Politechnika Opolska
Wydział Elektrotechniki, Automatyki i Informatyki
Instytut Informatyki

Programowanie współbieżne i rozproszone
Informatyka, studia stacjonarne II stopnia
Laboratorium

Sprawozdanie

Implementacje algorytmów całkowania

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Metody obliczeniowe

W ramach ćwiczenia zmierzono czasy wykonania obliczeń numerycznych. Znajdowano wartość całki z wykorzystaniem czterech sposobów. Każdej funkcji realizującej metodę obliczania przekazywano jako parametry granice całkowania oraz liczbę podprzedziałów. Obliczenia wykonywano z wykorzystaniem od 1 do 12 wątków, dla różnych liczb podprzedziałów: 1, 2, 4, 8 mln.

Funkcja podcałkowa

Jako funkcję całkowaną wybrano:

$$f(x) = 3 * \sin\big(2 * \pi * (x - 0.25)\big) + 3$$

Odpowiedni dobór parametrów daje możliwość łatwej weryfikacji poprawności działania programu dla całkowitych granic całkowania. Wartość całki tej funkcji zwiększa się o 3 na każdy podprzedział szerokości 1.

Implementacja funkcji

```
# define M_PI           3.14159265358979323846  /* pi */
double f(double x)
{
    return 3 * sin(2*M_PI * (x - 0.25)) + 3;
}
```

Metoda prostokątów z niedomiarem

Ta metoda oblicza wartość funkcji dla lewej granicy podprzedziału i traktuje ją jako wysokość prostokąta. Szerokość podprzedziału jest szerokością prostokąta. Zsumowane pola prostokątów wyliczonych z wszystkich podprzedziałów dają wartość obliczonej całki.

Funkcja realizująca powyższą metodę inicjalizuje zmienną zawierającą sumę pól. Konieczne jest obliczenie szerokości podprzedziału. Zadanie obliczania i sumowania pól prostokątów jest dzielone na wiele wątków. Dzięki wykorzystaniu klauzuli *reduction* po zakończeniu etapu wykonywania równoległego otrzymywany jest poprawny wynik, zwracany przez funkcję.

Implementacja metody

```
double multiCorefIntegralRectangleLeft(double lowerBound, double upperBound, int partitionNumber)
{
    double sum = 0;

    //obliczanie szerokości podprzedziału
    double partitionWidth = (upperBound - lowerBound) / partitionNumber;
    //END obliczanie szerokości podprzedziału

    #pragma omp parallel for default(none) firstprivate(partitionNumber, lowerBound, partitionWidth)
reduction(+:sum)
    for (int i = 0; i < partitionNumber; i++)
    {
        sum += partitionWidth * f(lowerBound + partitionWidth * i);
    }

    return sum;
}
```

Metoda prostokątów z nadmiarem

Jest to metoda bardzo podobna do metody prostokątów z niedomiarem, z tą różnicą, że obliczana jest wartość funkcji dla prawej granicy podprzedziału, a nie dla lewej. Reszta działania pozostaje identyczna. W implementacji jedyną różnicą są zmienione granice iteracji licznika pętli *for*.

Implementacja metody

```
double multiCorefIntegralRectangleRight(double lowerBound, double upperBound, int partitionNumber)
{
    double sum = 0;

    //obliczanie szerokości podprzedziału
    double partitionWidth = (upperBound - lowerBound) / partitionNumber;
    //END obliczanie szerokości podprzedziału

    #pragma omp parallel for default(none) firstprivate(partitionNumber, lowerBound, partitionWidth)
reduction(+:sum)
    for (int i = 1; i <= partitionNumber; i++)
    {
        sum += partitionWidth * f(lowerBound + partitionWidth * i);
    }

    return sum;
}
```

Metoda trapezów

W tej metodzie ważne są wartości funkcji dla obu granic podprzedziału. Są one traktowane jako długości podstaw trapezu prostokątnego, a szerokość podprzedziału jest wysokością tego trapezu. Pola tych trapezów są sumowane, analogicznie do metody prostokątów.

Algorytmicznie zadanie to jest znacznie prostsze. Należy zsumować wartości funkcji dla wszystkich wewnętrznych granic podprzedziałów (czyli niebędących granicami całkowania). Do tej sumy dodawana jest średnia z wartości funkcji dla dolnej i górnej granicy całkowania. Ta liczba jest mnożona przez szerokość podprzedziału i daje wynik końcowy. Wykorzystanie wielu wątków jest możliwe dla zadania sumowania wartości funkcji dla wewnętrznych granic podprzedziałów.

Implementacja metody

```
double multiCorefIntegralTrapezoidal(double lowerBound, double upperBound, int partitionNumber)
{
    double sum = 0;

    //obliczanie szerokości podprzedziału
    double partitionWidth = (upperBound - lowerBound) / partitionNumber;
    //END obliczanie szerokości podprzedziału

    #pragma omp parallel for default(none) firstprivate(partitionNumber, lowerBound, partitionWidth)
reduction(+:sum)
    for (int i = 1; i < partitionNumber; i++)
    {
        sum += f(lowerBound + partitionWidth * i);
    }
    sum = (sum + (f(lowerBound) + f(upperBound)) / 2) * partitionWidth;

    return sum;
}
```

Metoda Simpsona

Dla każdego podprzedziału wyliczany jest dodatkowo punkt środkowy, znajdujący się pomiędzy granicami podprzedziału. Dzięki takiemu podejściu nie jest konieczne sprawdzanie czy liczba podprzedziałów jest parzysta. Z wyliczenia wartości funkcji dla granic oraz środka uzyskuje się trzy punkty. Na ich podstawie możliwe jest wyliczenie wzoru paraboli przechodzącej przez te punkty. Oblicza się pole ograniczone parabolą w danym przedziale. Suma tych pól we wszystkich podprzedziałach daje wartość całki.

Rozwiązanie programowe nie wymaga obliczania wzoru funkcji dla każdego podprzedziału. Dla wszystkich podprzedziałów wyliczane i sumowane są wartości funkcji dla punktów środkowych. Sumowane są także wartości funkcji dla wszystkich wewnętrznych granic podprzedziałów. Te zadanie może być zrównoleglone, co wymaga jednak użycia dwóch klauzul *reduction* dla dwóch zmiennych. Po obliczeniu tych sum zostają one wykorzystane we wzorze końcowym, wykorzystującym poza nimi szerokość podprzedziału oraz wartości funkcji dla dolnej i górnej granicy całkowania.

Implementacja metody

```
double multiCorefIntegralSimpson(double lowerBound, double upperBound, int partitionNumber)
{
    double sum = 0;
    double sumMid = 0;

    //obliczanie szerokości podprzedziału
    double partitionWidth = (upperBound - lowerBound) / partitionNumber;
    //END obliczanie szerokości podprzedziału

    #pragma omp parallel for default(none) firstprivate(partitionNumber, lowerBound, partitionWidth,
upperBound) reduction(+:sum) reduction(+:sumMid)
    for (int i = 1; i <= partitionNumber; i++)
    {
        sumMid += f((lowerBound + partitionWidth * i) - partitionWidth / 2);
        if (i < partitionNumber)
        {
            sum += f(lowerBound + partitionWidth * i);
        }
    }
    double result = partitionWidth / 6 * (f(lowerBound)+f(upperBound)+2*sum+4*sumMid);

    return result;
}
```

Pomiar czasu

W celu pomiaru czasu obliczeń zaprojektowano funkcję testującą *multipleTestExecution*, która oprócz parametrów dla funkcji całkujących przyjmuje także ilość testów do wykonania oraz wskaźnik na odpowiednią funkcję całkującą. Kolejne pomiary zapisywane są w wektorze *executeTimes* a ich suma w zmiennej *totalTime*. Jednostką pomiaru czasu jest nanosekunda. Mierzony jest tylko czas wykonywania funkcji całkującej i zapisania wyniku do zmiennej *result*. Fragment kodu w komentarzu pozwala na wyświetlenie wyniku i czasu obliczeń dla każdego pomiaru. W czasie obliczania wyświetlany jest progres, w postaci *wykonanoTestów/liczbaTestów*. Po zakończeniu testów wyświetlana jest liczba wątków oraz pojedyncze czasy posortowane rosnąco.

```
typedef double (*integralFunctionT)(double, double, int); //wskaźnik na funkcję całkującą

void multipleTestExecution(int testNumber, double lowerBound, double upperBound, int partitionNumber,
integralFunctionT integralFunction )
{
    //badanie czasu obliczania
    vector < long long > executeTimes;
    auto totalTime = 0;
    for (int i = 1; i <= testNumber; i++)
    {
        cout << '\r' << i << '/' << testNumber;
        //pomiar czasu obliczania całki
        chrono::steady_clock::time_point start = chrono::steady_clock::now();
        ////////////////
        integralFunction(lowerBound, upperBound, partitionNumber);
        ////////////////
        chrono::steady_clock::time_point end = chrono::steady_clock::now();
        //END pomiar czasu obliczania całki

        executeTimes.push_back(chrono::duration_cast<chrono::nanoseconds>(end - start).count());
        totalTime += chrono::duration_cast<chrono::nanoseconds>(end - start).count();

        //wyświetlanie wyniku i czasu obliczeń
        //cout << i << "--------------" << endl;
        //printf("Wynik: %f\n", result);
        //cout << "Rdzeni: " << omp_get_max_threads() << " Czas obliczeń: "
        //   << chrono::duration_cast<chrono::nanoseconds>(end - start).count()
        //    << "ns.\n";
        //cout << "Średni czas obliczeń: " << totalTime / i << "ns." << endl << endl;
        //END wyświetlanie wyniku, czasu obliczeń i czasu średniego
    }
    cout << "\r                      \r";
    //wyświetlanie posortowanych czasów obliczania
    //cout << "Średni czas obliczeń: " << totalTime / testNumber << "ns." << endl << endl;
    sort(executeTimes.begin(), executeTimes.end());
    //cout << "Posortowane czasy wykonań [ns]: \n";
    cout << omp_get_max_threads() << ' ';
    for (const auto& i : executeTimes)
        cout << i << ' ';
    cout << endl;
    //END wyświetlanie posortowanych czasów obliczania

    //END badanie czasu obliczania
}
```

Program główny

Na początku programu włączana jest obsługa polskich znaków diakrytycznych oraz wymuszane jest wykorzystanie wielowątkowości. Deklarowane są granice całkowania, liczby podprzedziałów, liczba testów oraz maksymalna liczba wątków. Następnie weryfikowane są granice całki oraz wszystkie funkcje całkujące organizowane są w formie tabeli. Dla każdej funkcji, dla każdej liczby podprzedziałów i dla każdej liczby wątków od 1 do 12 uruchamiana jest funkcja testująca.

```
int main()
{
    setlocale(LC_CTYPE, "Polish");

    //parametry programu
    omp_set_dynamic(0);
    double lowerBound = 10;
    double upperBound = 20;
    int partitionNumber[] = { 1000000, 2000000, 4000000, 8000000 };
    int testNumber = 100;
    int maxThreads = 12;
    //END parametry programu

    //czy górna granica jest na pewno większa od dolnej
    if (lowerBound > upperBound)
    {
        double tmp = lowerBound;
        lowerBound = upperBound;
        upperBound = tmp;
    }
    //END czy górna granica jest na pewno większa od dolnej

    //zebranie funkcji w tabelę
    integralFunctionT functionPointers[4];
    functionPointers[0] = multiCorefIntegralRectangleLeft;
    functionPointers[1] = multiCorefIntegralRectangleRight;
    functionPointers[2] = multiCorefIntegralTrapezoidal;
    functionPointers[3] = multiCorefIntegralSimpson;

    for (int j = 0; j <= 3; j++)
    {
        cout << "Metoda całkowania: ";
        switch (j)
        {
        case 0: cout << "Prostokątów z niedomiarem"; break;
        case 1: cout << "Prostokątów z nadmiarem"; break;
        case 2: cout << "Trapezów"; break;
        case 3: cout << "Wzór Simpsona"; break;
        }
        cout << endl;
        integralFunctionT currentFunction = functionPointers[j];

        for (int i = 0; i <= 3; i++)
        {
            cout << partitionNumber[i] << endl;
            for (int j = 1; j <= maxThreads; j++)
            {
                omp_set_num_threads(j);
                multipleTestExecution(testNumber, lowerBound, upperBound, partitionNumber[i],
currentFunction);
            }
        }
    }

    getchar();
}
```

Pomiary

Program został stworzony i skompilowany w programie Visual Studio 2019. Uruchomiony został na urządzeniu o parametrach określonych w tabeli:

LENOVO	Lenovo B50-80 Procesor Intel(R) Core(TM) i3-5020U CPU @ 2.20GHz, 2200 MHz, Rdzenie: 2, Procesory logiczne: 4 Nazwa systemu operacyjnego Microsoft Windows 10 Education

Wszystkie otrzymane wartości zestawiono w tabelach na końcu sprawozdania.

Wśród otrzymanych wyników zdarza się, że najdłuższe czasy wykonania odstają od średniej wartości. W większości nie przekraczają one jednak dwukrotności średniej , a ich wpływ na wartość średniej nie jest znaczący. Ogólnie obserwowany trend wskazuje, że najbardziej odstające wyniki zdarzają się dla najmniejszej liczby podprzedziałów całkowania.

Analiza wyników

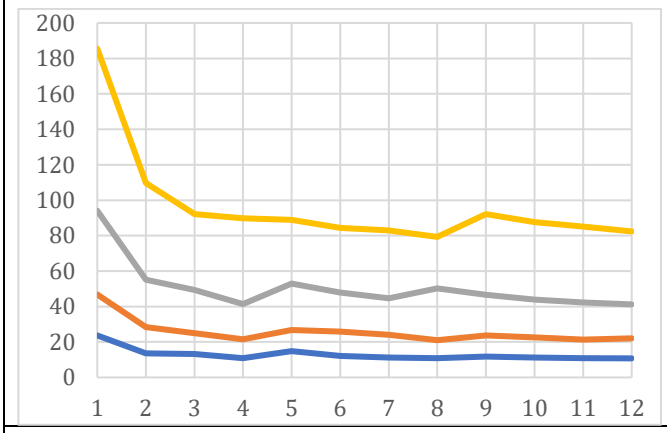
Średni czas wykonania
Oś pozioma: liczba wątków 1-12
Oś pionowa: średni czas w ms

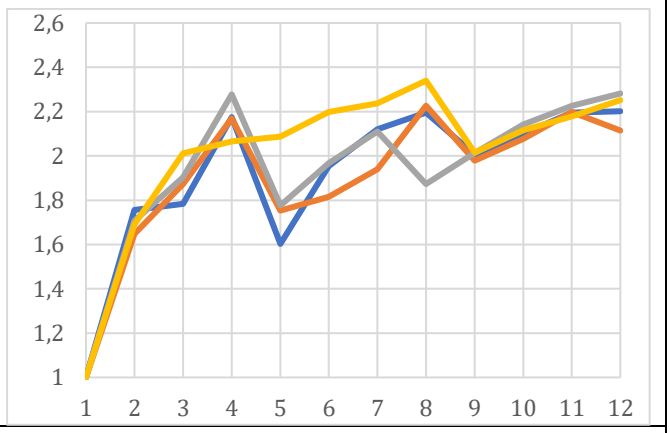
Liczba podprzedziałów w mln
8
4
2
1

Przyspieszenie
Oś pozioma: liczba wątków 1-12
Oś pionowa: przyspieszenie

Metoda prostokątów z niedomiarem

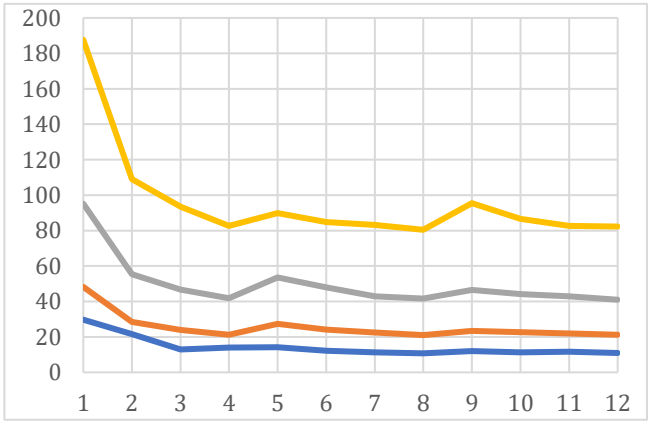
Wątków	1	2	3	4	5	6	7	8	9	10	11	12
Średni czas	185,49	109,69	92,21	89,79	88,91	84,38	82,90	79,29	92,10	87,65	85,18	82,38
Przyspieszenie	1,00	1,69	2,01	2,07	2,09	2,20	2,24	2,34	2,01	2,12	2,18	2,25
Średni czas	94,05	55,10	49,40	41,30	52,94	47,82	44,56	50,23	46,71	43,91	42,26	41,22
Przyspieszenie	1,00	1,71	1,90	2,28	1,78	1,97	2,11	1,87	2,01	2,14	2,23	2,28
Średni czas	46,79	28,39	24,99	21,58	26,69	25,77	24,12	21,02	23,65	22,53	21,29	22,13
Przyspieszenie	1,00	1,65	1,87	2,17	1,75	1,82	1,94	2,23	1,98	2,08	2,20	2,11
Średni czas	23,68	13,49	13,28	10,89	14,77	12,12	11,17	10,79	11,81	11,28	10,79	10,76
Przyspieszenie	1,00	1,76	1,78	2,17	1,60	1,95	2,12	2,20	2,01	2,10	2,20	2,20

