

Title of submission: Tally It Up

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Engineering is Mathematics applied, especially in VEX. Mathematical elements are integral to the field of robotics — building a successful robot is an iterative numbers based process. From gear ratios, to rotation angles, to torque, to velocities, the principles of math are the basis on which Geared Up designs, constructs, and operates our robot. We experiment to find the optimal angle for the tipping bucket. We need to constrain the robot's size to maximize efficiency and pass inspection at competition. We need to calculate gear ratios to allow our motor to provide sufficient torques and rotational velocities. And much, much more.