

# Transitive Groups of Degree 10

No	Group	Order	DimCA	CAZ	DimGA	GrAZ	Cycle_Index
1	C10=5[x]2	10	10	T	10	T	$\frac{1}{10}x_1^{10} + \frac{1}{10}x_2^5 + \frac{2}{5}x_5^2 + \frac{2}{5}x_{10}$
2	D10=5:2	10	10	F	10	F	$\frac{1}{10}x_1^{10} + \frac{1}{2}x_2^5 + \frac{2}{5}x_5^2$
3	D_1010=[D5]2	20	6	T	18	F	$\frac{1}{20}x_1^{10} + \frac{1}{4}x_1^2x_2^4 + \frac{3}{10}x_2^5 + \frac{1}{5}x_5^2 + \frac{1}{5}x_{10}$
4	1/2[F5]2	20	6	F	18	F	$\frac{1}{20}x_1^{10} + \frac{1}{4}x_1^2x_2^4 + \frac{1}{2}x_2x_4^2 + \frac{1}{5}x_5^2$
5	F5[x]2	40	4	T	34	F	$\frac{1}{40}x_1^{10} + \frac{1}{8}x_1^2x_2^4 + \frac{3}{20}x_2^5 + \frac{1}{4}x_1^2x_4^2 + \frac{1}{4}x_2x_4^2 + \frac{1}{10}x_5^2 + \frac{1}{10}x_{10}$
6	[5^2]2	50	6	T	18	F	$\frac{1}{50}x_1^{10} + \frac{4}{25}x_1^5x_5 + \frac{1}{10}x_2^5 + \frac{8}{25}x_5^2 + \frac{2}{5}x_{10}$
7	A_510	60	3	T	42	F	$\frac{1}{60}x_1^{10} + \frac{1}{4}x_1^2x_2^4 + \frac{1}{3}x_1x_3^3 + \frac{2}{5}x_5^2$
8	[2^4]5	80	6	T	30	F	$\frac{1}{80}x_1^{10} + \frac{1}{8}x_1^6x_2^2 + \frac{1}{16}x_1^2x_2^4 + \frac{4}{5}x_5^2$
9	[1/2D5^2]2	100	4	T	34	F	$\frac{1}{100}x_1^{10} + \frac{2}{25}x_1^5x_5$

							$+\frac{1}{4}x_1^2x_2^4 + \frac{1}{10}x_2^5 + \frac{4}{25}x_5^2 + \frac{2}{5}x_{10}$
10	1/2[D5^2]2	100	4	T	34	F	$\frac{1}{100}x_1^{10} + \frac{2}{25}x_1^5x_5 + \frac{1}{4}x_1^2x_2^4 + \frac{1}{2}x_2x_4^2 + \frac{4}{25}x_5^2$
11	A5[x]2	120	4	T	34	F	$\frac{1}{120}x_1^{10} + \frac{1}{6}x_1^4x_3^2 + \frac{1}{8}x_1^2x_2^4 + \frac{2}{15}x_2^5 + \frac{1}{6}x_2^2x_6 + \frac{1}{5}x_5^2 + \frac{1}{5}x_{10}$
12	1/2[S5]2=S_510a	120	4	T	34	F	$\frac{1}{120}x_1^{10} + \frac{1}{6}x_1^4x_3^2 + \frac{1}{8}x_1^2x_2^4 + \frac{1}{12}x_2^5 + \frac{1}{6}x_2^2x_6 + \frac{1}{4}x_2x_4^2 + \frac{1}{5}x_5^2$
13	S_510d	120	3	T	42	F	$\frac{1}{120}x_1^{10} + \frac{1}{12}x_1^4x_2^3 + \frac{1}{8}x_1^2x_2^4 + \frac{1}{6}x_1x_3^3 + \frac{1}{6}x_1x_3x_6 + \frac{1}{4}x_2x_4^2 + \frac{1}{5}x_5^2$
14	[2^5]5	160	6	T	30	F	$\frac{1}{160}x_1^{10} + \frac{1}{32}x_1^8x_2 + \frac{1}{16}x_1^6x_2^2 + \frac{1}{16}x_1^4x_2^3 + \frac{1}{32}x_1^2x_2^4 + \frac{1}{160}x_2^5 + \frac{2}{5}x_5^2 + \frac{2}{5}x_{10}$
15	[2^4]D5	160	4	T	34	F	$\frac{1}{160}x_1^{10} + \frac{1}{16}x_1^6x_2^2 + \frac{5}{32}x_1^2x_2^4 + \frac{1}{8}x_1^2x_4^2$

							$+\frac{1}{4}x_2^3x_4 + \frac{2}{5}x_5^2$
16	$1/2[2^5]D5$	160	4	T	34	F	$\frac{1}{160}x_1^{10} + \frac{1}{16}x_1^6x_2^2$ $+\frac{1}{32}x_1^2x_2^4 + \frac{1}{4}x_1^2x_2^2$ $x_4 + \frac{1}{8}x_2^5 + \frac{1}{8}x_2x_4^2$ $+\frac{2}{5}x_5^2$
17	$[5^2:4]2$	200	3	T	66	F	$\frac{1}{200}x_1^{10} + \frac{1}{25}x_1^5x_5$ $+\frac{1}{8}x_1^2x_2^4 + \frac{1}{20}x_2^5 + \frac{1}{4}$ $x_1^2x_4^2 + \frac{1}{4}x_2x_4^2 + \frac{2}{25}$ $x_5^2 + \frac{1}{5}x_{10}$
18	$[5^2:4]2_2$	200	3	T	66	F	$\frac{1}{200}x_1^{10} + \frac{1}{25}x_1^5x_5$ $+\frac{1}{8}x_1^2x_2^4 + \frac{1}{4}x_1^2x_4^2 +$ $\frac{1}{2}x_2x_8 + \frac{2}{25}x_5^2$
19	$[5^2:4_2]2$	200	3	T	66	F	$\frac{1}{200}x_1^{10} + \frac{1}{25}x_1^5x_5$ $+\frac{1}{8}x_1^2x_2^4 + \frac{1}{10}x_2^5 + \frac{1}{4}$ $x_1^2x_4^2 + \frac{2}{25}x_5^2 + \frac{2}{5}$ $x_{10}$
20	$[5^2:4_2]2_2$	200	3	T	66	F	$\frac{1}{200}x_1^{10} + \frac{1}{25}x_1^5x_5$ $+\frac{1}{8}x_1^2x_2^4 + \frac{1}{4}x_1^2x_4^2 +$ $\frac{1}{2}x_2x_4^2 + \frac{2}{25}x_5^2$
21	$[D5^2]2$	200	4	T	34	F	$\frac{1}{200}x_1^{10} + \frac{1}{20}x_1^6x_2^2$ $+\frac{1}{25}x_1^5x_5 + \frac{1}{8}x_1^2x_2^4$ $+\frac{1}{20}x_2^5 + \frac{1}{5}x_1x_2^2x_5$

							$+\frac{1}{4}x_2x_4^2 + \frac{2}{25}x_5^2 + \frac{1}{5}$ $\times 10$
22	S5[x]2	240	4	T	34	F	$\frac{1}{240}x_1^{10} + \frac{1}{24}x_1^6x_2^2$ $+\frac{1}{12}x_1^4x_3^2 + \frac{1}{16}x_1^2x_2^4$ $+\frac{13}{120}x_2^5 + \frac{1}{8}x_1^2x_4^2 +$ $\frac{1}{12}x_2^2x_3^2 + \frac{1}{6}x_2^2x_6 +$ $\frac{1}{8}x_2x_4^2 + \frac{1}{10}x_5^2 + \frac{1}{10}$ $\times 10$