

Grade

8

Beanz Meanz Mathz

MATH



Driving Question: What's the variance in heights of your data of beans?

Project Description:

In order to learn about standard deviation, students were given a variety of beans of different lengths. Sample data sets included the same type of beans of different lengths, as well as a mixture of beans of different lengths. Students measured the lengths of green beans and determined the mean, median and mode, and then discovered the standard deviation and variance. Students worked in teams to accomplish this task, but then showed what they knew independently.



Bean Length (cm)	Difference from the Mean (cm)	Squared Difference (cm ²)
1.0	-0.5	0.25
1.5	0.0	0.00
2.0	0.5	0.25
2.5	1.0	1.00
3.0	1.5	2.25
3.5	2.0	4.00
4.0	2.5	6.25
4.5	3.0	9.00
5.0	3.5	12.25
5.5	4.0	16.00
6.0	4.5	20.25
6.5	5.0	25.00
7.0	5.5	30.25
7.5	6.0	36.00
8.0	6.5	42.25
8.5	7.0	49.00
9.0	7.5	56.25
9.5	8.0	64.00
10.0	8.5	72.25
10.5	9.0	81.00
11.0	9.5	90.25
11.5	10.0	100.00
12.0	10.5	110.25
12.5	11.0	121.00
13.0	11.5	132.25
13.5	12.0	144.00
14.0	12.5	156.25
14.5	13.0	169.00
15.0	13.5	182.25
15.5	14.0	196.00
16.0	14.5	210.25
16.5	15.0	225.00
17.0	15.5	240.25
17.5	16.0	256.00
18.0	16.5	272.25
18.5	17.0	289.00
19.0	17.5	306.25
19.5	18.0	324.00
20.0	18.5	342.25
20.5	19.0	361.00
21.0	19.5	380.25
21.5	20.0	400.00
22.0	20.5	420.25
22.5	21.0	441.00
23.0	21.5	462.25
23.5	22.0	484.00
24.0	22.5	506.25
24.5	23.0	529.00
25.0	23.5	552.25
25.5	24.0	576.00
26.0	24.5	600.25
26.5	25.0	625.00
27.0	25.5	650.25
27.5	26.0	676.00
28.0	26.5	702.25
28.5	27.0	729.00
29.0	27.5	756.25
29.5	28.0	784.00
30.0	28.5	812.25
30.5	29.0	841.00
31.0	29.5	870.25
31.5	30.0	900.00
32.0	30.5	930.25
32.5	31.0	961.00
33.0	31.5	992.25
33.5	32.0	1024.00
34.0	32.5	1056.25
34.5	33.0	1089.00
35.0	33.5	1122.25
35.5	34.0	1156.00
36.0	34.5	1190.25
36.5	35.0	1225.00
37.0	35.5	1260.25
37.5	36.0	1296.00
38.0	36.5	1332.25
38.5	37.0	1369.00
39.0	37.5	1406.25
39.5	38.0	1444.00
40.0	38.5	1482.25
40.5	39.0	1521.00
41.0	39.5	1560.25
41.5	40.0	1600.00
42.0	40.5	1640.25
42.5	41.0	1681.00
43.0	41.5	1722.25
43.5	42.0	1764.00
44.0	42.5	1806.25
44.5	43.0	1849.00
45.0	43.5	1892.25
45.5	44.0	1936.00
46.0	44.5	1980.25
46.5	45.0	2025.00
47.0	45.5	2070.25
47.5	46.0	2116.00
48.0	46.5	2162.25
48.5	47.0	2209.00
49.0	47.5	2256.25
49.5	48.0	2304.00
50.0	48.5	2352.25
50.5	49.0	2401.00
51.0	49.5	2450.25
51.5	50.0	2500.00
52.0	50.5	2550.25
52.5	51.0	2601.00
53.0	51.5	2652.25
53.5	52.0	2704.00
54.0	52.5	2756.25
54.5	53.0	2809.00
55.0	53.5	2862.25
55.5	54.0	2916.00
56.0	54.5	2970.25
56.5	55.0	3025.00
57.0	55.5	3080.25
57.5	56.0	3136.00
58.0	56.5	3192.25
58.5	57.0	3249.00
59.0	57.5	3306.25
59.5	58.0	3364.00
60.0	58.5	3422.25
60.5	59.0	3480.00
61.0	59.5	3538.25
61.5	60.0	3596.00
62.0	60.5	3654.25
62.5	61.0	3713.00
63.0	61.5	3772.25
63.5	62.0	3832.00
64.0	62.5	3892.25
64.5	63.0	3953.00
65.0	63.5	4014.25
65.5	64.0	4076.00
66.0	64.5	4138.25
66.5	65.0	4201.00
67.0	65.5	4264.25
67.5	66.0	4328.00
68.0	66.5	4392.25
68.5	67.0	4457.00
69.0	67.5	4522.25
69.5	68.0	4588.00
70.0	68.5	4654.25
70.5	69.0	4721.00
71.0	69.5	4788.25
71.5	70.0	4856.00
72.0	70.5	4924.25
72.5	71.0	5032.00
73.0	71.5	5100.25
73.5	72.0	5169.00
74.0	72.5	5238.25
74.5	73.0	5308.00
75.0	73.5	5378.25
75.5	74.0	5449.00
76.0	74.5	5520.25
76.5	75.0	5592.00
77.0	75.5	5664.25
77.5	76.0	5737.00
78.0	76.5	5810.25
78.5	77.0	5884.00
79.0	77.5	5958.25
79.5	78.0	6033.00
80.0	78.5	6108.25
80.5	79.0	6184.00
81.0	79.5	6260.25
81.5	80.0	6337.00
82.0	80.5	6414.25
82.5	81.0	6492.00
83.0	81.5	6570.25
83.5	82.0	6649.00
84.0	82.5	6728.25
84.5	83.0	6808.00
85.0	83.5	6888.25
85.5	84.0	6969.00
86.0	84.5	7050.25
86.5	85.0	7132.00
87.0	85.5	7214.25
87.5	86.0	7297.00
88.0	86.5	7380.25
88.5	87.0	7464.00
89.0	87.5	7548.25
89.5	88.0	7633.00
90.0	88.5	7718.25
90.5	89.0	7804.00
91.0	89.5	7890.25
91.5	90.0	7977.00
92.0	90.5	8064.25
92.5	91.0	8152.00
93.0	91.5	8240.25
93.5	92.0	8329.00
94.0	92.5	8418.25
94.5	93.0	8508.00
95.0	93.5	8598.25
95.5	94.0	8689.00
96.0	94.5	8780.25
96.5	95.0	8872.00
97.0	95.5	8964.25
97.5	96.0	9057.00
98.0	96.5	9150.25
98.5	97.0	9244.00
99.0	97.5	9338.25
99.5	98.0	9433.00
100.0	98.5	9528.25

