

1. Conclusion: $d \approx \sqrt{n}$

2. Evidence:

Below are the spreadsheet of the experiments, along with the original screenshots. We can see that distance d is approximately the square root of n .

	A	B	C
1	n	d	d^2
2	50	7.19139	51.72
3	100	9.48485	89.96
4	200	13.8795	192.64
5	30	5.30779	28.17
6	80	8.42161	70.92
7	170	13.49323	182.07

50 steps: 7.191389908390667 over 40 experiments

100 steps: 9.484847148628516 over 40 experiments

200 steps: 13.879502718278198 over 40 experiments

30 steps: 5.307786200716209 over 50 experiments

80 steps: 8.421610989472935 over 50 experiments

170 steps: 13.493234770917265 over 50 experiments

3. Code: See .java file uploaded

4. Unit Tests:

