sup>	+35	-80	+45	±80								
41 21 <sup>8</sup>	-10	+10	±10									
42 1 <sup>10</sup>	+1	+1										