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4.0	2.5	6.25
4.5	3.0	9.00
5.0	3.5	12.25
5.5	4.0	16.00
6.0	4.5	20.25
6.5	5.0	25.00
7.0	5.5	30.25
7.5	6.0	36.00
8.0	6.5	42.25
8.5	7.0	49.00
9.0	7.5	56.25
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11.0	9.5	90.25
11.5	10.0	100.00
12.0	10.5	110.25
12.5	11.0	121.00
13.0	11.5	132.25
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14.0	12.5	156.25
14.5	13.0	169.00
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22.0	20.5	420.25
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24.0	22.5	506.25
24.5	23.0	529.00
25.0	23.5	552.25
25.5	24.0	576.00
26.0	24.5	600.25
26.5	25.0	625.00
27.0	25.5	650.25
27.5	26.0	676.00
28.0	26.5	702.25
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34.5	33.0	1089.00
35.0	33.5	1122.25
35.5	34.0	1156.00
36.0	34.5	1190.25
36.5	35.0	1225.00
37.0	35.5	1260.25
37.5	36.0	1296.00
38.0	36.5	1332.25
38.5	37.0	1369.00
39.0	37.5	1406.25
39.5	38.0	1444.00
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53.0	51.5	2652.25
53.5	52.0	2704.00
54.0	52.5	2756.25
54.5	53.0	2808.00
55.0	53.5	2860.25
55.5	54.0	2913.00
56.0	54.5	2966.25
56.5	55.0	3020.00
57.0	55.5	3074.25
57.5	56.0	3129.00
58.0	56.5	3184.25
58.5	57.0	3240.00
59.0	57.5	3296.25
59.5	58.0	3353.00
60.0	58.5	3410.25
60.5	59.0	3468.00
61.0	59.5	3526.25
61.5	60.0	3585.00
62.0	60.5	3644.25
62.5	61.0	3704.00
63.0	61.5	3764.25
63.5	62.0	3825.00
64.0	62.5	3886.25
64.5	63.0	3948.00
65.0	63.5	4010.25
65.5	64.0	4073.00
66.0	64.5	4136.25
66.5	65.0	4200.00
67.0	65.5	4264.25
67.5	66.0	4329.00
68.0	66.5	4394.25
68.5	67.0	4460.00
69.0	67.5	4526.25
69.5	68.0	4593.00
70.0	68.5	4660.25
70.5	69.0	4728.00
71.0	69.5	4796.25
71.5	70.0	4865.00
72.0	70.5	4934.25
72.5	71.0	5004.00
73.0	71.	