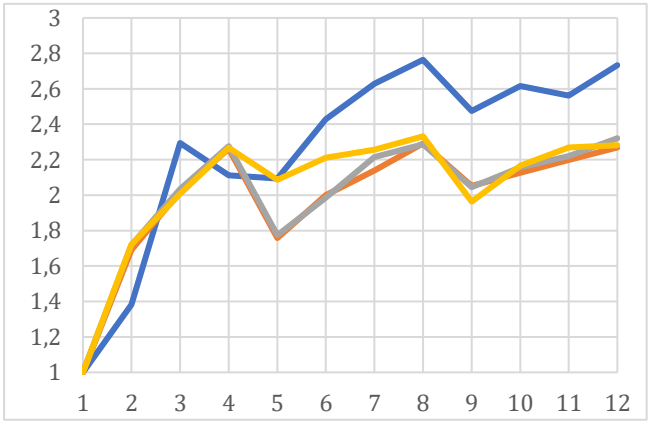




Metoda prostokątów z nadmiarem

Wątków	1	2	3	4	5	6	7	8	9	10	11	12
Średni czas	187,60	108,99	93,44	82,74	89,94	84,87	83,14	80,45	95,50	86,63	82,71	82,20
Przyspieszenie	1,00	1,72	2,01	2,27	2,09	2,21	2,26	2,33	1,96	2,17	2,27	2,28
Średni czas	95,17	55,38	46,76	41,80	53,62	47,93	42,98	41,61	46,52	44,13	42,85	41,00
Przyspieszenie	1,00	1,72	2,04	2,28	1,77	1,99	2,21	2,29	2,05	2,16	2,22	2,32
Średni czas	48,24	28,52	23,89	21,32	27,45	24,13	22,55	21,05	23,50	22,69	21,95	21,26
Przyspieszenie	1,00	1,69	2,02	2,26	1,76	2,00	2,14	2,29	2,05	2,13	2,20	2,27
Średni czas	29,72	21,52	12,95	14,08	14,19	12,24	11,31	10,75	12,01	11,36	11,60	10,87
Przyspieszenie	1,00	1,38	2,29	2,11	2,09	2,43	2,63	2,76	2,48	2,62	2,56	2,73





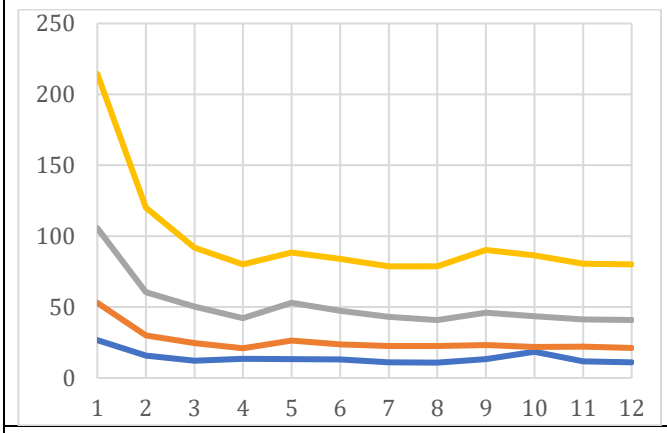
Średni czas wykonania
Oś pozioma: liczba wątków 1-12
Oś pionowa: średni czas w ms

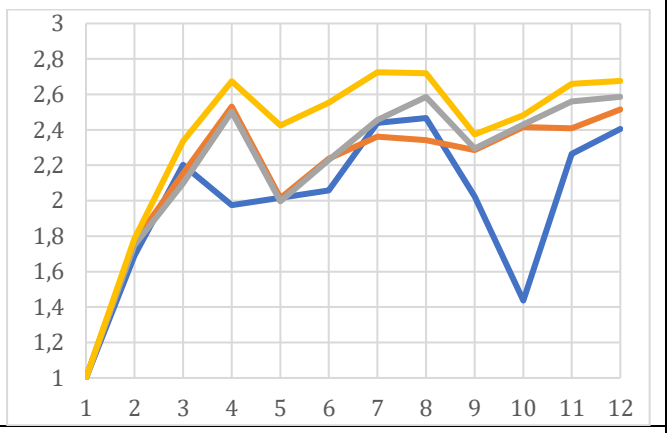
Liczba podprzedziałów w mln
8
4
2
1

Przyspieszenie
Oś pozioma: liczba wątków 1-12
Oś pionowa: przyspieszenie

Metoda trapezów

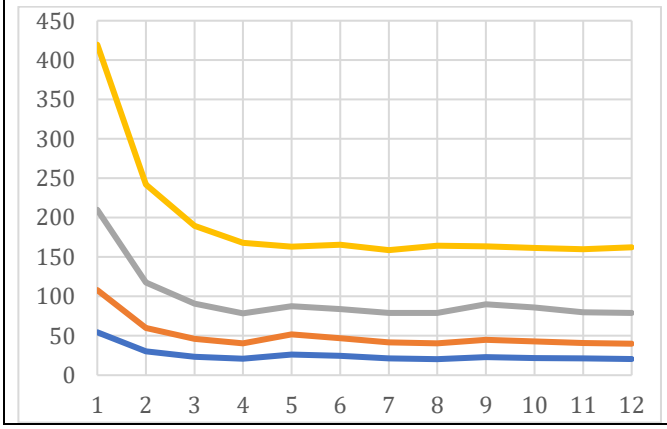
Wątków	1	2	3	4	5	6	7	8	9	10	11	12
Średni czas	214,42	120,06	91,78	80,21	88,46	83,98	78,70	78,83	90,31	86,40	80,65	80,16
Przyspieszenie	1,00	1,79	2,34	2,67	2,42	2,55	2,72	2,72	2,37	2,48	2,66	2,68
Średni czas	105,71	60,44	50,40	42,25	52,96	47,41	43,04	40,89	46,05	43,51	41,28	40,88
Przyspieszenie	1,00	1,75	2,10	2,50	2,00	2,23	2,46	2,59	2,30	2,43	2,56	2,59
Średni czas	52,99	29,98	24,60	20,94	26,30	23,70	22,43	22,63	23,18	21,94	22,00	21,08
Przyspieszenie	1,00	1,77	2,15	2,53	2,01	2,24	2,36	2,34	2,29	2,42	2,41	2,51
Średni czas	26,69	15,79	12,12	13,51	13,24	12,97	10,95	10,82	13,19	18,57	11,78	11,09
Przyspieszenie	1,00	1,69	2,20	1,98	2,02	2,06	2,44	2,47	2,02	1,44	2,26	2,41

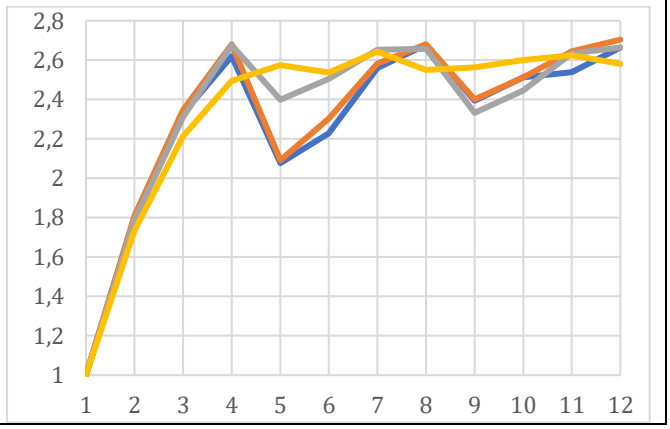




Metoda Simpsona

Wątków	1	2	3	4	5	6	7	8	9	10	11	12
Średni czas	419,56	241,98	189,61	168,21	163,02	165,40	158,74	164,51	163,68	161,37	159,88	162,52
Przyspieszenie	1,00	1,73	2,21	2,49	2,57	2,54	2,64	2,55	2,56	2,60	2,62	2,58
Średni czas	209,96	117,61	90,87	78,48	87,51	83,84	79,17	79,01	90,01	85,82	79,71	78,84
Przyspieszenie	1,00	1,79	2,31	2,68	2,40	2,50	2,65	2,66	2,33	2,45	2,63	2,66
Średni czas	108,06	59,74	46,04	40,33	51,67	46,91	41,83	40,33	45,01	43,00	40,87	39,97
Przyspieszenie	1,00	1,81	2,35	2,68	2,09	2,30	2,58	2,68	2,40	2,51	2,64	2,70
Średni czas	54,48	30,37	23,40	20,79	26,24	24,44	21,28	20,34	22,76	21,68	21,46	20,45
Przyspieszenie	1,00	1,79	2,33	2,62	2,08	2,23	2,56	2,68	2,39	2,51	2,54	2,66





Na wykresach można zaobserwować, że algorytm realizowany z wykorzystaniem wielu wątków może być wykonywany szybciej niż używając pojedynczego procesu. Największe różnice czasu obserwowalne są dla najbardziej złożonych obliczeń. Rozpatrując jednak przyspieszenie jako poprawę w stosunku do czasu wykonywania procesu jednowątkowego, to jest ono bardzo zbliżone dla wszystkich algorytmów. W wielu miejscach wykresy reprezentujące przyspieszenie pokrywają się nawet dla różnych wielkości rozpatrywanego problemu. Najbardziej znaczący wzrost przyspieszenia zachodzi dla liczby wątków od 1 do 4.

Wyraźny regres przyspieszenia obserwowany jest przy przejściu z 4 na 5 wątków oraz z 8 na 9 wątków. Może być to powiązane z wykorzystaniem do obliczeń procesora **czterowątkowego**, który najefektywniej może obsłużyć liczby wątków, będące wielokrotnością liczby 4. Nadmiarowe wątki są zmuszone bezczynnie oczekiwać na wolny procesor logiczny. Większa liczba danych oraz wątków powoduje jednak, że regres ten jest mniejszy. Maksymalne wartości są zbliżone dla każdej wielokrotności liczby 4. Dalsze zwiększanie liczby wątków raczej nie wpłynie już na uzyskanie znaczącej poprawy.

Ogólnie im bardziej złożone obliczenia i większa liczba danych tym mniej zróżnicowane dane. Wykresy reprezentujące takie wyniki cechują się mniejszymi wahaniami i lepiej oddają oczekiwaną charakterystykę.

W żadnym przypadku nie zaobserwowano przyspieszenia superliniowego. Wynikać to może z niewykorzystania pamięci cache. Faktycznie, program nie odwołuje się do żadnych zapisanych danych, cały czas tylko obliczając nowe liczby na podstawie wartości iteratorów.

Największe anomalie można zauważyć dla wykresów przedstawiających wyniki dla miliona podprzedziałów. W metodzie prostokątów z nadmiarem między 1 a 2 wątkami zachodzi stosunkowo mniejsza poprawa, z 2 na 3 wątki wynik gwałtownie się poprawia by natychmiastowo spaść do poziomu poniżej wszystkich pozostałych wyników. Dla 8 wątków osiąga jednak rekordowe przyspieszenie 2,76. Jest to wynik o niemal 20% lepszy od pozostałych wartości. Dla metody trapezów znacząca zapaść wartości zachodzi dla 10 wątków. Wartość 1,44 jest o ponad 40% gorsza od reszty. Mogło być to spowodowane pojawieniem się w systemie zadania, które w tym czasie również obciążało procesor. Niemniej pokazuje to wrażliwość mniej skomplikowanych obliczeń na zakłócenia pracy.

Otrzymane wyniki mogłyby być bardziej reprezentatywne, gdyby program został uruchomiony w lepiej przygotowanym środowisku. Odciążenie systemu poprzez wyłączenie wszystkich niepotrzebnych programów i funkcji pozostawiłoby procesor niemal w całości do dyspozycji badanego zadania. Tak otrzymane wartości mogłyby być bardziej zbliżone do teoretycznych modeli.

Uporządkowane rosnąco czasy obliczania [ms] całki metodą prostokątów z niedomiarem dla liczby podprzedziałów = 1 mln

