16-311: Introduction to Robotics

Lab 8: Wheel-Free

Team number: _____

Team member name:	**Andrew ID:**

Basic requirements for non-zero score:

1. You may not use wheels (or variations of wheels), treads or any other rotation tool with a broad surface
2. Your robot must only use the horizontal rungs for support. You may not put any force on the vertical bars.
3. Your robot must be less than 9.5 inches when fully extended.
4. You must put entire weight of robot on every rung (i.e. you cannot skip rungs)

Item	**Maximum Points Possible**	**Trial 1**	**Trial 2**
Climbs onto second rung	30		
Climbs onto third rung	15		
Climbs onto fourth rung	10		
Climbs onto fifth rung	5		
T(first ascent) <= 3* **	25 / 25		
3 < T <= 5*	20 / 25		
5 < T <= 7*	13 / 25		
7 < T < 10*	5 / 25		
Stop at marked rung (second ascent)	15		
Total	**100**		

* T = seconds to complete only first ascent. The task begins when the orange button is pressed to start the program, and ends when the robot stops moving on the highest rung you can get to. T does not include time taken to go up to the marked rung. 5 minutes max time to complete all trials

** If you don't make it to top rung, then the time cap necessary to receive time points is multiplied by number rungs/5.

Final Score (average of two trials): _____