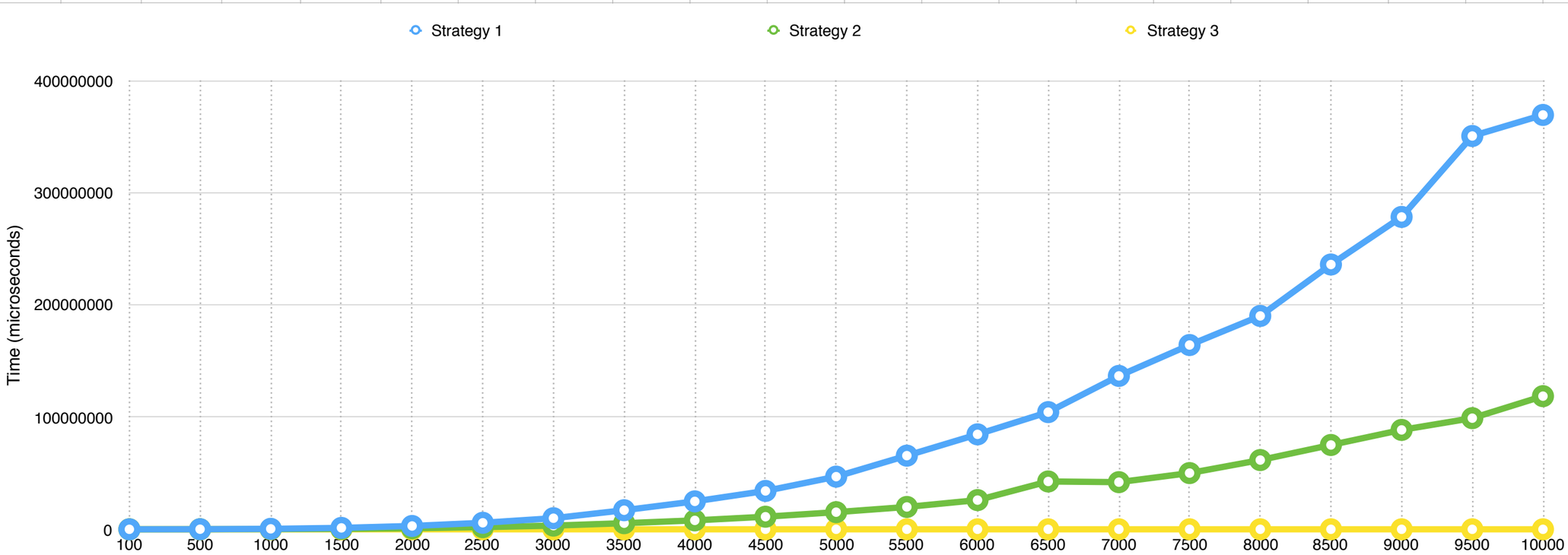
## Strategy Analysis

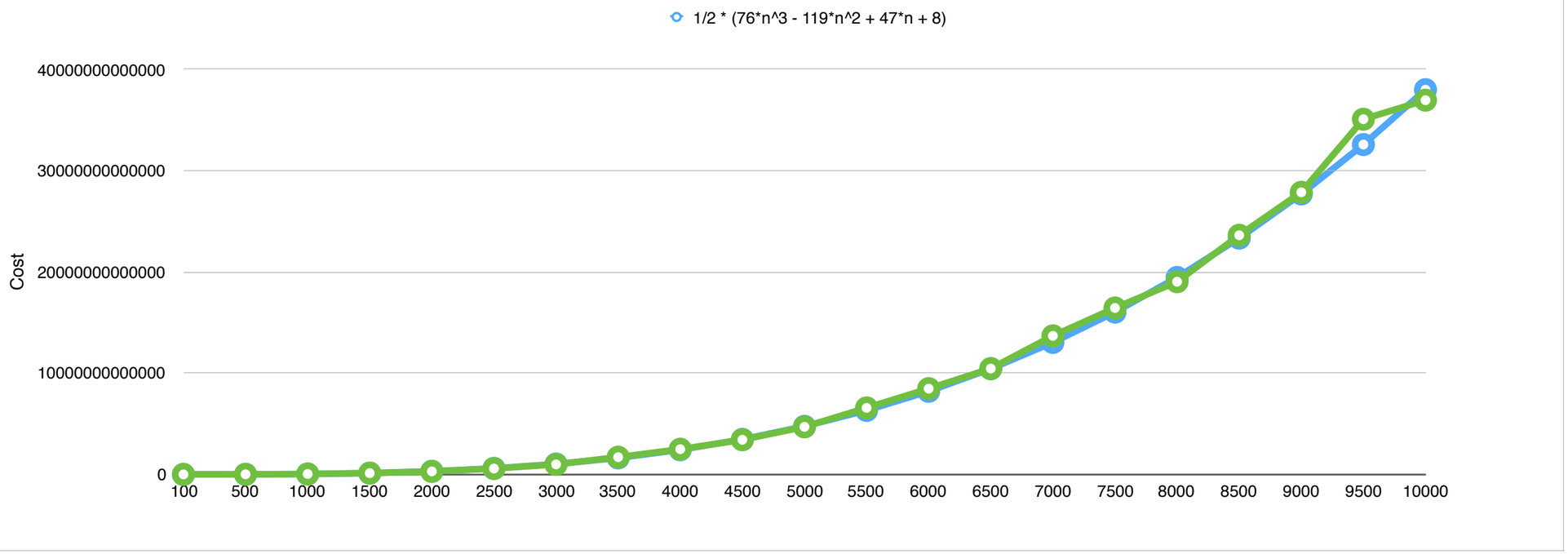
| | 100 | 500 | 1000 | 1500 | 2000 | 2500 | 3000 | 3500 | 4000 | 4500 | 5000 | 5500 | 6000 | 6500 | 7000 | 7500 | 8000 | 8500 | 9000 | 9500 | 10000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Strategy 1** | 524 | 79616 | 410216 | 1256980 | 2959770 | 5805550 | 9881040 | 17020700 | 24910000 | 34210800 | 46963500 | 65690600 | 84693400 | 10452100 | 13681500 | 16436200 | 19029200 | 23617000 | 27861200 | 35079100 | 36957800 |
| **Strategy 2** | 256 | 28901 | 119193 | 396611 | 931676 | 1924280 | 3281280 | 5442520 | 7947300 | 11223400 | 15281800 | 19921000 | 26039900 | 42659100 | 42049400 | 50149200 | 61760600 | 75211900 | 88648100 | 99124100 | 11875700 |
| **Strategy 3** | 2 | 6 | 17 | 15 | 20 | 25 | 30 | 38 | 42 | 80 | 51 | 54 | 61 | 65 | 71 | 75 | 79 | 105 | 98 | 95 | 97 |




*The bump in Strategy 2 at 6500 and the bump in Strategy 3 at 9500 are both caused by my having to close my laptop for at least 5 minutes.