Lp.	Wątków											
	1	2	3	4	5	6	7	8	9	10	11	12
1	22,1755	11,1318	10,6797	8,9052	12,5588	10,6503	9,6678	8,9233	10,732	9,7403	9,2797	8,9176
2	22,2641	11,1593	10,9414	8,9315	12,5749	10,6538	9,8196	8,9888	10,7381	9,7733	9,3761	8,9979
3	22,2744	11,1954	11,0551	8,9388	12,583	10,9202	9,8219	9,173	10,7426	9,7771	9,4008	9,0702
4	22,4164	11,2255	11,0722	8,9623	12,7799	11,006	9,8847	9,1947	10,7436	9,8178	9,4388	9,0855
5	22,4278	11,2434	11,1157	9,0222	12,8707	11,0092	9,8892	9,2124	10,7438	9,9014	9,4417	9,0995
6	22,4464	11,2535	11,195	9,0644	12,8834	11,1005	9,8909	9,2221	10,7453	9,9299	9,4427	9,1753
7	22,4643	11,2559	11,4296	9,0879	12,9353	11,1919	9,8939	9,2309	10,7464	9,988	9,4429	9,1867
8	22,4747	11,282	11,5275	9,0994	12,9574	11,2658	9,895	9,2525	10,7508	9,9898	9,4451	9,2048
9	22,4904	11,2902	11,5329	9,1051	12,9734	11,2675	9,8956	9,266	10,7526	10,0103	9,4467	9,2077
10	22,4907	11,3468	11,5345	9,1241	12,9953	11,2739	9,8976	9,2675	10,7626	10,0283	9,4471	9,2485
11	22,5023	11,3651	11,5348	9,1901	13,0357	11,2821	9,8997	9,3013	10,7818	10,0462	9,4537	9,2734
12	22,5055	11,4668	11,5492	9,1967	13,0459	11,3096	9,9015	9,3068	10,8011	10,0607	9,4551	9,2959
13	22,5275	11,5011	11,5506	9,2042	13,0793	11,3158	9,9039	9,3163	10,8331	10,1398	9,4579	9,3093
14	22,535	11,6115	11,5559	9,2213	13,0972	11,3485	9,9054	9,4016	10,8539	10,1592	9,4586	9,3528
15	22,5563	11,6393	11,5684	9,2303	13,1367	11,3629	9,9064	9,4043	10,8621	10,1942	9,4601	9,3678
16	22,575	11,6455	11,5692	9,2399	13,1874	11,4272	9,915	9,4058	10,8694	10,2352	9,471	9,3843
17	22,5822	11,648	11,5752	9,2779	13,1903	11,456	9,9157	9,4238	10,8759	10,2805	9,5079	9,4133
18	22,586	11,7278	11,5782	9,2878	13,2246	11,4777	9,9289	9,4449	10,8793	10,2805	9,51	9,4283
19	22,6162	11,767	11,5925	9,4202	13,2291	11,509	9,9632	9,4583	10,8859	10,2928	9,5397	9,4543
20	22,636	11,799	11,6388	9,4393	13,3148	11,5157	9,9685	9,4648	10,8982	10,3046	9,558	9,4694
21	22,6418	11,8253	11,6391	9,4446	13,3152	11,5331	9,9814	9,4881	10,9678	10,3451	9,5762	9,5068
22	22,6479	11,8304	11,6464	9,463	13,3218	11,5342	9,9866	9,4887	10,9829	10,3567	9,6005	9,541
23	22,659	11,8318	11,6681	9,5151	13,3247	11,5343	9,9875	9,4932	11,0017	10,391	9,6401	9,5927
24	22,687	11,834	11,6742	9,5359	13,3723	11,539	10,0215	9,5029	11,0211	10,3969	9,6723	9,6248
25	22,7129	11,84	11,6952	9,5565	13,3781	11,5391	10,0564	9,5557	11,0212	10,3981	9,7096	9,6264
26	22,7332	11,9127	11,7377	9,6089	13,3798	11,5404	10,1256	9,5591	11,053	10,4003	9,7152	9,6525
27	22,7366	11,9746	11,7982	9,6908	13,5584	11,5492	10,1824	9,567	11,0688	10,4086	9,7468	9,6969
28	22,7418	11,9753	11,828	9,6924	13,5742	11,5547	10,2093	9,64	11,0704	10,4201	9,7537	9,7271
29	22,7447	11,9804	11,8548	9,7452	13,58	11,5582	10,2184	9,6447	11,0932	10,4238	9,7585	9,7366
30	22,7648	11,9966	11,8736	9,7624	13,5999	11,5738	10,2306	9,6618	11,0966	10,4263	9,7648	9,7669
31	22,8015	11,9988	11,8967	9,817	13,619	11,6051	10,2867	9,6785	11,1211	10,4474	9,7839	9,7693
32	22,8246	12,0034	11,9046	9,8281	13,6326	11,61	10,3114	9,7732	11,1345	10,4613	9,8361	9,7737
33	22,826	12,0066	11,9095	9,8366	13,639	11,6294	10,3131	9,7786	11,1531	10,5087	9,871	9,7763
34	22,8638	12,0579	11,9196	9,884	13,6426	11,653	10,3162	9,8238	11,1606	10,5506	9,8785	9,7833
35	22,8716	12,111	11,963	10,0134	13,6426	11,6584	10,3505	9,8655	11,1675	10,5962	9,8846	9,7924
36	22,9395	12,1178	11,967	10,031	13,6571	11,6988	10,3724	9,8688	11,1938	10,6077	9,9175	9,8345
37	22,953	12,204	11,9678	10,0439	13,6815	11,7161	10,3812	9,9026	11,2089	10,6107	9,9322	9,8532
38	22,9583	12,3057	11,9749	10,0731	13,7061	11,7606	10,449	10,0518	11,2154	10,6454	9,9387	9,8694
39	22,9676	12,3547	11,989	10,0783	13,7248	11,7696	10,4636	10,1198	11,2183	10,6914	9,9756	9,9665
40	22,9994	12,3629	12,0082	10,0967	13,7482	11,7761	10,4659	10,162	11,2297	10,7004	10,0915	9,9831
41	23,0024	12,3858	12,0454	10,1176	13,8887	11,8215	10,4729	10,191	11,2305	10,7102	10,1128	10,016
42	23,0054	12,4048	12,0585	10,1202	13,8909	11,8219	10,4796	10,2113	11,2858	10,728	10,14	10,0196
43	23,024	12,5041	12,1363	10,1796	13,9489	11,8413	10,4797	10,2162	11,3555	10,7526	10,1688	10,0248
44	23,0459	12,5272	12,1591	10,192	14,0116	11,8708	10,523	10,2965	11,3558	10,7536	10,1766	10,0267
45	23,121	12,5667	12,2007	10,2223	14,0856	11,8744	10,5475	10,3085	11,3713	10,7752	10,1999	10,0408
46	23,1254	12,662	12,2975	10,2236	14,089	11,8785	10,5534	10,3113	11,38	10,7948	10,2427	10,0506
47	23,1692	12,6935	12,3116	10,2901	14,1017	11,8795	10,5713	10,3167	11,416	10,8001	10,2498	10,069
48	23,1918	12,7531	12,322	10,3098	14,145	11,8871	10,6539	10,3877	11,4948	10,8225	10,25	10,1492
49	23,3148	12,7675	12,3501	10,3153	14,1796	11,9254	10,6842	10,4205	11,4996	10,8266	10,2711	10,1652
50	23,3168	12,7758	12,4594	10,317	14,2273	11,9272	10,734	10,4419	11,5451	10,8753	10,2733	10,1684
51	23,3514	12,8353	12,4958	10,3206	14,2806	11,937	10,7365	10,4569	11,5477	10,9164	10,2851	10,2168
52	23,3731	12,84	12,5292	10,3614	14,2858	11,9513	10,7444	10,4673	11,5479	10,9352	10,3225	10,2232
53	23,4069	12,8406	12,5843	10,3939	14,3386	11,9634	10,7494	10,4861	11,5482	10,9452	10,3505	10,2474
54	23,4091	12,8412	12,6047	10,4001	14,4216	11,9842	10,7966	10,5184	11,5677	10,9515	10,3524	10,2526
55	23,4373	12,8445	12,6497	10,4086	14,5696	11,9843	10,8442	10,6001	11,5839	10,9622	10,3621	10,2641
56	23,4382	12,8587	12,6676	10,4489	14,5857	11,9938	10,8754	10,6071	11,6196	10,9748	10,3841	10,2653
57	23,4544	12,8797	12,7031	10,4756	14,6849	11,9991	10,8791	10,6824	11,6247	11,0515	10,399	10,2887
58	23,4662	12,908	12,8066	10,4836	14,6904	12,0111	10,9087	10,7354	11,6289	11,0517	10,4035	10,3266
59	23,482	12,912	12,8459	10,5194	14,7325	12,0237	10,9509	10,756	11,6359	11,0874	10,4246	10,3652
60	23,5177	13,1154	12,8687	10,5371	14,7403	12,0256	10,9597	10,8222	11,6731	11,0946	10,4311	10,3951
61	23,5283	13,1607	12,973	10,5552	15,1004	12,0319	11,0162	10,8283	11,6853	11,1237	10,482	10,5387
62	23,5325	13,2055	12,9812	10,5584	15,2335	12,0326	11,0571	10,8899	11,6921	11,1312	10,4859	10,5452
63	23,5335	13,2774	13,0006	10,5861	15,4532	12,0789	11,0715	10,8986	11,7001	11,1586	10,5053	10,568
64	23,5465	13,5273	13,0287	10,7068	15,5706	12,0942	11,1428	10,9119	11,739	11,1767	10,5314	10,5701
65	23,554	13,6325	13,0453	10,7204	15,6643	12,141	11,1552	10,9472	11,7466	11,1963	10,8134	10,5826
66	23,5637	13,6341	13,0455	10,8081	15,7377	12,2015	11,1571	10,9772	11,7987	11,2551	10,8146	10,6461
67	23,585	13,9106	13,0859	10,8837	15,8614	12,2142	11,1593	11,0182	11,821	11,2639	10,8907	10,7674
68	23,5948	13,9742	13,1173	10,8973	15,8667	12,2202	11,2192	11,1098	11,8485	11,2642	10,9626	10,8591
69	23,6087	14,1791	13,1488	10,9909	15,8863	12,2214	11,2329	11,1123	11,8561	11,2657	10,9689	10,883
70	23,6217	14,2056	13,1726	11,1367	15,8899	12,2367	11,2341	11,1295	11,8735	11,353	10,9907	10,9124
71	23,6307	14,4476	13,2122	11,2375	15,9816	12,2675	11,347	11,2074	11,8749	11,4177	11,0422	10,9531
72	23,6325	14,5182	13,2393	11,3747	16,0363	12,2804	11,3719	11,2439	11,916	11,5034	11,0772	11,1582
73	23,6556	14,7774	13,375	11,3761	16,0391	12,363	11,3848	11,2964	11,9446	11,5343	11,0844	11,2229
74	23,6797	14,898	13,4153	11,3878	16,0552	12,3694	11,4281	11,2993	11,948	11,5981	11,2369	11,2984
75	23,7506	14,9371	13,4704	11,5051	16,0984	12,3999	11,4318	11,3212	11,9555	11,6484	11,2899	11,3067
76	23,7645	15,0249	13,5636	11,5399	16,1269	12,4149	11,4913	11,3338	11,9711	11,6529	11,3024	11,3626
77	23,8069	15,0635	13,5695	11,5552	16,1688	12,4484	11,5128	11,4549	11,9845	11,667	11,3302	11,3817
78	23,816	15,0973	13,5729	11,5724	16,2135	12,4695	11,6453	11,5158	12,1497	11,7216	11,3498	11,387
79	23,8803	15,3287	13,792	11,5927	16,2214	12,5103	11,7287	11,5423	12,1842	11,7281	11,3622	11,3948
80	23,8838	15,5248	13,9254	11,6151	16,2359	12,5138	11,735	11,5513	12,2519	11,7701	11,3654	11,4584
81	23,8993	15,6668	14,0356	11,6263	16,2697	12,5433	11,8233	11,5616	12,2574	11,8243	11,4724	11,5147
82	23,9087	15,9476	14,2504	11,6367	16,3094	12,5665	11,8576	11,6032	12,2812	11,8488	11,4787	11,5476
83	24,0218	16,0078	14,2725	11,6497	16,447	12,5759	11,8869	11,6201	12,2846	11,9266	11,5653	11,5628
84	24,0863	16,1518	14,3404	11,7391	16,5285	12,5783	11,9064	11,8154	12,2848	11,9356	11,6004	11,5846
85	24,2392	16,2547	14,8135	11,9323	16,5881	12,6541	11,9124	11,8384	12,3059	11,9378	11,601	11,6087
86	24,2444	16,3689	14,8262	11,9772	16,6045	12,666	11,9578	12,0348	12,3448	12,0404	11,6111	11,7271
87	24,3137	16,492	14,9425	11,9789	16,6346	12,7123	11,9676	12,2223	12,3762	12,0507	11,7175	11,8484
88	24,5476	16,6318	15,3603	12,0181	16,7109	12,8527	12,1186	12,342	12,5027	12,1074	11,8077	11,9516
89	24,5795	16,711	15,661	12,8204	16,7433	12,8579	12,4879	12,3786	12,5052	12,2502	11,8224	11,9617
90	24,6396	16,7661	15,8291	13,9471	16,86	12,8764	12,901	12,5356	12,5107	12,3252	11,9425	12,2965
91	24,7841	16,7916	15,9943	14,1998	17,0404	12,9458	13,312	12,564	12,5219	12,4276	12,0207	12,3076
92	25,1361	17,0657	16,3761	15,3256	17,1749	13,0126	13,4412	12,6233	12,5734	13,1777	12,0775	12,4799
93	25,3524	17,1392	16,9825	15,4686	17,2258	13,0275	13,6698	12,7222	12,6419	13,2184	12,1585	12,5424
94	25,8499	17,1721	17,786	15,8113	17,2441	13,1742	13,8429	12,9436	12,6872	13,3555	12,2476	12,6092
95	26,2143	17,2995	19,5485	16,0523	17,4006	13,2332	14,1834	13,103	13,011	13,4642	12,4345	12,9695
96	26,5233	17,6221	20,2069	16,2078	17,4835	13,371	14,4016	13,372	13,4141	13,5183	13,2246	13,1375
97	26,5951	17,6665	21,9067	16,2517	17,4868	13,3993	14,8019	13,9654	13,7369	13,6117	14,069	13,2608
98	28,4847	17,8389	22,7725	16,5369	17,8143	13,4995	14,881	14,1204	14,5929	13,9744	14,2153	14,0506
99	30,8046	18,0024	22,846	17,0118	18,3431	15,3705	15,576	15,8064	18,4464	15,2203	15,2538	14,9946
100	41,7551	19,2993	25,3719	17,1059	20,0557	23,2674	25,3472	24,6835	27,7331	28,8526	33,6756	36,7136

Uporządkowane rosnąco czasy obliczania [ms] całki metodą prostokątów z niedomiarem dla liczby podprzedziałów = 2 mln

Lp.	Wątków											
	1	2	3	4	5	6	7	8	9	10	11	12
1	44,4579	22,7922	21,1207	18,6246	25,4111	21,8935	20,6073	18,4372	21,9519	20,3956	19,1908	19,2995
2	44,6912	22,9411	21,3544	18,7142	25,4333	22,1174	20,6455	18,6553	21,9787	20,5265	19,3698	19,3969
3	44,8461	22,9506	21,4282	18,8198	25,4943	22,3067	20,7514	18,7722	21,9886	20,5801	19,4521	19,6868
4	44,8844	23,1761	21,5841	18,9207	25,5427	22,3654	20,7644	18,7834	22,0917	20,6014	19,5135	19,7686
5	44,91	23,2403	21,6076	18,9911	25,5614	22,6838	20,8073	18,8179	22,1054	20,6237	19,5221	19,7732
6	44,9488	23,357	21,7623	19,0003	25,5762	22,6949	20,86	18,8265	22,1199	20,6427	19,5786	19,8339
7	44,9991	23,4051	21,8159	19,0073	25,5909	22,7247	20,8649	18,8832	22,1764	20,685	19,5877	20,015
8	45,0247	23,5366	21,9466	19,042	25,6484	22,931	20,9422	18,9056	22,2244	20,6874	19,6455	20,0431
9	45,1547	23,5789	21,9674	19,0558	25,6607	23,0773	21,0312	18,915	22,2464	20,7694	19,6598	20,0545
10	45,1789	23,7876	22,1988	19,0842	25,6746	23,1106	21,071	18,9217	22,2516	21,0262	19,6646	20,0773
11	45,2199	23,8136	22,2134	19,0882	25,6816	23,1237	21,2993	18,9506	22,258	21,1332	19,6658	20,0926
12	45,2556	23,8347	22,285	19,0949	25,7383	23,145	21,3087	19,0035	22,3223	21,138	19,6881	20,1027
13	45,3078	23,8375	22,4368	19,1177	25,7447	23,1851	21,6655	19,0527	22,3275	21,1458	19,6939	20,1536
14	45,3245	23,852	22,5768	19,1376	25,7571	23,217	21,7009	19,1127	22,349	21,1584	19,7123	20,1795
15	45,3448	23,8601	22,596	19,2091	25,7771	23,3667	21,7349	19,1227	22,3742	21,1779	19,7296	20,1956
16	45,3924	23,8784	22,6259	19,2627	25,7824	23,4474	21,7707	19,1294	22,408	21,1858	19,7491	20,2045
17	45,4129	24,1933	22,635	19,2637	25,7969	23,448	21,8649	19,1442	22,4179	21,2095	19,7511	20,21
18	45,4375	24,1934	22,643	19,268	25,7988	23,4674	21,9955	19,164	22,4213	21,2237	19,7836	20,2329
19	45,4456	24,2486	22,7368	19,3492	25,8075	23,4838	22,0292	19,2291	22,4657	21,2596	19,836	20,278
20	45,4714	24,2767	22,8884	19,407	25,819	23,5291	22,1205	19,2543	22,4689	21,2653	19,8749	20,3173
21	45,4778	24,3174	22,9218	19,4321	25,8211	23,531	22,1684	19,3025	22,4766	21,2803	19,9021	20,3248
22	45,5211	24,3366	22,9765	19,4477	25,8453	23,5336	22,1953	19,3158	22,486	21,3157	19,9524	20,348
23	45,5731	24,3906	23,0115	19,4756	25,8457	23,6285	22,3046	19,3276	22,5099	21,33	19,9565	20,3625
24	45,5865	24,3933	23,015	19,5628	25,8573	23,642	22,4076	19,4214	22,5439	21,3311	19,9772	20,3996
25	45,5991	24,4206	23,0989	19,6093	25,87	23,6431	22,4218	19,4288	22,5478	21,3667	19,9819	20,4299
26	45,6048	24,5228	23,147	19,6107	25,9238	23,6511	22,4472	19,4302	22,5491	21,3929	19,994	20,4669
27	45,6417	24,7589	23,2078	19,623	25,9405	23,6774	22,5239	19,463	22,5924	21,4793	20,0098	20,495
28	45,6479	24,9901	23,4931	19,6481	25,9423	23,6984	22,7176	19,4843	22,6087	21,518	20,0101	20,5199
29	45,6574	25,0665	23,5259	19,6653	25,9439	23,7162	22,7259	19,5865	22,6456	21,534	20,0111	20,5242
30	45,6609	25,0758	23,5359	19,6881	25,956	23,759	22,7637	19,6285	22,6739	21,536	20,0138	20,561
31	45,6624	25,1742	23,5848	19,7152	25,9983	23,7714	22,7659	19,6879	22,6935	21,541	20,0477	20,5779
32	45,6677	25,1917	23,5885	19,7217	26,0155	23,7918	22,8107	19,7644	22,7033	21,5463	20,0957	20,6046
33	45,6713	25,399	23,6138	19,7658	26,016	23,8049	22,8133	19,7756	22,7471	21,5867	20,0959	20,6614
34	45,6899	25,6117	23,6452	19,7704	26,0701	23,8076	22,8372	19,7885	22,7663	21,5918	20,1694	20,6912
35	45,7017	25,6474	23,6536	19,778	26,0905	23,8849	22,9658	19,8119	22,7795	21,6028	20,1955	20,6963
36	45,7714	25,6758	23,7525	19,8208	26,1721	23,9004	23,0694	19,8267	22,8113	21,6123	20,2089	20,7165
37	45,8009	25,689	23,7561	19,8285	26,1955	23,9065	23,1054	19,8414	22,8138	21,6196	20,2275	20,7628
38	45,8098	25,8158	23,8143	19,8712	26,2086	23,9845	23,1412	19,8471	22,8323	21,6359	20,2402	20,8764
39	45,8474	25,9566	23,8569	19,9259	26,2389	24,0122	23,3019	19,8572	22,8531	21,658	20,3219	20,8789
40	45,8885	26,1602	23,9107	19,9635	26,2905	24,1068	23,4175	19,8574	22,8888	21,7244	20,3385	20,9308
41	45,8905	26,4264	23,9282	19,9719	26,2959	24,1372	23,8147	19,9654	22,9228	21,7862	20,3449	21,0182
42	45,9134	26,9442	23,9412	20,089	26,3682	24,1394	23,8263	19,9837	22,9346	21,7925	20,4258	21,0192
43	45,9708	27,0912	24,0187	20,106	26,428	24,1532	23,8344	20,0243	22,9727	21,8058	20,4354	21,0983
44	45,9897	27,163	24,0655	20,109	26,456	24,1897	23,8427	20,036	23,0162	21,8413	20,4495	21,1641
45	45,9961	27,2174	24,0835	20,1093	26,4613	24,2187	23,9085	20,0771	23,0167	21,8424	20,4656	21,2096
46	46,014	27,5512	24,0848	20,1239	26,4951	24,2245	23,9673	20,1135	23,0304	21,8711	20,5446	21,2178
47	46,0575	27,636	24,1001	20,1622	26,517	24,2336	23,9753	20,1546	23,04	21,8931	20,5455	21,2326
48	46,0664	27,7315	24,1058	20,1665	26,5361	24,2367	23,9881	20,1868	23,0464	21,8972	20,5599	21,2709
49	46,0693	28,0838	24,1111	20,1783	26,5534	24,2657	23,9976	20,1953	23,0479	21,9604	20,5678	21,3289
50	46,0879	28,3828	24,1495	20,2099	26,6265	24,3925	24,0005	20,2091	23,1045	21,9785	20,5984	21,3831
51	46,0909	28,43	24,1706	20,2119	26,6309	24,4706	24,0933	20,2186	23,1291	22,0028	20,6659	21,4346
52	46,135	28,5476	24,21	20,2929	26,6319	24,501	24,1191	20,2478	23,1563	22,0306	20,6833	21,4933
53	46,147	28,5518	24,2168	20,293	26,6567	24,5055	24,241	20,2984	23,1585	22,0377	20,7014	21,5017
54	46,1601	28,5896	24,2411	20,3231	26,6658	24,5333	24,2434	20,3251	23,1663	22,0483	20,7058	21,5301
55	46,1875	28,9162	24,2764	20,3242	26,6679	24,6719	24,3407	20,3685	23,1807	22,0518	20,7684	21,5917
56	46,2167	29,1345	24,2934	20,3439	26,6938	24,7341	24,4381	20,3994	23,1826	22,0867	20,7685	21,6087
57	46,2541	29,2801	24,3176	20,3514	26,7223	24,7691	24,4592	20,4665	23,1827	22,1062	20,8522	21,6485
58	46,345	29,2844	24,4087	20,4019	26,7371	24,7717	24,4952	20,5131	23,2121	22,1106	20,8942	21,7141
59	46,4161	29,4824	24,7362	20,411	26,7926	24,7881	24,5262	20,5786	23,2544	22,1187	20,9153	21,9159
60	46,4787	29,486	24,8219	20,4253	26,8136	24,8055	24,6866	20,6701	23,2707	22,1276	20,9554	21,9524
61	46,5049	29,5011	24,8515	20,4354	26,8363	24,8867	24,6949	20,7139	23,2713	22,1362	20,9634	21,9993
62	46,5176	29,8722	24,9195	20,4565	26,839	24,8894	24,7194	20,7164	23,2753	22,1464	20,9759	22,0277
63	46,5359	29,8962	24,9524	20,574	26,8408	25,0118	24,8003	20,7239	23,2761	22,1536	20,9942	22,1681
64	46,5832	30,0314	25,0522	20,6482	26,8527	25,0424	24,8761	20,7885	23,2773	22,224	21,0298	22,1957
65	46,6085	30,382	25,0533	20,6848	26,8593	25,0535	24,8778	20,8101	23,2833	22,2438	21,0557	22,2298
66	46,6253	30,4225	25,0697	20,7058	26,8721	25,0777	24,8939	20,8679	23,3176	22,2625	21,0949	22,2378
67	46,6707	30,5138	25,2198	20,7778	26,8741	25,2455	24,9033	20,8765	23,3683	22,2818	21,1367	22,2522
68	46,6731	30,5499	25,3011	20,7779	26,8959	25,2716	24,9518	20,8915	23,388	22,2849	21,1588	22,2874
69	46,6811	30,715	25,3925	20,7876	26,9036	25,3758	24,9726	20,9324	23,3918	22,3065	21,1756	22,3584
70	46,7632	30,7981	25,5832	20,7904	26,9062	25,4227	24,9897	20,9708	23,4705	22,3657	21,1788	22,3922
71	46,8269	30,9317	25,5955	20,8036	26,9203	25,7399	25,0098	20,9795	23,4847	22,3748	21,1946	22,418
72	46,9184	31,1287	25,7441	20,8144	26,9555	25,7599	25,038	20,9808	23,5246	22,4247	21,2514	22,4309
73	47,028	31,1463	25,78	20,8308	26,9688	25,8837	25,0464	21,0458	23,533	22,4391	21,272	22,437
74	47,038	31,4092	25,8641	20,9072	26,974	26,2302	25,1234	21,0584	23,5545	22,4681	21,2916	22,453
75	47,1629	31,5026	25,8765	20,9267	26,9874	26,2658	25,1736	21,1484	23,561	22,5287	21,298	22,4726
76	47,197	31,5629	25,9398	21,0321	27,0116	26,286	25,1788	21,162	23,5692	22,5767	21,3265	22,5487
77	47,4758	31,7716	26,0311	21,122	27,0347	26,2911	25,1964	21,2388	23,5767	22,5778	21,3484	22,6807
78	47,4855	31,9982	26,0468	21,4123	27,0693	26,3095	25,2192	21,2564	23,6583	22,604	21,5165	22,7003
79	47,5824	32,1216	26,128	21,4375	27,0873	26,5044	25,2297	21,2868	23,6647	22,6803	21,7322	22,7132
80	47,5863	32,137	26,4555	21,4684	27,0882	26,6694	25,2959	21,303	23,8082	22,6893	21,7482	22,8826
81	47,679	32,5814	26,5558	21,5702	27,1477	27,0786	25,3678	21,54	23,8219	22,7282	21,9573	22,9223
82	47,7915	32,6526	26,566	21,6297	27,1827	27,1797	25,4228	21,7092	23,8268	22,9514	22,0185	23,0248
83	47,7968	32,7447	26,7295	21,9989	27,1919	27,1836	25,4909	21,7693	23,8843	23,0809	22,0718	23,1885
84	47,9547	32,7656	26,8627	22,3098	27,1972	27,3097	25,539	21,8395	24,0257	23,1099	22,2116	23,3692
85	48,1751	32,9024	27,0627	22,9214	27,226	27,6747	25,7782	22,0803	24,1337	23,2001	22,2723	23,6652
86	48,6732	33,1628	27,4064	24,08	27,2902	27,7692	25,8292	22,3173	24,1366	23,2345	22,2934	23,9094
87	48,7685	33,2886	27,7421	24,6271	27,403	28,2146	25,8356	23,6831	24,3737	23,3282	23,0002	24,0196
88	48,8472	33,5542	27,8057	25,9461	27,4036	29,0168	25,8702	24,6092	25,0254	23,7258	23,1125	24,2913
89	49,0737	33,758	27,8244	26,3441	27,4431	29,1586	25,9505	24,6341	25,3916	24,1536	23,2156	24,7317
90	49,3494	33,9067	28,1824	27,4054	27,5064	29,5273	26,5079	24,8896	25,4665	24,3187	23,5561	24,9683
91	50,2284	33,9257	28,8377	29,44	27,5617	31,8266	26,8338	25,2405	25,7901	24,4195	23,855	24,991
92	50,5615	34,2401	29,2276	30,4146	28,1471	31,9295	26,8621	26,1954	25,9616	25,4945	24,1167	25,9106
93	50,7718	34,33	29,3082	31,2479	28,3646	33,2205	27,0655	26,2923	25,9912	25,5784	24,9212	26,0578
94	51,0843	34,3737	29,4873	32,0841	28,7584	33,2393	27,1155	26,5905	26,1863	26,2395	25,2385	26,6045
95	51,259	34,7019	31,2954	32,1526	28,8927	34,5808	27,1842	26,8587	26,5632	26,3932	25,5717	26,8367
96	51,3876	34,9082	32,2353	32,2671	28,9891	35,3917	28,7561	27,3536	26,7264	26,8277	25,9498	26,8743
97	51,7037	34,9973	32,5873	32,6487	29,5733	35,673	28,8786	27,6389	27,173	26,9921	26,015	27,0139
98	51,9224	35,8225	33,3244	32,9883	29,7549	38,728	28,9992	27,9394	30,3432	27,306	26,3396	28,2758
99	52,1374	36,03	35,6319	33,5947	30,074	38,935	33,527	28,7618	32,5248	30,9973	27,0109	28,513
100	56,9925	36,881	37,8219	34,7516	32,2926	46,8895	35,6505	33,389	43,7351	43,5318	41,9945	45,6629

