

A Comparison of Astronomy and Robotics Scores at Valley High School

Name	Club	Astro	Robotics
1 Abdullah L	R		72
2 Angela W	R		96
3 Arthur B	R		84
4 Brad S	A	61	
5 Dalia V	A	83	
6 Eddie R	A	77	
7 Elsie D	A	78	
8 Emma M	A	60	
9 Ernesto H	R		65
10 Hadassah H	R		79
11 Jenny E	A	83	
12 Joanna S	R		81
13 Jonathan S	A	69	
14 Justine H	R		83
15 Kara F	A	70	
16 Kay H	A	60	
17 Lia S	A	70	
18 Marcus C	A	64	
19 Marina B	R		89
20 Mattias L	R		<i>52</i>
21 Natalya A	A	60	
22 Preston H	A	68	
23 Thalia C	A	69	
24 VanceT	R		83
25 Waylon D	R		<i>57</i>

Summary Statistics	Astro	Robotics	Overall
Count	14	11	25
Mean	69.4	76.5	72.5
Median	69	81	70
Standard Deviation	8.18	13.6	11.2
Minimum	60	52	52
1st Quartile	61.8	68.5	64
Median	69	81	70
3rd Quartile	75.3	83.5	83
Maximum	83	96	96

The data generally support Mr. Jone's claim that the Robotics Club members have higher math scores, but there are some caveats. The raw student scores are shown at left, sorted alphabetically by student first name. The Robotics mean score is 7.1 points higher (76.5 versus 69.4) and its median is 12 points higher (81 versus 69) as well. These differences are on the order of the standard deviations. Thus, the central tendency of scores is clearly better for Robotics.

On the other hand, the Robotics Club scores are considerably more dispersed (standard deviation of 13.6 versus 8.18), and there are two scores lower than the worst of the Astronomy Club's worst student (52 and 57, shown in red italics, versus a minimum of 60). So the Astronomy Club may have a reasonable argument for having better scores and certainly more consistency.