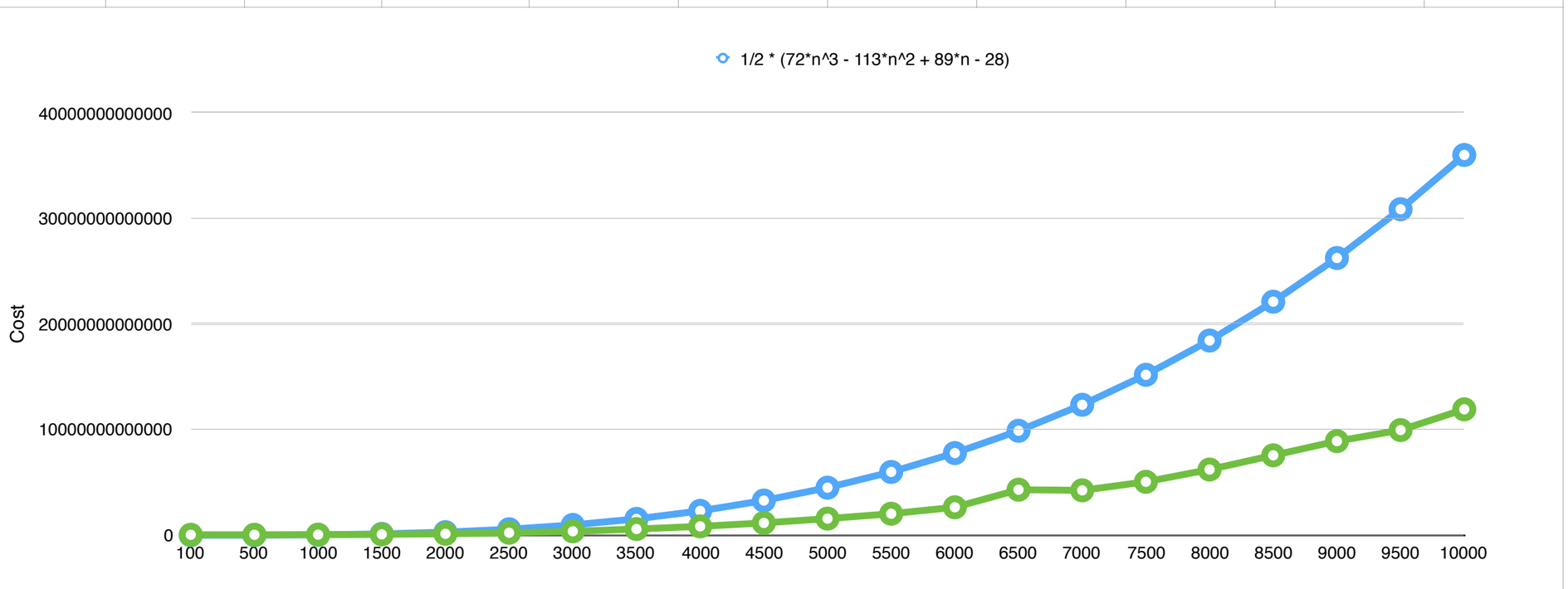
Strategy 1

| | 100 | 500 | 1000 | 1500 | 2000 | 2500 | 3000 | 3500 | 4000 | 4500 | 5000 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1/2 * (76*n^3 - 119*n^2 + 47*n + 8)** | 37407354 | 4735136754 | 37940523504 | 128116160254 | 303762047004 | 593378183754 | 1025464570504 | 1628521207254 | 2431048094004 | 3461545230754 | 4748512617504 |
| | **5500** | **6000** | **6500** | **7000** | **7500** | **8000** | **8500** | **9000** | **9500** | **10000** | |
| **1/2 * (76*n^3 - 119*n^2 + 47*n + 8)** | 6320450254254 | 8205858141004 | 10433236277754 | 13031084664504 | 16027903301254 | 19452192188004 | 23332451324754 | 27697180711504 | 32574880348254 | 37994050235004 | |