Uporządkowane rosnąco czasy obliczania [ms] całki metodą prostokątów z niedomiarem dla liczby podprzedziałów = 4 mln

Lp.	Wątków											
	1	2	3	4	5	6	7	8	9	10	11	12
1	89,7187	46,3179	41,4499	36,9507	43,4658	45,0991	40,1992	41,1745	44,0755	41,3698	38,508	36,9216
2	89,8113	47,0242	41,7219	37,0814	51,2777	45,2001	40,5818	41,425	44,1496	41,5009	38,7873	37,2807
3	89,8371	47,3191	42,9302	37,0967	51,446	45,3148	40,8813	41,5132	44,2288	41,6447	38,8301	37,3033
4	89,9087	47,4418	42,9375	37,1369	51,5071	45,3726	40,8854	41,7888	44,2982	41,6527	39,0275	37,3658
5	90,006	47,6332	43,0627	37,2791	51,5506	45,6106	40,9189	42,0638	44,4029	41,6998	39,0563	37,3714
6	90,0572	47,881	43,0654	37,3252	51,7249	45,6154	41,0494	42,3114	44,5041	42,2734	39,1757	37,6024
7	90,0838	48,1795	43,246	37,3352	51,7463	45,833	41,1667	42,4417	44,5041	42,4009	39,3846	37,7204
8	90,0902	48,4673	43,4566	37,3562	51,802	46,1248	41,1942	42,4938	44,5457	42,4778	39,4231	37,7753
9	90,1035	48,5418	43,5417	37,5282	51,8252	46,1502	41,207	42,5825	44,5919	42,5023	39,4712	37,8965
10	90,1324	48,6264	43,9648	37,6974	51,8455	46,1595	41,3091	42,6845	44,6163	42,5229	39,5379	37,9138
11	90,1483	48,6314	44,043	37,7215	51,8612	46,2754	41,3219	43,0077	44,6618	42,5464	39,5605	37,9461
12	90,1569	48,8876	44,0542	37,7256	51,8704	46,3318	41,3599	43,058	44,6651	42,5723	39,6094	38,0807
13	90,2409	48,9109	44,1347	37,9771	51,8847	46,3929	41,4287	43,2268	44,6995	42,6015	39,6186	38,0809
14	90,502	49,3361	44,1447	38,1582	51,9645	46,4405	41,4929	43,3548	44,719	42,6211	39,6888	38,2167
15	90,507	49,5296	44,4061	38,1745	52,0415	46,5758	41,5246	43,4593	44,8076	42,7135	39,6907	38,2445
16	90,5292	49,9731	44,5403	38,3166	52,068	46,6987	41,6231	43,4759	44,8181	42,7143	39,7395	38,2613
17	90,5441	50,1312	44,5681	38,3586	52,0917	46,7028	41,6365	43,5733	44,8294	42,784	39,765	38,273
18	90,5446	50,1332	44,6711	38,3894	52,114	46,7308	41,6437	43,5806	44,8468	42,79	39,7693	38,4221
19	90,6172	50,2405	44,7026	38,4457	52,1451	46,7573	41,6494	43,7737	44,8888	42,8109	39,7823	38,4276
20	90,6499	50,384	44,7226	38,4917	52,1751	46,766	41,6738	43,8281	44,9734	42,8257	39,809	38,4285
21	90,6657	50,4314	44,7934	38,5225	52,2021	46,7893	41,7427	43,9322	45,0212	42,8493	39,9086	38,6466
22	90,6876	50,443	44,8435	38,5685	52,2213	46,8168	41,8245	43,9874	45,0551	42,8513	39,9086	38,6687
23	90,7452	50,5034	44,9579	38,5956	52,23	46,8804	41,8451	43,9961	45,0964	42,8688	39,932	38,6696
24	90,7865	50,6508	44,9728	38,6688	52,235	46,8855	41,8636	44,021	45,2148	42,9003	39,9637	38,6745
25	90,8564	50,6888	45,0521	38,6919	52,2814	46,899	41,8711	44,103	45,2509	42,9013	40,0537	38,6772
26	90,8972	50,7756	45,1132	38,7012	52,3036	46,9365	41,9124	44,156	45,2534	42,9139	40,1034	38,7815
27	90,9096	50,9734	45,1173	38,7038	52,3169	46,953	41,9989	44,3403	45,2729	42,9456	40,1305	38,8042
28	90,9138	51,2323	45,1208	38,9188	52,3498	47,0235	42,0216	44,6156	45,3007	42,9581	40,1432	38,8253
29	90,9638	51,355	45,1724	38,9249	52,3557	47,0361	42,0541	45,0869	45,3187	42,9582	40,1438	38,8698
30	90,994	51,7133	45,2124	38,9499	52,3671	47,0478	42,0823	45,1117	45,3449	42,9758	40,1758	38,9965
31	91,0264	51,7311	45,2322	38,9732	52,3715	47,0481	42,089	45,3116	45,3758	42,9918	40,1928	39,0128
32	91,0572	51,7906	45,2381	39,0287	52,3879	47,0751	42,1277	45,5297	45,411	42,9955	40,2191	39,0153
33	91,0644	51,8719	45,2568	39,0329	52,4131	47,0791	42,1325	45,7185	45,4219	43,0283	40,2218	39,0476
34	91,0676	52,0094	45,2612	39,0602	52,4194	47,0922	42,1816	45,9177	45,4331	43,0293	40,2463	39,0481
35	91,1007	52,1857	45,2748	39,0917	52,421	47,0964	42,1987	46,0036	45,4569	43,0303	40,2676	39,0523
36	91,1357	52,2368	45,4739	39,096	52,4352	47,1021	42,2289	46,1077	45,4657	43,0386	40,3232	39,0551
37	91,1587	52,4393	45,5331	39,1118	52,4364	47,1822	42,2375	46,6525	45,5422	43,0463	40,3263	39,0738
38	91,1896	52,5346	45,5832	39,1367	52,4505	47,2089	42,3285	46,8098	45,5448	43,0562	40,4173	39,0869
39	91,2421	52,7398	45,5975	39,1976	52,4581	47,2811	42,4047	47,0472	45,5659	43,0736	40,4671	39,097
40	91,2842	52,7612	45,6662	39,2451	52,4628	47,2836	42,5865	47,6866	45,6167	43,087	40,5216	39,1087
41	91,2893	52,9563	45,6795	39,2682	52,4683	47,2886	42,5882	47,9109	45,6296	43,0982	40,5425	39,1721
42	91,2993	52,9965	45,752	39,3888	52,476	47,2953	42,6444	48,8619	45,6377	43,1211	40,5632	39,1986
43	91,301	53,224	45,9418	39,4013	52,4996	47,3284	42,7	49,0047	45,6472	43,1321	40,6476	39,202
44	91,3088	53,3044	45,9528	39,412	52,5418	47,3652	42,7268	49,4657	45,6749	43,1434	40,6973	39,2175
45	91,3559	53,3171	46,0331	39,4445	52,5559	47,4037	42,8086	49,5383	45,6829	43,198	40,7066	39,2248
46	91,3768	53,4364	46,192	39,4607	52,5652	47,4234	42,8307	49,5662	45,6842	43,2293	40,7848	39,2402
47	91,3829	53,4712	46,2032	39,5033	52,5681	47,4286	42,9321	49,8605	45,7038	43,3709	40,8787	39,2538
48	91,4089	53,9277	46,2301	39,5402	52,5697	47,436	43,0033	50,2327	45,7058	43,3897	40,9432	39,2977
49	91,4214	53,9541	46,3451	39,5889	52,6197	47,4435	43,0064	50,495	45,7159	43,4129	40,9518	39,3011
50	91,434	54,0463	46,4291	39,7331	52,6991	47,4674	43,151	50,5385	45,8384	43,4141	40,9895	39,3868
51	91,4773	54,1462	46,4649	39,7536	52,7242	47,476	43,2446	50,6086	45,8499	43,5005	40,9935	39,3932
52	91,5273	54,3599	46,5228	39,8135	52,7324	47,4849	43,3013	51,0767	45,87	43,5132	41,0144	39,4038
53	91,5722	54,5209	46,5712	39,8499	52,737	47,5211	43,3461	51,1341	45,9009	43,5226	41,0643	39,4578
54	91,626	55,2191	46,5763	39,8912	52,7403	47,5249	43,4356	51,282	45,945	43,535	41,089	39,4609
55	91,6305	55,2233	46,5824	39,9656	52,8535	47,5292	43,4564	51,3221	46,0406	43,5827	41,1067	39,4701
56	91,6582	55,2708	46,6378	39,9731	52,8755	47,6203	43,6914	51,5221	46,0644	43,5906	41,1343	39,4714
57	91,6587	55,3561	46,8255	40,0054	52,9094	47,6337	43,7989	51,7628	46,112	43,597	41,1755	39,5173
58	91,6949	55,4054	46,907	40,3247	52,9232	47,6376	43,9834	51,7941	46,1753	43,6069	41,1806	39,5291
59	91,7388	55,4288	46,988	40,416	52,9417	47,6526	44,0189	51,8058	46,1936	43,6074	41,2062	39,5704
60	91,8006	55,5039	47,0456	40,4953	52,948	47,6565	44,0756	51,8286	46,198	43,6175	41,215	39,6857
61	91,9277	55,5922	47,0508	40,5628	52,9496	47,6788	44,1233	51,9052	46,2204	43,6494	41,2524	39,786
62	91,9572	55,8027	47,0809	40,6037	52,9778	47,71	44,2107	52,4493	46,2459	43,6601	41,2604	39,8445
63	92,0972	55,8246	47,1763	40,6554	53,009	47,7501	44,2613	52,5448	46,3311	43,6698	41,3212	39,8876
64	92,3088	55,8907	47,1995	40,7228	53,0289	47,7917	44,3361	52,6555	46,3524	43,7009	41,3951	39,8924
65	92,3291	55,9098	47,4016	40,8554	53,0826	47,7944	44,4332	52,6641	46,403	43,719	41,404	40,1152
66	92,346	56,183	47,4587	40,9972	53,0986	47,9448	44,5822	52,6941	46,4298	43,7296	41,4505	40,2899
67	92,4963	56,2098	47,553	41,0466	53,1108	47,9583	44,7299	52,7646	46,4618	43,7676	41,4611	40,3199
68	92,5523	56,5442	47,6593	41,1854	53,1586	47,9609	44,7872	53,0836	46,5329	43,7709	41,5991	40,3855
69	92,5846	56,5826	47,7323	41,1863	53,204	47,9689	44,8104	53,2227	46,5461	43,8776	41,6778	40,6809
70	92,5888	56,6996	47,7681	41,2873	53,2259	48,0292	44,8908	53,2315	46,5787	43,9568	41,6865	40,7702
71	92,658	57,3062	47,8369	41,3271	53,3028	48,0335	45,0117	53,2869	46,6234	43,9885	41,692	40,7745
72	92,8871	57,3899	47,8593	41,4993	53,3336	48,0486	45,223	53,3322	46,6645	44,0715	41,7703	40,9763
73	93,2776	57,8063	48,174	41,5706	53,3816	48,0518	45,2436	54,0616	46,7463	44,0961	41,8143	41,1743
74	93,5655	57,8363	48,3863	41,5985	53,4389	48,0721	45,6165	54,235	46,89	44,1198	41,8485	41,2078
75	93,7357	57,9816	49,4978	41,6689	53,4396	48,2023	45,8421	54,3833	46,8942	44,1734	42,1327	41,3193
76	94,0602	58,3671	49,5633	41,7775	53,4527	48,3424	46,1451	54,3926	46,8949	44,2427	42,1637	41,4498
77	94,9669	58,5778	49,5846	41,7963	53,516	48,347	46,1953	54,4789	47,25	44,2439	42,1893	41,7399
78	95,1109	58,6247	49,6929	41,8405	53,6257	48,3925	46,3123	54,552	47,6682	44,3379	42,2681	41,8063
79	95,3849	58,9067	50,3757	42,034	53,9616	48,4112	47,5603	54,786	47,7515	44,3552	42,5862	41,8342
80	95,6161	59,3139	50,4814	42,4934	54,0329	48,4807	47,785	55,5688	47,8444	44,4381	42,9331	42,1862
81	95,7185	59,4549	50,7528	42,8619	54,1395	48,5006	47,8813	55,6551	48,1673	44,4482	43,1605	43,078
82	95,9515	59,4585	50,8248	43,5217	54,1594	48,5279	47,9765	55,6639	48,3036	44,4529	44,2037	43,9589
83	97,0663	59,5905	51,9199	44,1108	54,1793	48,5898	48,2276	55,7918	48,3907	44,4892	44,628	44,6271
84	97,291	59,7071	52,8038	44,1289	54,2298	48,6483	48,6681	56,0701	48,4846	44,6283	45,1673	45,4576
85	97,8089	59,8404	53,6247	44,3738	54,351	48,649	48,7272	56,2812	48,737	44,6769	45,3839	47,1647
86	97,8493	59,877	54,0639	44,9164	54,4803	48,7245	48,881	56,3296	48,9966	44,7773	45,8955	47,1777
87	99,1276	60,0636	54,5901	44,9928	54,4946	48,8393	48,9244	56,5336	49,058	44,862	46,4203	47,1844
88	100,6104	61,3461	56,502	45,37	54,6034	48,9801	48,9457	56,9699	49,2601	45,3593	46,5792	47,2447
89	100,9564	61,5478	58,3335	46,5383	54,703	49,6221	49,0515	57,5549	49,4446	45,5097	46,605	47,385
90	101,5521	61,7805	58,3823	46,7419	54,7256	49,6951	49,4699	58,1413	49,4939	45,6634	46,9909	47,7007
91	102,9815	62,6373	58,5018	46,9251	54,7826	49,9411	49,5936	58,6804	49,5466	45,8683	47,4741	47,7313
92	103,1713	62,747	58,6018	47,1562	54,8264	50,2654	50,4781	58,887	49,8636	45,9783	47,494	47,8179
93	103,8622	64,4438	59,2771	47,3685	54,916	50,4984	51,032	58,9212	50,3292	46,0629	48,2279	48,3637
94	105,4877	65,4709	59,95	49,2122	55,2714	50,7901	51,7266	58,9347	50,4538	46,1114	48,4942	49,273
95	105,7009	65,6702	64,9188	50,3826	55,3324	50,7947	51,7453	61,3976	50,4917	46,1941	49,0784	49,2848
96	106,3407	68,2082	68,1797	51,6185	55,508	51,0242	51,9755	61,431	51,3161	46,4524	49,4715	49,7311
97	108,8947	68,2312	71,1554	56,0188	55,6997	51,1287	52,9959	62,1387	54,4131	46,8258	51,3554	49,9459
98	113,1559	71,2829	73,7238	58,166	55,861	53,0578	54,709	63,5065	57,5067	48,6783	54,5776	52,8458
99	118,5593	72,2563	101,0831	60,0382	55,89	53,2361	55,7348	65,4303	58,5118	49,3807	62,5858	59,6573
100	134,2903	73,5485	111,1327	61,0549	55,9948	58,6657	61,8088	67,5099	58,8512	66,5244	65,3967	66,8725

