

Transitive Groups of Degree 15

No	Group	Order	2-Index	Molien Series
1	"C15=5[x]3"	15	$1 + t + 7t^2 + 31t^3 + 91t^4 + 201t^5 + 335t^6 + 429t^7 + 429t^8 + 335t^9 + 201t^{10} + 91t^{11} + 31t^{12} + 7t^{13} + t^{14} + t^{15}$	$1 + t + 8t^2 + 46t^3 + 204t^4 + 776t^5 + 2586t^6 + 7752t^7 + 21318t^8 + 54484t^9 + 130752t^{10}$
2	"D15"	30	$1 + t + 7t^2 + 19t^3 + 56t^4 + 111t^5 + 185t^6 + 232t^7 + 232t^8 + 185t^9 + 111t^{10} + 56t^{11} + 19t^{12} + 7t^{13} + t^{14} + t^{15}$	$1 + t + 8t^2 + 27t^3 + 120t^4 + 406t^5 + 1353t^6 + 3936t^7 + 10824t^8 + 27407t^9 + 65772t^{10}$
3	"D5[x]3"	30	$1 + t + 5t^2 + 19t^3 + 51t^4 + 109t^5 + 179t^6 + 227t^7 + 227t^8 + 179t^9 + 109t^{10} + 51t^{11} + 19t^{12} + 5t^{13} + t^{14} + t^{15}$	$1 + t + 6t^2 + 28t^3 + 114t^4 + 412t^5 + 1344t^6 + 3966t^7 + 10824t^8 + 27518t^9 + 65838t^{10}$
4	"5[x]S3"	30	$1 + t + 5t^2 + 19t^3 + 52t^4 + 111t^5 + 181t^6 + 230t^7 + 230t^8 + 181t^9 + 111t^{10} + 52t^{11} + 19t^{12} + 5t^{13} + t^{14} + t^{15}$	$1 + t + 6t^2 + 29t^3 + 118t^4 + 426t^5 + 1375t^6 + 4042t^7 + 10978t^8 + 27825t^9 + 66402t^{10}$

5	"A_515"	60	$1 + t + 4t^2 + 14t^3 + 31t^4 + 64t^5 + 103t^6 + 126t^7 + 126t^8 + 103t^9 + 64t^{10} + 31t^{11} + 14t^{12} + 4t^{13} + t^{14} + t^{15}$	$1 + t + 5t^2 + 20t^3 + 69t^4 + 231t^5 + 726t^6 + 2073t^7 + 5577t^8 + 14044t^9 + 33383t^{10}$
6	"F5[1/2]S3"	60	$1 + t + 3t^2 + 10t^3 + 27t^4 + 56t^5 + 91t^6 + 115t^7 + 115t^8 + 91t^9 + 56t^{10} + 27t^{11} + 10t^{12} + 3t^{13} + t^{14} + t^{15}$	$1 + t + 4t^2 + 15t^3 + 60t^4 + 209t^5 + 677t^6 + 1988t^7 + 5422t^8 + 13769t^9 + 32934t^{10}$
7	"D5[x]S3"	60	$1 + t + 5t^2 + 13t^3 + 34t^4 + 65t^5 + 105t^6 + 130t^7 + 130t^8 + 105t^9 + 65t^{10} + 34t^{11} + 13t^{12} + 5t^{13} + t^{14} + t^{15}$	$1 + t + 6t^2 + 19t^3 + 74t^4 + 234t^5 + 743t^6 + 2096t^7 + 5654t^8 + 14133t^9 + 33630t^{10}$
8	"F5[x]3"	60	$1 + t + 3t^2 + 10t^3 + 26t^4 + 56t^5 + 91t^6 + 114t^7 + 114t^8 + 91t^9 + 56t^{10} + 26t^{11} + 10t^{12} + 3t^{13} + t^{14} + t^{15}$	$1 + t + 4t^2 + 16t^3 + 60t^4 + 211t^5 + 680t^6 + 1994t^7 + 5428t^8 + 13782t^9 + 32950t^{10}$
9	"[5^2]3"	75	$1 + t + 3t^2 + 11t^3 + 19t^4 + 41t^5 + 75t^6 + 89t^7 + 89t^8 + 75t^9 + 41t^{10} + 19t^{11} + 11t^{12} + 3t^{13} + t^{14} + t^{15}$	$1 + t + 4t^2 + 18t^3 + 52t^4 + 176t^5 + 562t^6 + 1608t^7 + 4354t^8 + 11056t^9 + 26352t^{10}$

10	"S_515"	120	$1 + t + 3t^2 + 9t^3 + 19t^4 + 37t^5 + 58t^6 + 70t^7 + 70t^8 + 58t^9 + 37t^{10} + 19t^{11} + 9t^{12} + 3t^{13} + t^{14} + t^{15}$	$1 + t + 4t^2 + 13t^3 + 42t^4 + 129t^5 + 391t^6 + 1084t^7 + 2876t^8 + 7165t^9 + 16930t^{10}$
11	"F5[x]S3"	120	$1 + t + 3t^2 + 7t^3 + 18t^4 + 34t^5 + 54t^6 + 66t^7 + 66t^8 + 54t^9 + 34t^{10} + 18t^{11} + 7t^{12} + 3t^{13} + t^{14} + t^{15}$	$1 + t + 4t^2 + 11t^3 + 40t^4 + 121t^5 + 378t^6 + 1056t^7 + 2840t^8 + 7083t^9 + 16838t^{10}$
12	"[5^2:2]3"	150	$1 + t + 3t^2 + 9t^3 + 15t^4 + 29t^5 + 49t^6 + 57t^7 + 57t^8 + 49t^9 + 29t^{10} + 15t^{11} + 9t^{12} + 3t^{13} + t^{14} + t^{15}$	$1 + t + 4t^2 + 14t^3 + 38t^4 + 112t^5 + 332t^6 + 894t^7 + 2342t^8 + 5804t^9 + 13638t^{10}$
13	"[5^2]S3"	150	$1 + t + 3t^2 + 9t^3 + 16t^4 + 31t^5 + 51t^6 + 60t^7 + 60t^8 + 51t^9 + 31t^{10} + 16t^{11} + 9t^{12} + 3t^{13} + t^{14} + t^{15}$	$1 + t + 4t^2 + 15t^3 + 42t^4 + 126t^5 + 363t^6 + 970t^7 + 2496t^8 + 6111t^9 + 14202t^{10}$
14	"5^2:2[1/2]S3"	150	$1 + t + 3t^2 + 7t^3 + 12t^4 + 23t^5 + 41t^6 + 48t^7 + 48t^8 + 41t^9 + 23t^{10} + 12t^{11} + 7t^{12} + 3t^{13} + t^{14} + t^{15}$	$1 + t + 4t^2 + 11t^3 + 32t^4 + 94t^5 + 297t^6 + 820t^7 + 2216t^8 + 5567t^9 + 13264t^{10}$

15	"3A_515= [3]A5=GL2,4"	180	$1 + t + 2t^2 + 6t^3 + 13t^4 + 24t^5 + 37t^6 + 46t^7 + 46t^8 + 37t^9 + 24t^{10} + 13t^{11} + 6t^{12} + 2t^{13} + t^{14} + t^{15}$	$1 + t + 3t^2 + 10t^3 + 29t^4 + 87t^5 + 260t^6 + 719t^7 + 1901t^8 + 4746t^9 + 11221t^{10}$
16	"A5[x]3"	180	$1 + t + 3t^2 + 8t^3 + 14t^4 + 27t^5 + 43t^6 + 49t^7 + 49t^8 + 43t^9 + 27t^{10} + 14t^{11} + 8t^{12} + 3t^{13} + t^{14} + t^{15}$	$1 + t + 4t^2 + 14t^3 + 39t^4 + 112t^5 + 315t^6 + 825t^7 + 2100t^8 + 5101t^9 + 11816t^{10}$