

# Direct Drive Ratios

VEX Team 472A - [www.team472.ca](http://www.team472.ca)

## Tank Drive

Wheel D"	Wheel C"	Internal Gearing	RPM	in/second	Compared	Cross 12' (sec.)
2.75	8.639	High Torque	100	14.399	1:0.69	10.0
2.75	8.639	High Speed	160	23.038	1:1.1	6.3
2.75	8.639	Turbo	240	34.558	1:1.65	4.2
3.25	10.210	High Torque	100	17.017	1:0.81	8.5
3.25	10.210	High Speed	160	27.227	1:1.3	5.3
3.25	10.210	Turbo	240	40.841	1:1.95	3.5
4	12.566	High Torque	100	20.944	1:1	6.9
4	12.566	High Speed	160	33.510	1:1.6	4.3
4	12.566	Turbo	240	50.265	1:2.4	2.9
5	15.708	High Torque	100	26.180	1:1.25	5.5
5	15.708	High Speed	160	41.888	1:2	3.4
5	15.708	Turbo	240	62.832	1:3	2.3

## Holonomic X Drive

Wheel D"	Wheel C"	Internal Gearing	RPM	in/second	Compared	Cross 12' (sec.)
2.75	8.639	High Torque	100	20.363	1:0.97	7.1
2.75	8.639	High Speed	160	32.581	1:1.56	4.4
2.75	8.639	Turbo	240	48.872	1:2.33	2.9
3.25	10.210	High Torque	100	24.066	1:1.15	6.0
3.25	10.210	High Speed	160	38.505	1:1.84	3.7
3.25	10.210	Turbo	240	57.757	1:2.76	2.5
4	12.566	High Torque	100	29.619	1:1.41	4.9
4	12.566	High Speed	160	47.391	1:2.26	3.0
4	12.566	Turbo	240	71.086	1:3.39	2.0

Note: "Compared" column is a ratio to compare the given option to a regular 4" wheel with high torque internal gearing (standard gearing of motors out of box).