Uporządkowane rosnąco czasy obliczania [ms] całki metodą prostokątów z niedomiarem dla liczby podprzedziałów = 8 mln

Lp.	Wątków											
	1	2	3	4	5	6	7	8	9	10	11	12
1	179,8684	95,9604	83,5099	75,092	85,5362	79,6221	75,2258	74,8535	89,1613	83,9389	78,2249	74,4418
2	180,3803	97,1735	84,0965	75,1933	85,7467	79,9627	75,716	74,8852	89,2085	84,221	78,285	74,5812
3	180,4821	98,5467	84,2416	75,4296	86,0427	80,0691	76,6682	74,9114	89,2658	84,3603	79,3251	74,6178
4	180,4913	99,6816	85,7086	75,5763	86,0847	80,1288	76,71	74,9139	89,4143	84,6328	79,5143	75,0406
5	180,7429	99,691	85,7087	76,6791	86,1446	80,1778	76,7297	75,0645	89,5179	84,7875	79,5168	75,0506
6	180,7465	99,8419	85,7622	77,0684	86,1682	80,4678	76,7796	75,2316	89,5677	84,9709	79,5492	75,2117
7	180,7717	99,9905	85,9092	77,2092	86,1699	80,4862	76,7923	75,4125	89,6418	85,0161	79,5574	75,2866
8	180,8232	101,5702	86,016	77,2663	86,2348	80,5259	76,8198	75,4963	89,728	85,0648	79,6669	75,4601
9	180,8382	101,837	86,0812	77,2796	86,3755	80,5404	76,8366	75,5075	89,7456	85,0762	79,7493	75,5192
10	180,8413	102,3729	86,2273	77,4138	86,7136	80,6477	76,875	75,511	89,7456	85,1023	79,8011	75,5911
11	180,874	102,4091	86,3562	77,4264	86,8097	80,6673	77,0416	75,5171	89,7906	85,1606	79,9292	75,6717
12	180,9133	102,6863	86,3654	77,4614	86,8912	80,677	77,0747	75,5559	90,1214	85,2057	79,9299	75,7251
13	180,9733	102,6968	86,3697	77,5447	86,966	80,6841	77,1088	75,5999	90,2333	85,2878	79,9929	75,8599
14	180,997	102,7412	86,5833	77,6739	86,9962	80,702	77,2407	75,6124	90,2393	85,4126	80,0073	76,0076
15	181,0778	102,9043	86,668	77,85	86,9988	80,9089	77,2758	75,6408	90,2508	85,6	80,2561	76,0982
16	181,1343	103,0511	86,7992	77,892	87,0405	81,1193	77,3276	75,6679	90,2533	85,6206	80,4165	76,2359
17	181,1664	103,0972	86,8081	77,9019	87,0698	81,137	77,3445	75,6847	90,3063	85,8281	80,7036	76,3898
18	181,1765	103,1623	87,0449	77,9092	87,0764	81,1809	77,3499	75,786	90,3479	85,838	80,7257	76,4171
19	181,2117	103,2259	87,2717	77,9296	87,1888	81,3543	77,3799	75,844	90,4073	85,8393	80,9647	76,5935
20	181,2235	103,6944	87,2889	78,6391	87,2535	81,4215	77,5102	75,8735	90,449	85,8526	81,0484	76,7145
21	181,2356	104,266	87,3542	78,8045	87,3905	81,443	77,8791	75,8852	90,4739	85,8543	81,081	76,7374
22	181,3017	104,4171	87,4104	79,0498	87,4538	81,4628	78,1523	75,9037	90,5212	85,9082	81,0882	76,7836
23	181,3252	104,6027	87,4564	79,1175	87,4641	81,6032	78,4339	75,9516	90,5596	85,9823	81,1816	76,8418
24	181,3902	104,7384	87,6474	79,2103	87,4979	81,6585	78,4743	75,973	90,5628	86,0609	81,1945	76,8627
25	181,4469	104,8165	87,7069	79,2881	87,5218	81,7535	78,4897	76,0942	90,5638	86,0875	81,6834	77,0995
26	181,4493	104,8436	87,7517	79,3737	87,5229	81,766	78,5869	76,1044	90,5795	86,116	81,7266	77,1422
27	181,5213	104,8586	87,8772	79,4071	87,6292	81,7985	78,6439	76,1285	90,6147	86,1798	81,7409	77,1869
28	181,5214	104,8711	87,9438	79,5376	87,7335	81,8364	78,7098	76,3048	90,6801	86,1879	81,7958	77,3116
29	181,5325	104,874	88,1052	79,6959	87,7392	81,8577	78,7807	76,3109	90,6959	86,2116	81,8099	77,3276
30	181,5476	104,9121	88,2182	79,7278	87,8169	81,86	78,8178	76,3241	90,7178	86,3007	81,8236	77,4287
31	181,5685	105,1245	88,3206	79,8118	87,8432	81,947	78,865	76,3248	90,7333	86,3269	81,9371	77,4707
32	181,7301	105,1765	88,4271	80,1039	87,8699	82,0854	78,8832	76,3678	90,7387	86,4502	81,9386	77,4769
33	181,7567	105,2573	88,5095	80,6063	87,8882	82,1502	79,0925	76,4044	90,7706	86,4805	82,017	77,495
34	181,8485	105,2574	88,5212	80,7268	87,9297	82,1568	79,1674	76,4212	90,7904	86,5084	82,0184	77,69
35	181,8521	105,2778	88,8159	81,8527	87,9462	82,1585	79,1741	76,4756	90,8625	86,5192	82,0468	77,7025
36	181,9171	105,5174	88,9804	81,9158	88,1338	82,1768	79,5504	76,5009	90,9016	86,5474	82,0838	77,7707
37	181,9939	105,6333	89,3419	82,337	88,1413	82,21	79,6288	76,5129	90,9134	86,5502	82,155	77,8925
38	182,0011	105,8195	89,4815	82,4507	88,2084	82,2982	80,0378	76,5184	90,9199	86,5908	82,1617	78,0227
39	182,0248	105,8909	89,5477	82,4706	88,2143	82,3831	80,1122	76,5438	90,9542	86,6105	82,1995	78,0917
40	182,0686	106,0151	89,6477	82,6049	88,2259	82,4204	80,2019	76,5903	90,9711	86,7371	82,2824	78,1533
41	182,0687	106,0317	89,8208	82,6299	88,2343	82,4678	80,2022	76,6094	91,0188	86,7785	82,5774	78,1975
42	182,1275	106,6758	89,8916	82,6834	88,3042	82,4702	80,312	76,6164	91,0589	86,7812	82,5953	78,2398
43	182,1639	106,7744	89,9226	82,9915	88,3905	82,4774	80,3604	76,6637	91,0967	86,8107	82,6323	78,4001
44	182,1875	107,2096	90,0016	83,2659	88,3962	82,4794	80,3677	76,797	91,1319	86,8757	82,6773	78,4548
45	182,2169	107,2892	90,1808	83,5662	88,4171	82,5642	80,4	76,7973	91,1959	86,9571	82,8146	78,7925
46	182,4255	107,453	90,3333	83,6665	88,4368	82,6397	80,5647	76,9035	91,2019	87,0109	82,9675	78,8478
47	182,4551	107,4968	90,3792	84,1054	88,6073	82,6537	80,5777	77,0027	91,211	87,0246	83,0696	78,9063
48	182,4892	107,8345	90,4466	84,1223	88,6747	82,6858	80,7418	77,0068	91,2132	87,0505	83,1929	78,9246
49	182,5046	108,0051	90,5425	84,6559	88,7515	82,7014	80,7547	77,0267	91,2516	87,0788	83,2495	79,2447
50	182,7645	108,1092	90,6028	84,9469	88,7718	82,7926	80,935	77,0782	91,2829	87,0903	83,2527	79,2973
51	182,8415	108,1637	90,796	85,1433	88,8441	82,9314	81,0419	77,0812	91,3102	87,1095	83,2912	79,3136
52	182,8416	108,2298	91,0614	85,625	88,9015	83,0516	81,3347	77,3503	91,322	87,1617	83,3122	79,3793
53	182,8872	108,5435	91,1789	85,7005	88,9335	83,1295	81,5042	77,3861	91,3333	87,1893	83,3255	79,5747
54	183,0614	108,6958	91,304	85,7122	88,9814	83,2287	81,5723	77,549	91,3713	87,1983	83,4205	79,6368
55	183,2271	109,1358	91,308	86,1681	88,983	83,2657	81,6589	77,6326	91,4584	87,2673	83,66	79,8383
56	183,2383	110,2453	91,4575	87,4976	88,9888	83,2687	81,6769	77,7062	91,5074	87,3027	83,8635	79,8948
57	183,3097	110,2962	91,5316	87,5329	89,1181	83,365	81,683	77,9134	91,5465	87,3195	83,8648	80,068
58	183,4017	110,3517	91,5641	87,7954	89,1472	83,3715	81,8179	77,9405	91,6458	87,3773	84,0109	80,4023
59	183,405	110,5925	91,6258	88,0666	89,1581	83,4161	81,8895	77,9407	91,6524	87,4112	84,2727	80,8814
60	183,4113	110,6081	91,7034	89,2187	89,1812	83,5309	81,899	77,9837	91,6944	87,4595	84,34	80,9988
61	183,5766	110,755	91,7747	89,5757	89,2112	83,7739	82,2717	78,0817	91,699	87,4811	84,3733	81,6937
62	183,626	111,5218	91,8205	90,0917	89,2871	83,7757	83,0853	78,1595	91,7382	87,5007	84,4164	81,7047
63	183,6638	111,5337	91,8522	90,903	89,3116	83,8454	83,1265	78,1723	91,7526	87,5278	84,4625	81,7305
64	183,7673	111,87	92,1336	91,3758	89,3779	83,8847	83,4847	78,2003	91,7801	87,5849	84,5049	82,2738
65	183,8748	111,9279	92,1911	91,9228	89,3845	83,9709	83,6494	78,2434	91,8562	87,6516	84,5693	83,2085
66	183,9494	112,3596	92,2501	92,1845	89,3893	84,0128	83,8095	78,2858	91,8574	87,6643	84,5763	83,6605
67	184,327	112,7762	92,4089	92,5852	89,3934	84,1363	83,8902	78,5057	91,9311	87,6699	84,7092	84,3829
68	184,6011	112,9068	92,4113	92,7422	89,4221	84,2279	84,3912	78,5271	92,1695	87,6852	84,7676	84,4525
69	184,8392	113,1551	92,4958	93,8312	89,5248	84,2858	84,7019	78,9219	92,2133	87,7431	84,9423	84,5033
70	185,177	113,1769	92,5125	94,0735	89,6809	84,2966	84,9263	79,0877	92,2738	87,8381	85,0307	84,6658
71	185,5665	113,7138	92,7392	94,1841	89,7312	84,3986	85,0843	79,7262	92,3404	87,9008	85,1977	84,8234
72	185,5708	113,943	92,916	94,7119	89,7622	84,447	85,202	80,6138	92,4926	87,9557	85,2367	84,9001
73	186,3052	113,9658	93,5391	95,4549	89,8056	84,5479	85,2763	80,614	92,6862	87,9834	85,2681	85,1667
74	186,4268	114,1133	93,6074	95,4683	89,8315	84,6162	85,5677	81,1582	92,7301	88,0032	85,4521	85,5414
75	186,4534	114,359	94,0181	96,6403	89,8503	84,6637	85,7026	81,6422	92,8719	88,0132	86,1917	85,7137
76	186,8179	114,3593	94,0949	97,5429	89,9239	84,7422	85,7353	82,0791	92,9125	88,2386	86,2674	86,1309
77	186,8586	114,7663	94,1711	99,2323	89,9325	84,928	85,9642	82,1904	93,1064	88,2546	86,6862	86,5311
78	187,067	115,0437	95,04	101,9245	89,9718	85,0459	86,1552	82,3227	93,1867	88,2993	86,8268	86,7324
79	187,3337	115,2747	95,1388	102,1464	89,9748	85,0529	87,0586	82,5724	93,4263	88,3726	86,9945	87,1676
80	188,5992	115,2961	95,606	102,7812	90,011	85,0952	87,2312	82,8828	93,7212	88,5499	87,2575	87,5733
81	189,0669	116,3168	95,8405	103,1743	90,079	85,1401	87,3004	82,8964	93,7655	88,6803	87,5389	88,1301
82	189,3995	116,3327	96,3062	103,4146	90,1125	85,5002	87,3644	82,9956	93,8611	88,7733	88,2885	89,086
83	189,4835	116,4065	96,3402	104,0401	90,1951	85,7712	87,4965	83,1123	93,8796	88,903	89,9384	89,1961
84	189,6017	116,7331	96,6573	104,4585	90,2336	85,8951	88,1502	83,1285	93,9897	88,9042	90,3733	89,5148
85	189,7095	116,7431	96,7822	104,5332	90,3497	86,101	88,2655	83,5437	93,9932	89,3594	92,7419	89,8763
86	190,2921	117,5599	97,0059	105,1786	90,3822	86,5376	88,3175	83,9403	94,0111	89,4138	92,7726	91,2008
87	190,7853	117,6242	97,4747	105,4443	90,4192	87,2083	88,6489	84,2726	94,0767	89,4369	93,7114	91,2068
88	191,0374	118,1451	97,6132	105,7676	90,5449	88,0067	89,528	84,5906	94,3065	89,5895	94,4868	91,4594
89	191,588	118,3137	100,1372	106,3811	91,0365	88,6505	89,8729	86,1578	94,4388	90,1827	94,5755	91,6875
90	191,9419	118,4226	101,1064	107,8008	91,2228	89,4826	90,1015	86,6988	94,4901	90,5918	95,4655	93,8822
91	192,1206	118,5149	101,2484	108,1521	91,3888	90,4539	90,3062	87,1764	94,6467	90,8662	95,8053	94,0515
92	193,8657	118,5804	102,6577	108,1607	91,4478	90,6731	90,3525	87,6516	94,674	91,588	95,9252	94,6446
93	194,6284	120,0958	102,9526	109,56	91,4624	91,3158	91,4242	87,7838	94,8902	91,8873	96,5936	94,7589
94	195,3887	120,4349	102,9988	109,6729	91,6464	92,438	92,0024	87,8258	95,5077	92,2234	96,609	94,8821
95	195,9182	122,6904	105,2618	111,6475	91,7527	92,8181	94,3877	88,3838	96,0946	92,5765	98,256	96,6737
96	198,8407	123,7946	105,5189	111,6779	92,179	94,8131	95,7236	89,7899	96,3827	92,8596	98,9662	96,7257
97	199,1659	124,0548	107,3605	117,481	92,5988	94,8266	99,6257	92,693	96,8754	94,3056	99,2728	96,8895
98	209,692	124,8681	107,426	124,9117	92,6182	98,7509	100,6936	94,7026	97,481	96,1781	100,8301	98,9966
99	223,1596	126,9428	116,4353	129,7917	97,4681	100,156	102,7477	96,1148	98,7397	98,3269	104,1776	108,1527
100	230,3772	133,7958	127,4189	142,6248	98,4525	125,7721	112,7399	96,3981	116,6624	101,4773	104,1797	116,1916

