

Math 476
 Cayley Table for D_4

	I	R_{90}	R_{180}	R_{270}	H	V	D_1	D_2
I	I	R_{90}	R_{180}	R_{270}	H	V	D_1	D_2
R_{90}	R_{90}	R_{180}	R_{270}	I	D_2	D_1	H	V
R_{180}	R_{180}	R_{270}	I	R_{90}	V	H	D_2	D_1
R_{270}	R_{270}	I	R_{90}	R_{180}	D_1	D_2	V	H
H	H	D_1	V	D_2	I	R_{180}	R_{90}	R_{270}
V	V	D_2	H	D_1	R_{180}	I	R_{270}	R_{90}
D_1	D_1	V	D_2	H	R_{270}	R_{90}	I	R_{180}
D_2	D_2	H	D_1	V	R_{90}	R_{270}	R_{180}	I

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	I	R_{90}	R_{180}	R_{270}	H	V	D_1	D_2
I	I	R_{90}	R_{180}	R_{270}	H	V	D_1	D_2
R_{90}	R_{90}	R_{180}	R_{270}	I	D_2	D_1	H	V
R_{180}	R_{180}	R_{270}	I	R_{90}	V	H	D_2	D_1
R_{270}	R_{270}	I	R_{90}	R_{180}	D_1	D_2	V	H
H	H	D_1	V	D_2	I	R_{180}	R_{90}	R_{270}
V	V	D_2	H	D_1	R_{180}	I	R_{270}	R_{90}
D_1	D_1	V	D_2	H	R_{270}	R_{90}	I	R_{180}
D_2	D_2	H	D_1	V	R_{90}	R_{270}	R_{180}	I