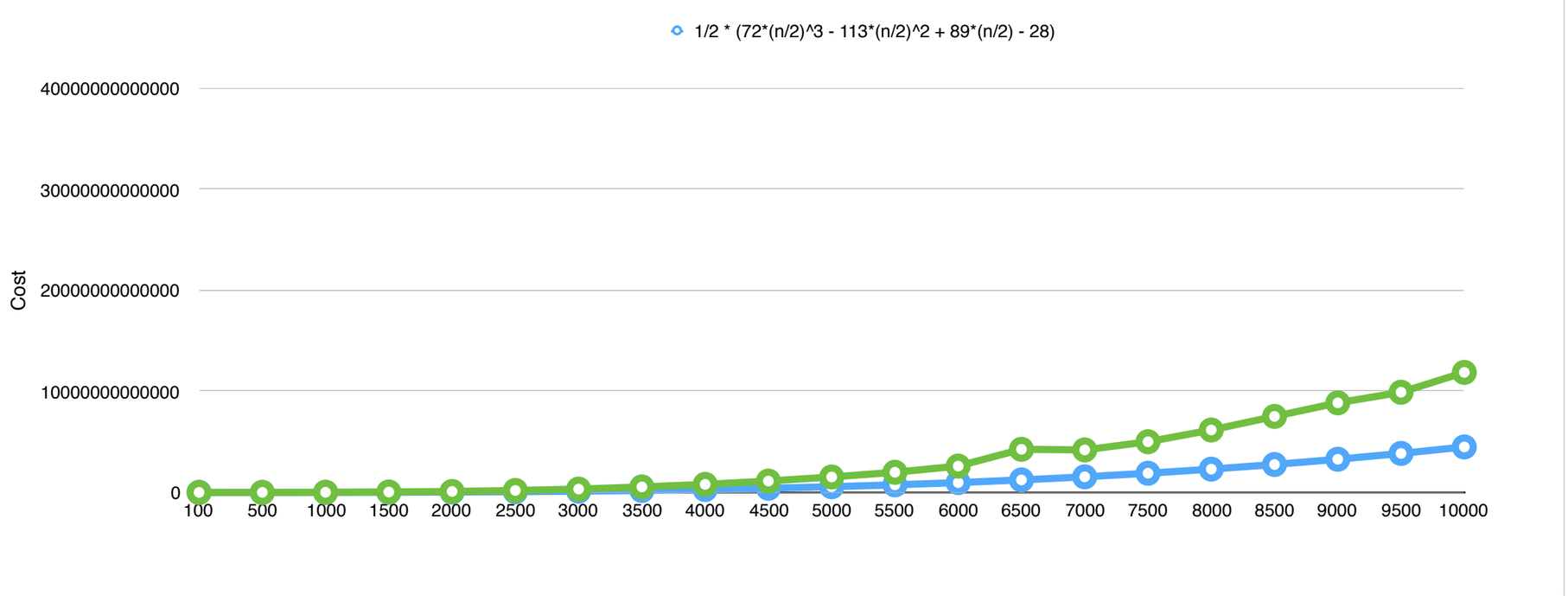
Strategy 2 – Worst Case

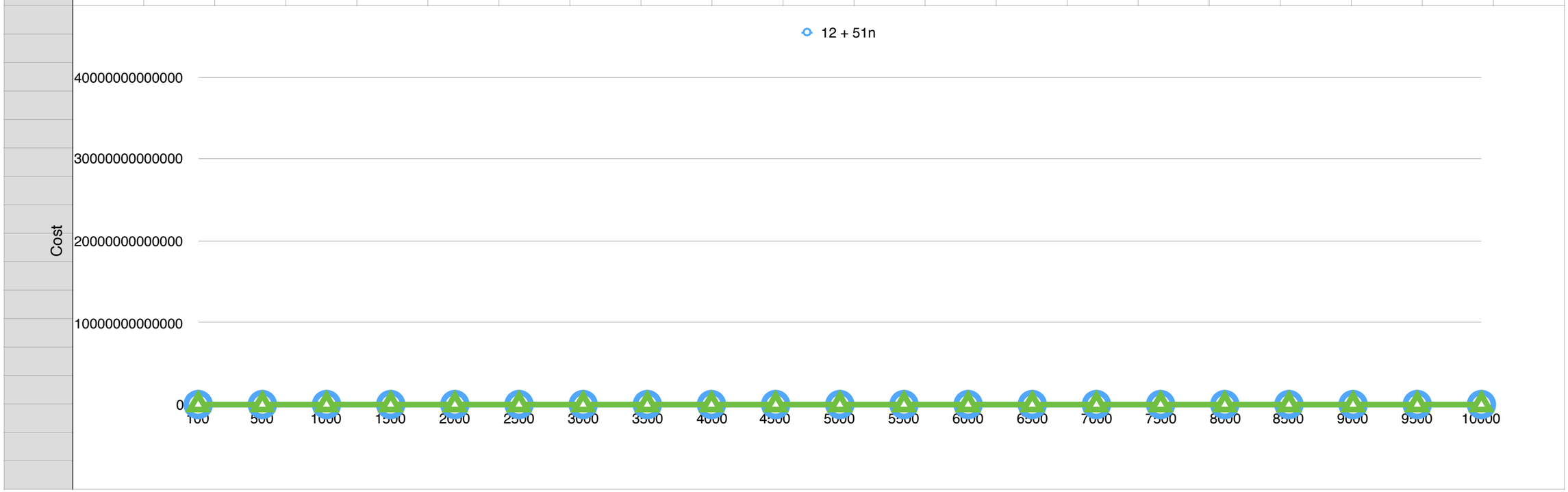
| | 100 | 500 | 1000 | 1500 | 2000 | 2500 | 3000 | 3500 | 4000 | 4500 | 5000 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 * (72*n^3 - 113*n^2 + 89*n - 28) | 35439436 | 4485897236 | 35943544486 | 121372941736 | 287774088986 | 562146986236 | 971491633486 | 1542808030736 | 2303096177986 | 3279356075236 | 4498587722486 |
| | 5500 | 6000 | 6500 | 7000 | 7500 | 8000 | 8500 | 9000 | 9500 | 10000 | |
| 1/2 * (72*n^3 - 113*n^2 + 89*n - 28) | 5987791119736 | 7773966266986 | 9884113164236 | 12345231811486 | 15184322208736 | 18428384355986 | 22104418253236 | 26239423900486 | 30860401297736 | 35994350444986 | |




Strategy 2 – Likely Average Case

| | 100 | 500 | 1000 | 1500 | 2000 | 2500 | 3000 | 3500 | 4000 | 4500 | 5000 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 * (72*(n/2)^3 - 113*(n/2)^2 + 89*(n/2) - 28) | 4360961 | 558979861 | 4485897236 | 15155752111 | 35943544486 | 70224274361 | 121372941736 | 192764546611 | 287774088986 | 409776568861 | 562146986236 |
| | 5500 | 6000 | 6500 | 7000 | 7500 | 8000 | 8500 | 9000 | 9500 | 10000 | |
| 1/2 * (72*(n/2)^3 - 113*(n/2)^2 + 89*(n/2) - 28) | 748260341111 | 971491633486 | 1235215863361 | 1542808030736 | 1897643135611 | 2303096177986 | 2762542157861 | 3279356075236 | 3856912930111 | 4498587722486 | |



Strategy 3

| | 100 | 500 | 1000 | 1500 | 2000 | 2500 | 3000 | 3500 | 4000 | 4500 | 5000 | 5500 | 6000 | 6500 | 7000 | 7500 | 8000 | 8500 | 9000 | 9500 | 10000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **12 + 51n** | 5112 | 25512 | 51012 | 76512 | 102012 | 127512 | 153012 | 178512 | 204012 | 229512 | 255012 | 280512 | 306012 | 331512 | 357012 | 382512 | 408012 | 433512 | 459012 | 484512 | 510012 |