Uporządkowane rosnąco czasy obliczania [ms] całki metodą prostokątów z nadmiarem dla liczby podprzedziałów = 1 mln

Lp.	Wątków											
	1	2	3	4	5	6	7	8	9	10	11	12
1	22,5237	13,0822	11,0464	9,0765	12,0163	10,616	9,6773	8,8662	10,7291	9,7476	9,4104	8,9243
2	22,5603	13,4742	11,1214	9,086	12,2304	10,6688	9,7861	8,8809	10,7575	9,7708	9,4374	8,9312
3	23,0941	13,6055	11,1292	9,3138	12,2494	10,7148	9,8198	8,8831	10,7621	9,9025	9,4485	8,9582
4	23,2042	16,2705	11,178	9,3807	12,5343	10,7297	9,8651	8,8882	10,7749	9,9271	9,4581	8,9699
5	23,286	16,6316	11,1907	9,428	12,5399	10,8871	9,8919	8,9017	10,7768	9,9376	9,4647	8,9802
6	23,6693	16,7292	11,1994	9,4574	12,5704	10,9084	9,9137	9,1292	10,7784	10,089	9,4748	9,0781
7	23,9511	16,8035	11,239	9,9027	12,6429	10,9724	9,9157	9,1355	10,7961	10,1709	9,4759	9,0827
8	24,0314	16,8947	11,3074	9,9999	12,808	11,0424	9,9182	9,1415	10,8043	10,2357	9,4794	9,144
9	24,0714	16,9368	11,3172	10,0493	12,8315	11,0605	9,9192	9,2098	10,8103	10,2678	9,4813	9,1921
10	24,1034	16,9887	11,3204	10,0622	12,8431	11,1056	9,921	9,2305	10,8141	10,2866	9,4877	9,2245
11	24,1716	17,0077	11,3776	10,1088	12,8689	11,1195	9,9229	9,2441	10,8284	10,3231	9,4906	9,2328
12	24,4215	17,0283	11,4823	10,1205	12,8765	11,2064	9,9242	9,2503	10,831	10,3301	9,4983	9,2558
13	24,4767	17,029	11,4884	10,1704	12,9031	11,2091	9,9242	9,2577	10,8696	10,3432	9,5212	9,2637
14	24,5105	17,168	11,5136	10,2409	12,9444	11,229	9,9243	9,2792	10,8868	10,3543	9,5675	9,268
15	24,5318	17,2223	11,5671	10,3484	12,9539	11,2374	9,9259	9,2935	10,8894	10,3577	9,5997	9,2817
16	24,5929	17,4076	11,5745	10,3637	12,9764	11,2459	9,9302	9,3098	10,8989	10,3599	9,6151	9,304
17	24,8147	17,4375	11,6125	10,4122	13,0121	11,3427	9,9311	9,3304	10,9001	10,3809	9,6339	9,3901
18	24,8314	17,4624	11,6158	10,6018	13,0348	11,346	9,9346	9,3402	10,9008	10,3847	9,6424	9,3975
19	25,0977	17,5647	11,6192	10,769	13,0635	11,385	9,9539	9,3704	10,9064	10,4001	9,6501	9,402
20	25,1357	17,5857	11,6283	10,8467	13,0843	11,4212	9,9631	9,3744	10,9694	10,4032	9,6556	9,4227
21	25,3142	17,7241	11,6882	10,8785	13,1702	11,4751	10,0504	9,4021	10,9835	10,4089	9,9131	9,4283
22	25,3864	17,7363	11,7079	11,086	13,1739	11,5353	10,0795	9,4259	11,0301	10,4115	9,9773	9,4567
23	25,5302	17,8074	11,7739	11,0989	13,1784	11,5528	10,0974	9,4915	11,0321	10,4164	10,0299	9,4677
24	25,6165	17,8686	11,7748	11,273	13,1812	11,5559	10,1352	9,5123	11,0873	10,4214	10,07	9,5036
25	25,6557	17,9415	11,9684	11,2939	13,215	11,5611	10,1551	9,5365	11,0874	10,4269	10,0924	9,5229
26	25,6672	17,9692	11,97	11,3697	13,2249	11,5817	10,1716	9,547	11,1063	10,4328	10,0985	9,5236
27	26,0697	18,0704	11,9737	11,6441	13,2482	11,6006	10,2048	9,5549	11,1068	10,4515	10,1222	9,6519
28	26,1383	18,2666	11,9842	11,6595	13,3075	11,6078	10,3034	9,5679	11,1376	10,4622	10,1538	9,6632
29	26,2112	18,2963	11,991	11,6704	13,3085	11,6236	10,331	9,5689	11,1643	10,4661	10,175	9,6642
30	26,2219	18,3987	12,0155	11,6724	13,3094	11,6405	10,3489	9,5698	11,1688	10,4923	10,2041	9,734
31	26,3247	18,4202	12,0347	11,6872	13,3202	11,6548	10,3765	9,5796	11,2152	10,508	10,2206	9,7506
32	26,3531	18,4349	12,0408	11,7287	13,3326	11,6555	10,3783	9,5983	11,2364	10,5352	10,2257	9,7669
33	26,4037	18,4521	12,1535	11,7775	13,3387	11,709	10,3923	9,637	11,2488	10,5376	10,2329	9,7775
34	26,4179	18,489	12,1996	11,8699	13,3502	11,7105	10,4258	9,7014	11,2583	10,5676	10,2358	9,7834
35	26,5769	18,517	12,2457	11,8915	13,3587	11,7113	10,4372	9,7542	11,2882	10,6019	10,2562	9,8233
36	26,7845	18,5404	12,2753	12,0263	13,3733	11,7195	10,4439	9,8474	11,2885	10,6617	10,2715	9,8531
37	26,8654	18,5449	12,2814	12,0551	13,3749	11,7211	10,4485	9,849	11,2904	10,6659	10,2881	9,8555
38	26,9626	18,6344	12,2968	12,1026	13,3974	11,7444	10,4512	9,8587	11,2978	10,6843	10,2975	9,8639
39	27,3317	18,6438	12,3307	12,1655	13,421	11,7488	10,4676	9,8752	11,3029	10,7053	10,359	9,8667
40	27,3448	18,6641	12,3317	12,1986	13,4922	11,7802	10,4883	9,934	11,3515	10,708	10,3662	9,8799
41	27,3793	18,6706	12,3435	12,4783	13,5059	11,8027	10,5392	9,9585	11,3588	10,7126	10,4124	10,0001
42	27,5693	18,6899	12,3656	12,5917	13,5472	11,8155	10,5409	9,9872	11,3891	10,7596	10,4224	10,0114
43	28,239	18,7661	12,426	12,8111	13,5875	11,8465	10,5793	9,998	11,3935	10,7714	10,4405	10,0509
44	28,3181	18,8787	12,4712	13,0894	13,6389	11,8516	10,5837	10,0262	11,3949	10,7785	10,4616	10,0838
45	28,5044	19,1544	12,4919	13,4298	13,6653	11,8698	10,5982	10,0274	11,4266	10,7931	10,4737	10,1355
46	28,5348	19,2142	12,4949	13,5219	13,6702	11,8756	10,6049	10,0747	11,4451	10,813	10,6468	10,1457
47	28,7768	19,3461	12,5014	13,631	13,6736	11,8808	10,6305	10,1111	11,4581	10,8293	10,6486	10,1546
48	28,8619	19,4639	12,5632	13,9195	13,6764	11,8893	10,6437	10,1457	11,4879	10,8506	10,661	10,2181
49	29,0681	19,5436	12,5763	14,3231	13,7215	11,8921	10,6524	10,1969	11,497	10,8535	10,7378	10,2314
50	29,1776	19,6557	12,617	14,5202	13,7218	11,9357	10,7246	10,2177	11,5045	10,8576	10,8469	10,2345
51	29,5227	19,7012	12,6231	14,6543	13,7547	11,984	10,754	10,2443	11,538	10,8592	10,8596	10,2624
52	29,7299	19,742	12,628	14,723	13,7782	12,0035	10,7952	10,3447	11,6307	10,8793	10,8692	10,2692
53	29,7338	19,8112	12,6326	14,8179	13,7808	12,0076	10,8107	10,3488	11,6336	10,9049	10,8993	10,2844
54	29,8325	19,8413	12,8034	14,926	13,86	12,0245	10,8214	10,372	11,6423	10,9147	10,9717	10,3321
55	29,9592	19,8613	12,8474	15,2853	13,8632	12,0264	10,8727	10,3753	11,643	10,9163	10,9968	10,3555
56	29,9988	20,0652	12,9872	15,7071	13,8673	12,0859	10,93	10,3897	11,6454	10,9244	11,0302	10,3861
57	30,1126	20,0982	12,991	15,7142	13,8963	12,0976	10,9349	10,4326	11,6924	10,9417	11,0652	10,4264
58	30,2543	20,1151	13,0232	15,8104	13,9075	12,1085	10,9414	10,4801	11,6959	10,9481	11,0852	10,5089
59	30,4633	20,3972	13,0725	15,835	13,9153	12,152	10,9572	10,5441	11,7053	10,953	11,1263	10,538
60	30,6353	20,4404	13,0726	15,8503	13,9231	12,1717	10,9668	10,5474	11,82	10,9722	11,1448	10,5441
61	30,6627	20,6938	13,1168	15,9355	13,9555	12,1975	11,0358	10,6029	11,8828	10,9824	11,2204	10,5543
62	30,7434	20,6943	13,125	15,9717	14,0008	12,21	11,0693	10,628	11,8968	10,9983	11,2467	10,6489
63	30,971	20,9494	13,1293	16,0956	14,0332	12,2825	11,1127	10,6909	11,9078	11,0802	11,2468	10,6734
64	31,1955	21,0368	13,1385	16,2961	14,0354	12,3082	11,1488	10,792	11,9195	11,0865	11,3859	10,6968
65	31,2712	21,1469	13,1508	16,3028	14,0389	12,3111	11,1581	10,8538	11,9475	11,0922	11,3867	10,7224
66	31,4278	21,1722	13,1591	16,3791	14,0826	12,3583	11,183	10,9092	11,9933	11,1245	11,4078	10,7785
67	31,4649	21,1765	13,2045	16,4108	14,2222	12,361	11,1895	10,9726	12,0633	11,1524	11,5048	10,7971
68	31,5897	21,3032	13,2329	16,4251	14,2263	12,3754	11,2065	11,0419	12,0666	11,2021	11,7251	10,8682
69	31,5961	21,4089	13,2428	16,4484	14,2654	12,4067	11,2225	11,1147	12,0688	11,227	11,796	11,0189
70	31,6811	21,4586	13,2978	16,4528	14,2855	12,4274	11,2456	11,1498	12,1206	11,2941	11,8853	11,0302
71	31,705	21,5021	13,3091	16,5039	14,3648	12,4437	11,281	11,1728	12,161	11,3113	11,908	11,2467
72	31,8615	21,6	13,3439	16,5462	14,4638	12,5064	11,2913	11,3429	12,1643	11,3172	11,9772	11,326
73	32,1713	21,7172	13,357	16,5481	14,5423	12,5403	11,3029	11,4485	12,2019	11,3957	11,9846	11,3315
74	32,1782	21,7657	13,383	16,5584	14,5666	12,6044	11,3354	11,5815	12,2955	11,4892	12,0657	11,4113
75	32,3753	21,8593	13,4383	16,6188	14,5814	12,651	11,3679	11,6734	12,341	11,5362	12,1371	11,4329
76	32,5426	22,1447	13,4637	16,6311	14,6406	12,6593	11,4527	11,7258	12,3482	11,538	12,1807	11,4556
77	32,5826	22,1874	13,4963	16,6541	14,6824	12,6779	11,5005	11,7455	12,3696	11,5814	12,4986	11,5211
78	32,7528	22,1973	13,5631	16,6655	14,6831	12,6817	11,5007	11,7996	12,3998	11,6126	12,7314	11,5343
79	32,7829	22,2794	13,6167	16,7797	14,7592	12,6896	11,5901	11,8335	12,4028	11,6211	12,807	11,5649
80	32,8781	23,2767	13,6169	16,8113	14,795	12,6913	11,5979	11,875	12,4203	11,7232	12,8899	11,5719
81	32,9371	23,3355	13,6307	16,8293	14,8867	12,714	11,7123	11,8777	12,4411	11,7508	12,9759	11,6557
82	33,4272	24,1285	13,64	16,8537	14,9243	12,7147	11,8549	11,9825	12,4671	11,8018	13,0133	11,666
83	33,5556	24,5729	13,7844	16,8818	14,9515	12,7671	11,9456	12,1832	12,5402	11,8294	13,0542	11,8297
84	34,0659	25,1287	13,806	16,8829	14,9622	12,7743	12,13	12,1885	12,5441	11,9	13,3427	11,8887
85	34,3466	25,2214	13,8313	17,0821	15,1208	12,8645	12,1652	12,1891	12,6301	11,909	13,3613	11,9385
86	34,5021	26,7304	13,8942	17,1423	15,1905	12,884	12,1779	12,2123	12,6631	12,0043	13,516	11,9572
87	34,5035	26,754	13,9357	17,2289	15,1991	12,914	12,4	12,2123	12,7048	12,1719	13,6318	12,0122
88	34,8069	27,1543	14,0295	17,251	15,2186	12,992	12,5455	12,2598	12,7132	12,2504	13,8445	12,0933
89	35,2597	30,3897	14,39	17,2761	15,2973	13,0009	13,1531	12,4804	12,7319	12,9099	14,0582	12,8639
90	35,3612	30,8335	14,4151	17,3106	15,3509	13,0288	13,2389	12,5224	12,7745	13,0112	14,0959	12,8677
91	35,411	32,0681	14,6036	17,3541	15,3821	13,0472	13,3426	12,8314	12,8591	13,0752	14,3343	12,8998
92	35,7707	32,1708	14,8429	17,3732	15,6287	13,0785	13,4602	13,2748	12,8716	13,2039	14,421	13,143
93	36,4594	33,8189	14,8747	17,4163	15,8807	13,1565	14,0409	13,4527	12,874	13,231	14,4739	13,1737
94	37,1578	34,7035	14,9048	17,5077	16,1733	13,1711	14,2333	13,4661	13,2376	13,2612	14,7883	13,1746
95	37,5577	34,9669	15,0154	17,7396	16,1993	13,246	14,3728	13,519	13,2963	13,6236	14,9662	13,2579
96	38,3585	35,4114	16,3148	18,3364	16,8615	13,5724	14,4677	13,6099	13,5486	13,7242	15,0689	13,5379
97	41,4266	35,4317	16,4091	18,5655	19,2133	14,2106	14,7464	13,7146	15,5546	13,7335	15,2058	13,905
98	45,4486	38,4077	16,5907	18,9247	19,2319	14,911	14,8831	13,9824	16,9132	13,8042	15,3243	14,6034
99	47,2946	40,4722	20,4108	18,9324	22,1586	20,2758	15,6541	14,2044	19,2779	14,6552	15,5712	16,4344
100	47,3483	51,1826	23,5756	25,4404	27,9354	23,8329	33,5722	25,3177	29,9332	34,3452	43,0193	37,5979

Uporządkowane rosnąco czasy obliczania [ms] całki metodą prostokątów z nadmiarem dla liczby podprzedziałów = 2 mln

Lp.	Wątków											
	1	2	3	4	5	6	7	8	9	10	11	12
1	44,5777	22,7631	20,6761	18,4676	25,4723	22,2638	19,9349	18,5565	21,9293	20,5674	19,2034	18,4377
2	44,7081	23,2795	20,9531	18,6721	25,5493	22,3379	20,0243	18,611	21,9316	20,6695	19,2475	18,493
3	44,8775	23,3135	21,0027	18,842	25,5822	22,3457	20,1225	18,6448	21,973	20,8066	19,2654	18,5551
4	45,0917	23,4543	21,3088	18,9034	25,6193	22,4048	20,1298	18,648	21,9802	20,893	19,4008	18,6107
5	45,1122	23,5127	21,3392	19,021	25,62	22,4293	20,1661	18,6864	22,0318	20,9826	19,4819	18,6514
6	45,1128	23,5492	21,907	19,0262	25,6403	22,4588	20,1977	18,7483	22,0375	21,0239	19,4841	18,6901
7	45,1225	23,7465	22,086	19,0447	25,688	22,5162	20,2785	18,7693	22,0719	21,0323	19,5102	18,7158
8	45,2224	23,9803	22,1482	19,0679	25,6889	22,5554	20,2822	18,8494	22,1973	21,054	19,5765	18,7839
9	45,3151	24,1556	22,1653	19,0697	25,726	22,5668	20,3452	18,8766	22,2125	21,1161	19,5906	18,7939
10	45,3639	24,3222	22,293	19,0875	25,7831	22,6286	20,3729	18,911	22,2137	21,1314	19,6102	18,8033
11	45,3813	24,4794	22,3762	19,1129	25,8556	22,7283	20,4169	18,9139	22,2481	21,1482	19,6312	18,8307
12	45,4162	24,5415	22,3932	19,1333	25,8746	22,8718	20,4738	18,9523	22,2746	21,1558	19,6322	18,9171
13	45,4552	24,6536	22,5152	19,1509	25,8761	22,8802	20,4883	18,9678	22,2993	21,1643	19,6648	18,9435
14	45,4646	24,7196	22,578	19,1617	25,8807	22,9547	20,4998	18,9924	22,3265	21,1892	19,6702	18,9471
15	45,4779	24,7244	22,5943	19,199	25,8983	22,9708	20,5208	19,0288	22,353	21,2444	19,7202	18,9808
16	45,4961	24,7845	22,6515	19,2535	25,9391	22,9775	20,6171	19,0527	22,3658	21,2528	19,7207	19,0222
17	45,5032	24,9068	22,7302	19,2576	25,9429	22,9789	20,6417	19,0989	22,4326	21,3026	19,728	19,0742
18	45,5101	24,9231	22,7556	19,2672	26,0109	23,0579	20,6432	19,1382	22,4338	21,3279	19,7474	19,0828
19	45,5613	25,5281	22,7649	19,2705	26,0192	23,1397	20,6664	19,2139	22,4802	21,3394	19,7773	19,1128
20	45,604	25,5706	22,7716	19,2755	26,1094	23,1508	20,6712	19,2549	22,5247	21,3594	19,7777	19,131
21	45,6199	25,6282	22,825	19,3242	26,1222	23,173	20,7327	19,2614	22,5293	21,3797	19,7857	19,2228
22	45,6381	25,6453	22,8362	19,3574	26,196	23,3121	20,7605	19,2811	22,5383	21,3842	19,7986	19,253
23	45,6929	25,6807	22,9103	19,4519	26,2773	23,3469	20,8003	19,3204	22,5401	21,4149	19,9777	19,3051
24	45,785	25,8577	22,9126	19,494	26,2804	23,3859	20,8198	19,34	22,5694	21,4261	19,9854	19,3445
25	45,8361	25,9083	22,9756	19,5235	26,3001	23,4046	20,8213	19,3979	22,609	21,4453	20,0314	19,4059
26	45,8471	25,9178	23,023	19,5809	26,3041	23,4123	20,8216	19,4105	22,6418	21,4718	20,0385	19,4379
27	45,878	25,9465	23,0444	19,606	26,4218	23,4652	20,8559	19,4378	22,6953	21,4725	20,1313	19,5248
28	45,8867	25,9621	23,0669	19,6521	26,4506	23,4819	20,8704	19,4836	22,6971	21,475	20,134	19,5533
29	45,9035	25,969	23,0918	19,6668	26,4604	23,4861	20,8987	19,5668	22,6975	21,4824	20,1513	19,5868
30	45,9357	25,9914	23,0975	19,6669	26,4772	23,4913	20,9044	19,5749	22,7219	21,4848	20,1922	19,5985
31	45,9777	26,0323	23,1043	19,7017	26,4863	23,4957	20,9068	19,6947	22,7698	21,509	20,208	19,6317
32	45,9948	26,1583	23,1099	19,7301	26,5281	23,533	20,917	19,7751	22,7975	21,5288	20,2459	19,6432
33	46,0203	26,5004	23,1805	19,7679	26,5382	23,5363	20,9318	19,8113	22,804	21,6511	20,2512	19,7327
34	46,0787	26,5045	23,2204	19,8279	26,5477	23,5524	20,9333	19,8168	22,8208	21,6514	20,2622	19,7577
35	46,0871	26,7255	23,2401	19,8534	26,5687	23,5897	20,9553	19,8703	22,8292	21,6631	20,2923	19,8102
36	46,0977	26,8573	23,2853	19,8626	26,5876	23,5957	20,9616	19,9109	22,844	21,691	20,2976	19,8457
37	46,1037	26,8616	23,2907	19,8731	26,5977	23,6139	21,1298	19,9406	22,8765	21,7374	20,3486	19,8598
38	46,1407	26,9716	23,3205	19,9135	26,6433	23,6641	21,1305	19,9465	22,8815	21,7727	20,3634	19,887
39	46,1747	27,1562	23,3276	19,9137	26,6503	23,6682	21,1759	19,9575	22,8938	21,7869	20,3682	19,926
40	46,2018	27,3438	23,3638	19,9187	26,668	23,7019	21,207	19,9666	22,9432	21,8282	20,3901	19,9358
41	46,2072	27,3933	23,3769	19,9695	26,6776	23,7283	21,214	19,9903	22,9459	21,8294	20,3909	19,9815
42	46,3059	27,3956	23,3881	19,9799	26,7195	23,7429	21,2207	20,0209	22,9619	21,8863	20,396	19,984
43	46,3246	27,4033	23,4197	20,1115	26,7537	23,7638	21,2751	20,035	22,983	21,9	20,4014	20,0025
44	46,4415	27,4669	23,4528	20,1193	26,7836	23,7666	21,2878	20,0351	22,9859	21,908	20,4849	20,1299
45	46,4829	27,4738	23,472	20,1579	26,7952	23,7995	21,2907	20,0945	22,9931	21,9091	20,4904	20,1497
46	46,5076	27,5491	23,5057	20,1973	26,8173	23,8012	21,3032	20,0974	23,0125	21,9444	20,4945	20,2152
47	46,5813	27,7194	23,5693	20,2808	26,8208	23,8057	21,3057	20,1325	23,0166	21,9942	20,525	20,2166
48	46,5846	27,7524	23,5865	20,2866	26,8416	23,8499	21,3437	20,1858	23,0189	21,9973	20,5268	20,2569
49	46,6119	27,782	23,6456	20,2992	26,8437	23,8622	21,3959	20,1972	23,0321	22,005	20,6185	20,3296
50	46,6852	27,8871	23,6512	20,3129	26,8876	23,9079	21,4278	20,2014	23,0496	22,0188	20,6249	20,3594
51	46,7556	27,9304	23,6994	20,318	26,9018	23,916	21,4934	20,2295	23,073	22,0364	20,6286	20,3684
52	46,7761	28,006	23,7098	20,338	26,9196	23,9541	21,4986	20,3131	23,0997	22,0387	20,6784	20,3699
53	46,8143	28,0545	23,8857	20,3655	26,9642	23,9761	21,51	20,3302	23,1304	22,0928	20,7062	20,3761
54	46,8381	28,1013	23,8912	20,405	27,0026	24,0411	21,5509	20,3303	23,152	22,1046	20,7072	20,3935
55	46,9054	28,2383	23,967	20,4449	27,0263	24,0418	21,5635	20,421	23,1663	22,113	20,7176	20,4666
56	46,9205	28,2918	23,9727	20,4941	27,0397	24,0704	21,5893	20,4438	23,2603	22,1785	20,731	20,5183
57	46,9442	28,3523	24,0377	20,5089	27,0859	24,1269	21,6128	20,4503	23,2621	22,1803	20,7697	20,5644
58	47,1424	28,5038	24,0467	20,5253	27,091	24,1476	21,6279	20,4648	23,2691	22,2433	20,7726	20,5988
59	47,2141	28,7255	24,145	20,527	27,1126	24,1644	21,6335	20,4662	23,2978	22,2483	20,7855	20,6751
60	47,2627	28,8002	24,1839	20,5384	27,1528	24,1828	21,791	20,4774	23,3767	22,3491	20,7874	20,7106
61	47,343	28,9962	24,2624	20,5549	27,1616	24,205	21,792	20,5496	23,4545	22,36	20,8128	20,7569
62	47,3854	29,0714	24,2938	20,5892	27,173	24,338	21,8524	20,5668	23,465	22,3932	20,8408	20,7892
63	47,4146	29,0994	24,2981	20,6108	27,2353	24,3431	21,8584	20,5759	23,4779	22,4239	20,8611	20,7905
64	47,5614	29,2189	24,301	20,6133	27,2478	24,3556	21,8673	20,5795	23,4863	22,4263	20,8925	20,8164
65	47,7349	29,2849	24,3231	20,6137	27,2582	24,3817	21,9009	20,6191	23,4965	22,4334	20,9949	20,9932
66	47,8276	29,3568	24,3873	20,6662	27,2603	24,3881	21,9124	20,6256	23,5269	22,4432	21,078	21,0237
67	48,1351	29,3837	24,447	20,6924	27,274	24,3922	21,9239	20,8118	23,5379	22,4556	21,1703	21,0854
68	48,5427	29,4471	24,4515	20,7317	27,3303	24,4023	21,968	20,8836	23,562	22,4631	21,1966	21,0952
69	48,8318	29,573	24,4546	20,739	27,3705	24,4391	22,046	20,8869	23,5654	22,4793	21,2092	21,1244
70	48,8953	29,7583	24,4646	20,9288	27,4207	24,5073	22,0879	20,9655	23,5717	22,488	21,2517	21,1485
71	49,3267	29,9261	24,4648	20,9836	27,4254	24,5369	22,0949	20,9974	23,5784	22,504	21,3218	21,1691
72	49,3812	29,9534	24,4813	21,0015	27,5266	24,5676	22,209	21,0083	23,6174	22,5119	21,3301	21,4143
73	49,6245	29,9672	24,5431	21,0178	27,6236	24,5833	22,2723	21,0087	23,6221	22,5368	21,5312	21,6199
74	49,7766	30,2678	24,5819	21,0285	27,7199	24,6003	22,2749	21,0978	23,6422	22,5459	21,6535	21,7044
75	50,006	30,3737	24,5861	21,0633	27,744	24,6191	22,2932	21,2432	23,6489	22,5459	21,7457	21,7623
76	50,018	30,3813	24,5902	21,079	27,7797	24,6531	22,3079	21,4423	23,7885	22,5626	21,7842	21,8481
77	50,4993	30,743	24,5981	21,3555	27,7975	24,674	22,3919	21,4495	23,8094	22,594	22,0245	21,8777
78	50,539	31,2323	24,6232	21,3733	27,819	24,7242	22,4304	21,472	23,8312	22,6041	22,1305	21,9679
79	50,5571	31,5756	24,6802	21,4377	27,8839	24,7344	22,5749	21,6446	23,8449	22,6468	22,3244	22,3145
80	50,6418	31,6202	24,7182	21,5842	27,9805	24,7919	22,5913	21,6477	23,9013	22,7189	22,4668	22,3779
81	50,6736	31,905	24,7766	21,6882	28,0213	24,8257	22,9557	21,8735	23,9094	22,8027	22,5847	22,7852
82	50,7006	31,9327	24,8296	21,8943	28,1009	24,8429	22,9714	21,9039	23,9878	22,9064	23,2833	22,9578
83	51,0027	32,0153	24,8563	22,1358	28,1066	24,8516	23,2717	22,013	24,0049	22,9834	23,429	23,1103
84	51,0601	32,2241	24,8664	22,3628	28,3429	24,9067	23,9839	22,0984	24,1368	22,9967	23,9952	23,4012
85	51,0824	32,4476	24,8689	22,6738	28,8776	24,9275	25,106	22,3523	24,2613	23,2858	24,1017	23,8592
86	51,8954	32,4564	24,9509	22,8964	28,8996	24,9453	25,4703	22,4607	24,2859	23,2991	24,6227	23,8673
87	52,1085	32,5733	24,9959	23,2546	29,1351	24,9911	25,6042	22,6567	24,3366	23,6208	24,8152	23,8756
88	52,436	32,5926	25,149	23,5161	29,1399	24,9959	25,8524	23,6298	24,5764	23,9674	24,8863	23,9326
89	53,2293	33,5278	25,1573	25,0833	29,3852	25,0101	26,4349	24,086	24,7669	24,0616	25,5101	24,8421
90	53,3406	33,6602	25,5799	25,9464	29,6093	25,1475	28,4087	24,5686	24,8863	24,1356	25,5299	24,9143
91	53,5495	33,6787	25,644	26,2558	30,3263	25,2533	28,7427	26,0552	24,8889	24,2442	25,5614	24,982
92	53,9748	33,942	25,6496	26,7183	30,5936	25,2856	29,6449	26,1799	24,9028	24,3825	26,0834	25,0427
93	54,0845	33,9997	25,6609	27,347	30,7972	25,3701	29,7934	26,1899	24,9406	24,6994	26,1916	25,2836
94	54,8845	34,1356	26,1466	28,3672	30,8285	25,3747	29,8136	26,2775	25,7216	25,8772	26,2022	26,2376
95	55,2666	34,7777	26,7919	30,3634	31,745	26,0009	30,7088	26,5232	26,1605	27,4376	26,3912	26,5999
96	56,5406	35,487	27,2665	31,6991	31,898	26,446	30,8579	26,7654	26,1628	27,8352	27,6755	27,1427
97	56,8647	35,7226	27,2881	32,2271	31,9327	26,8352	31,2049	27,2818	26,2554	28,2053	27,8361	27,2621
98	58,331	36,4443	27,6573	32,5535	32,0965	27,3612	31,2978	27,3432	26,8487	28,2888	29,9585	27,5147
99	58,513	36,4913	27,8373	32,6184	35,6209	27,7283	32,3935	33,1916	26,8806	36,9571	41,6763	28,3324
100	65,4718	43,3578	30,1833	32,9647	38,5094	34,5748	33,3692	35,6645	40,3066	43,1115	58,9761	46,5595

Uporządkowane rosnąco czasy obliczania [ms] całki metodą prostokątów z nadmiarem dla liczby podprzedziałów = 4 mln

Lp.	Wątków											
	1	2	3	4	5	6	7	8	9	10	11	12
1	89,6516	46,9138	42,3734	37,1072	51,1826	44,7188	39,991	36,7645	44,4655	41,317	38,5792	36,8718
2	89,8192	47,1431	42,4649	37,2249	51,229	45,4718	40,3527	36,7954	44,4999	41,4405	38,7367	37,1955
3	89,9544	47,348	42,4894	37,6201	51,4678	45,6112	40,4545	36,9485	44,511	41,566	38,7647	37,2246
4	89,9856	47,3492	42,9141	37,7632	51,4695	46,2201	40,5954	37,0202	44,658	41,9134	38,8011	37,2538
5	90,4535	47,4737	43,0489	38,0534	51,5184	46,2899	40,6287	37,1183	44,6598	41,9946	38,9747	37,4265
6	90,4689	47,5854	43,2224	38,2035	51,5549	46,3098	40,6305	37,2957	44,6827	42,0163	39,1636	37,4852
7	90,4741	48,4579	43,2286	38,2339	51,58	46,4057	40,6308	37,5158	44,7105	42,0475	39,3361	37,5012
8	90,4792	48,974	43,5543	38,2546	51,6097	46,4489	40,6488	37,5833	44,7953	42,1693	39,4311	37,6517
9	90,4883	49,317	43,5606	38,4276	51,6539	46,5021	40,6834	37,691	44,8473	42,2518	39,5593	37,8536
10	90,5044	49,3789	43,6352	38,5118	51,6776	46,6197	40,7412	37,8235	44,8481	42,2886	39,61	37,9535
11	90,6161	49,4133	43,7377	38,5627	51,7363	46,6515	40,8775	37,8263	44,8694	42,2969	39,6512	38,0882
12	90,6413	49,4371	43,8367	38,6125	51,8355	46,6708	40,8974	37,9545	44,8918	42,3352	39,7596	38,1092
13	90,6458	50,0384	43,857	38,6429	51,8451	46,7122	40,9414	38,1025	44,9002	42,3417	39,8045	38,1965
14	90,7123	50,3135	43,8886	38,6726	51,8812	46,7269	40,9791	38,1052	44,9252	42,352	39,8165	38,2147
15	90,7315	50,5425	43,9344	38,7009	51,8948	46,7634	41,0143	38,1349	44,9475	42,3722	39,8662	38,2214
16	90,7773	50,8951	44,0396	38,8138	51,9102	46,8273	41,0506	38,2155	44,9538	42,4272	39,8891	38,2379
17	90,8168	51,0806	44,185	38,8303	51,9699	46,832	41,0829	38,2195	45,0264	42,4773	39,8934	38,3171
18	90,8343	51,3138	44,3083	38,8373	51,9846	46,8858	41,1622	38,2216	45,0406	42,5101	39,9041	38,3402
19	90,8526	51,3271	44,4203	38,8972	52,03	46,8956	41,1661	38,2221	45,0921	42,6131	39,955	38,3758
20	90,8727	51,3286	44,5358	38,9143	52,0701	46,8964	41,2362	38,2659	45,1756	42,6217	39,9579	38,3875
21	90,8901	51,3988	44,6161	38,9153	52,0761	46,9068	41,2766	38,3403	45,2105	42,741	39,9882	38,424
22	90,9403	51,5684	44,6968	38,9403	52,0996	46,9576	41,2779	38,4399	45,2403	42,7431	39,9978	38,4447
23	90,9484	51,8972	44,8094	38,9573	52,1034	46,9785	41,28	38,4426	45,3749	42,7648	40,0006	38,487
24	90,9629	51,9068	44,9898	38,9916	52,1407	47,0132	41,3353	38,4549	45,4342	42,7754	40,0276	38,5282
25	90,9751	51,9231	45,2021	39,0027	52,208	47,0223	41,39	38,4786	45,4483	42,7781	40,0517	38,6013
26	91,0195	51,9459	45,2053	39,0286	52,2519	47,0424	41,3905	38,4809	45,4491	42,7977	40,1092	38,6714
27	91,1543	52,0285	45,2749	39,0521	52,2554	47,0453	41,4157	38,5098	45,499	42,8042	40,1748	38,6949
28	91,1709	52,1723	45,3073	39,0782	52,2576	47,0615	41,4375	38,5259	45,5188	42,8272	40,1859	38,911
29	91,1735	52,2262	45,3118	39,1069	52,2585	47,102	41,4612	38,5312	45,5267	42,8489	40,297	38,9209
30	91,1772	52,3973	45,3277	39,1207	52,3079	47,1021	41,4923	38,5672	45,5431	42,9264	40,3277	38,966
31	91,1823	52,4902	45,3415	39,1322	52,3266	47,1986	41,5057	38,6129	45,5788	42,9502	40,3457	38,9926
32	91,2108	52,5406	45,3535	39,157	52,3446	47,2026	41,5147	38,701	45,5836	42,9771	40,3535	39,0866
33	91,2205	52,5748	45,3583	39,1925	52,3575	47,2243	41,5593	38,7616	45,616	42,9777	40,4271	39,1001
34	91,2823	52,6281	45,386	39,2058	52,3662	47,2693	41,5947	38,7796	45,6291	43,05	40,437	39,1477
35	91,452	52,6899	45,4541	39,2084	52,3991	47,3913	41,6257	38,7812	45,6343	43,0531	40,4987	39,1824
36	91,5286	52,8566	45,4663	39,2438	52,4346	47,3969	41,7041	38,7855	45,6868	43,055	40,5368	39,1836
37	91,5398	53,0302	45,477	39,3357	52,4423	47,4005	41,7452	38,9258	45,6918	43,066	40,5819	39,1861
38	91,5711	53,1957	45,5621	39,4056	52,4862	47,4017	41,7497	38,9315	45,6983	43,0722	40,6246	39,207
39	91,5945	53,3378	45,5921	39,6723	52,6504	47,427	41,75	38,9325	45,7467	43,0763	40,6247	39,2119
40	91,6022	53,3753	45,6055	39,6769	52,6618	47,4584	41,7935	38,9504	45,7753	43,0767	40,6799	39,2475
41	91,6038	53,6122	45,6608	39,6986	52,6743	47,479	41,8766	38,9948	45,8017	43,0868	40,7311	39,2948
42	91,7161	53,6283	45,9471	39,7007	52,7388	47,5097	41,8978	39,0001	45,8105	43,103	40,7653	39,2954
43	91,7238	53,6648	45,9911	39,7685	52,763	47,52	41,9114	39,0172	45,8245	43,111	40,8412	39,3811
44	91,8819	53,771	46,0145	39,7772	52,7975	47,526	41,9662	39,0851	45,8549	43,1197	40,8505	39,3918
45	91,9356	54,0216	46,095	39,7935	52,8472	47,528	41,9671	39,1553	45,8817	43,125	40,894	39,3931
46	91,963	54,1991	46,2187	39,7966	52,8603	47,5384	41,9694	39,2002	45,896	43,1291	40,9268	39,3966
47	92,0196	54,2206	46,2395	39,8013	52,8872	47,542	41,9786	39,2508	45,9226	43,1616	40,9346	39,4912
48	92,0467	54,3263	46,2756	39,9295	52,9071	47,5448	42,0299	39,2869	45,9435	43,2394	40,9694	39,6017
49	92,0513	54,4635	46,3273	39,9844	52,9227	47,6016	42,0538	39,3105	45,9574	43,2483	40,9701	39,6222
50	92,19	54,7133	46,3342	40,0138	52,9355	47,6044	42,0644	39,3411	45,9575	43,3314	41,0706	39,6801
51	92,2365	54,8523	46,341	40,0559	52,9484	47,6616	42,0862	39,3524	45,9659	43,361	41,1285	39,7839
52	92,2734	54,9077	46,4351	40,1151	52,9492	47,7249	42,116	39,4213	45,9727	43,3754	41,1498	39,791
53	92,3025	54,9802	46,514	40,1226	52,9632	47,7357	42,1194	39,4733	46,0059	43,3754	41,1744	39,7935
54	92,3574	55,043	46,5312	40,1419	53,0118	47,75	42,1315	39,6135	46,0635	43,3934	41,1811	39,9081
55	92,3677	55,6731	46,5352	40,1974	53,0423	47,7529	42,1322	39,6441	46,1681	43,425	41,2025	39,9658
56	92,5023	55,8186	46,5907	40,2316	53,0453	47,7789	42,1755	39,8949	46,1741	43,4332	41,2438	39,9749
57	92,5097	55,9104	46,6142	40,2502	53,0563	47,8242	42,2248	39,9984	46,194	43,4484	41,3822	40,0033
58	92,5255	55,9494	46,6179	40,3055	53,1344	48,049	42,4313	40,0251	46,1943	43,4743	41,4361	40,0137
59	92,5361	55,9633	46,7163	40,3215	53,197	48,0747	42,4723	40,092	46,1954	43,5075	41,4887	40,0515
60	92,6416	56,4199	46,7627	40,3623	53,2083	48,0766	42,6728	40,3257	46,1964	43,5327	41,5447	40,0891
61	92,6756	56,546	46,8477	40,3651	53,2727	48,08	42,6806	40,3407	46,1974	43,5347	41,5613	40,1258
62	92,7231	56,5858	46,8651	40,3993	53,3266	48,0883	42,7739	40,722	46,2204	43,5904	41,5847	40,257
63	92,7629	56,605	46,8699	40,5398	53,4192	48,1265	42,809	40,7789	46,2498	43,6062	41,6406	40,322
64	92,8394	56,7759	47,0238	40,5512	53,4291	48,1586	42,832	40,8455	46,2862	43,6444	41,7143	40,3688
65	92,974	57,0134	47,0415	40,6335	53,516	48,1797	42,8365	40,8516	46,293	43,7006	41,7398	40,4121
66	93,0146	57,0231	47,0429	40,6536	53,5221	48,2256	42,8488	40,9308	46,3254	43,7182	41,763	40,4479
67	93,1921	57,1086	47,0774	40,7296	53,5268	48,2551	42,9261	40,9584	46,3274	43,7272	41,8099	40,4514
68	93,1982	57,3496	47,1646	40,7632	53,5681	48,2806	43,0687	41,0524	46,345	43,7751	41,93	40,4622
69	93,3859	57,3515	47,1739	40,779	53,5779	48,3	43,126	41,4013	46,347	43,7763	41,9714	40,6725
70	93,482	57,3675	47,2255	40,8912	53,6035	48,3636	43,14	41,4318	46,3725	43,8444	42,0151	40,6895
71	93,5581	57,4192	47,2566	40,8997	53,6861	48,3648	43,1507	41,5932	46,3765	43,8471	42,3251	40,7568
72	93,6185	57,5515	47,3307	41,0395	53,6906	48,4194	43,2059	41,6616	46,4609	44,0181	42,7855	40,7717
73	94,0438	57,7222	47,4424	41,1113	53,6999	48,4444	43,2721	41,6899	46,5252	44,1508	42,8761	41,1299
74	94,8532	57,9225	47,5089	41,1128	53,851	48,4707	43,3424	41,7391	46,573	44,2665	42,9364	41,1406
75	95,3321	58,084	47,5516	41,2203	53,8599	48,487	43,3547	41,7691	46,5935	44,2722	43,0394	41,1627
76	95,6885	58,5855	47,623	41,3082	54,016	48,4955	43,3995	43,1024	46,6619	44,3186	43,0842	41,2413
77	95,8848	58,627	47,7972	41,3777	54,1018	48,5149	43,4737	43,3435	46,6989	44,3834	43,158	41,5679
78	96,0357	58,6905	47,8503	42,6044	54,2654	48,5548	43,523	43,882	46,8765	44,419	43,8655	42,2689
79	96,321	59,1021	47,9489	43,5616	54,7733	48,6086	43,5336	45,267	46,8826	44,4707	44,9243	42,7046
80	99,4722	59,1289	48,2159	44,0547	54,9013	48,6087	43,5728	45,814	46,9564	44,4797	45,1235	43,039
81	99,7143	59,1768	48,3533	44,2215	55,0858	48,6333	43,5969	46,0574	47,0122	44,7146	45,8933	43,5675
82	99,7328	59,5144	48,358	44,332	55,2718	48,6383	43,956	46,189	47,0507	44,825	46,1263	43,7526
83	99,9915	59,8454	48,5638	44,8401	55,3405	48,7257	44,0523	46,7945	47,0547	44,9389	46,8648	43,7535
84	100,5189	59,977	48,5965	44,848	55,408	48,7795	44,451	47,0928	47,0658	45,2672	47,1548	43,7551
85	102,2181	60,015	48,5995	44,8805	55,4821	48,8223	45,1489	47,4768	47,3233	45,5777	47,3066	43,7947
86	103,1153	60,2943	48,946	45,6288	55,8057	48,9551	45,1702	48,366	47,3994	45,7031	47,4708	44,6339
87	103,5932	60,3853	49,1617	46,0492	55,9169	48,9833	45,2443	48,711	47,5642	45,8781	47,7751	46,7977
88	104,623	60,6247	49,4183	47,6292	55,92	49,0021	45,3975	49,2695	48,1876	46,0941	48,5348	47,3881
89	105,4409	60,6276	49,4535	48,2147	56,0976	49,1871	45,4008	49,5923	48,5885	46,1288	48,7958	47,4938
90	105,4781	60,7807	49,9097	48,5809	56,5647	49,2747	45,5833	49,7362	48,9294	46,134	49,3821	47,5005
91	105,6989	61,161	49,937	49,6679	56,5974	49,4305	46,154	49,855	49,2819	46,144	50,1607	47,5379
92	107,2475	61,6326	49,9683	51,3068	56,6821	49,5139	46,2288	50,5307	49,4729	46,2766	50,3369	47,6514
93	107,3204	62,0123	49,9875	52,0816	56,9485	49,7082	46,5651	50,5809	49,7584	46,477	50,7655	47,7129
94	109,5844	62,7175	50,099	53,2804	57,3606	49,7146	47,0231	51,1752	50,2882	46,7049	51,2125	48,2182
95	109,8898	63,2873	50,5769	54,2188	57,6617	49,7769	47,7656	52,938	50,3319	46,8343	52,2987	48,2716
96	111,4026	63,7407	51,2575	54,274	57,7112	50,3533	50,682	53,1132	52,5617	47,0323	52,768	48,5217
97	112,5081	64,7726	53,7417	54,6447	57,7371	50,4332	51,7094	53,8029	52,579	49,413	52,9746	48,5574
98	115,146	64,8863	54,0523	58,4722	59,11	51,2549	52,8517	54,2509	53,212	49,6285	56,4733	49,414
99	116,5569	66,1624	60,1137	58,9856	59,9772	54,4116	54,0021	54,754	54,0445	55,9076	60,1999	50,4225
100	134,0937	83,9829	67,1104	59,0173	70,4537	56,3163	56,0955	55,0349	57,2382	76,2858	63,3507	62,3302

Uporządkowane rosnąco czasy obliczania [ms] całki metodą prostokątów z nadmiarem dla liczby podprzedziałów = 8 mln

Lp.	Wątków											
	1	2	3	4	5	6	7	8	9	10	11	12
1	179,929	95,6651	83,4465	74,486	85,5344	79,8609	75,5798	74,2196	83,557	82,8481	77,6679	74,2966
2	180,1305	96,447	83,5208	75,2749	85,732	79,8633	75,8879	74,6585	89,8863	82,967	77,7355	74,9889
3	180,3472	97,0018	83,9268	75,3024	85,8339	79,959	76,118	74,7997	89,9041	83,3407	78,0334	75,0587
4	180,3667	97,0536	84,6379	75,4542	86,0999	80,0875	76,2412	75,0873	90,1199	83,5117	78,2244	75,1683
5	180,3701	97,4106	84,6407	75,7736	86,294	80,1547	76,3616	75,1826	90,5867	83,6334	78,2686	75,2073
6	180,3832	97,6463	84,8468	75,7787	86,4208	80,2931	76,4877	75,2386	90,643	84,0289	78,3771	75,4578
7	180,5837	98,0855	85,1626	75,8025	86,4405	80,6541	76,5896	75,3849	90,6498	84,1066	78,4053	75,594
8	180,6348	98,2894	85,175	75,9017	86,4463	80,8465	76,6207	75,4341	90,8504	84,2843	78,4902	75,7228
9	180,7078	98,544	85,636	76,0152	86,6257	80,8556	76,7264	75,4426	90,8667	84,3537	78,6114	75,8269
10	180,7809	98,8527	86,1357	76,1314	86,7336	80,865	76,7589	75,5725	90,9937	84,3709	78,6425	75,8512
11	180,8589	99,0047	86,2069	76,1712	86,7994	80,9187	76,8593	75,5906	91,1428	84,448	78,7157	75,8998
12	181,0712	99,5158	86,241	76,2532	86,856	81,0276	76,9632	75,6649	91,2479	84,4561	78,755	75,9641
13	181,0988	99,8177	86,3257	76,2741	86,9444	81,1482	76,9864	75,6701	91,2627	84,5672	78,7904	75,9747
14	181,1789	99,9677	86,635	76,2982	87,0112	81,1709	77,0287	75,8362	91,2682	84,7069	78,8918	76,0018
15	181,1959	100,2372	86,7404	76,4961	87,1825	81,1763	77,1795	75,8994	91,3308	84,7523	78,9658	76,0057
16	181,2372	101,525	86,8285	76,5192	87,2318	81,267	77,2234	75,9528	91,4866	84,7973	79,3463	76,0563
17	181,2713	101,7367	86,9052	76,5274	87,2614	81,2744	77,2616	75,9799	91,4948	84,8225	79,4034	76,326
18	181,3334	101,9265	86,9238	76,5375	87,3825	81,3303	77,286	76,016	91,6245	84,9151	79,4321	76,3781
19	181,3429	102,0722	86,9867	76,5563	87,4332	81,3304	77,2996	76,0451	91,7528	84,9175	79,4608	76,4392
20	181,417	102,1081	87,1776	76,6796	87,441	81,3927	77,4141	76,0803	91,8478	84,961	79,4958	76,5621
21	181,4264	102,465	87,2196	76,6805	87,4511	81,4525	77,4674	76,1777	92,0074	84,9718	79,5347	76,5725
22	181,5031	103,0036	87,2299	76,7661	87,5712	81,4842	77,5897	76,2223	92,0178	85,0348	79,6476	76,6159
23	181,5338	103,0067	87,2637	76,8256	87,6141	81,5048	77,8533	76,3118	92,1025	85,1187	79,8039	76,6166
24	181,5727	103,5178	87,4903	76,8508	87,647	81,5645	78,0089	76,3169	92,1385	85,1297	79,8236	76,651
25	181,627	103,6982	87,5374	76,9159	87,6556	81,5938	78,0976	76,3429	92,1629	85,1625	79,8465	76,7571
26	181,7159	103,7961	87,5419	77,0047	87,7778	81,75	78,1051	76,5866	92,2008	85,352	79,8467	76,7858
27	181,8312	103,9892	87,6428	77,0319	87,7915	81,7599	78,1194	76,6075	92,2401	85,4314	79,9218	76,88
28	182,0432	104,1605	87,7057	77,1386	87,8157	81,7668	78,2347	76,6607	92,2456	85,4394	79,9321	76,8889
29	182,0641	104,1693	87,7409	77,1409	87,8434	81,7963	78,3389	76,6833	92,2459	85,5425	79,9475	76,9451
30	182,1372	104,3152	87,7823	77,1702	87,858	81,8276	78,4486	76,7136	92,3436	85,5461	79,9511	77,0687
31	182,1684	104,6312	87,8028	77,2038	87,9827	81,8377	78,4756	76,7234	92,5566	85,5769	80,0578	77,0913
32	182,2416	104,6359	87,9358	77,2044	87,9928	81,8702	78,5113	76,7393	92,6066	85,596	80,1437	77,3329
33	182,2476	104,7352	87,9564	77,3043	88,0416	81,8714	78,8823	76,7434	92,6067	85,6028	80,2091	77,3501
34	182,2518	104,8128	88,2658	77,4668	88,184	81,9537	79,1874	76,771	92,6197	85,6538	80,2228	77,3599
35	182,3542	104,9305	88,3706	77,5715	88,2041	81,9628	79,688	76,7806	92,6809	85,6568	80,4157	77,3962
36	182,4023	105,2629	88,382	77,5959	88,2057	81,9816	80,1517	76,7908	92,6861	85,6703	80,4251	77,4338
37	182,4136	105,3558	88,3832	77,6208	88,2336	82,0752	80,1753	76,8437	92,7278	85,6755	80,5091	77,4426
38	182,4604	105,4692	88,5452	77,6786	88,2778	82,154	80,2516	76,9327	92,7992	85,714	80,5156	77,4734
39	182,594	105,6311	88,5753	77,6846	88,3417	82,2087	80,6436	76,977	92,8123	85,7416	80,7137	77,51
40	182,7676	105,9771	88,7931	77,714	88,3481	82,2626	80,677	77,061	92,8879	85,7482	80,7204	77,5876
41	182,8997	106,0083	88,8191	77,7251	88,3757	82,291	80,6959	77,0709	92,8994	85,7771	80,7526	77,7152
42	182,9449	106,1692	88,9801	77,7685	88,4237	82,5627	80,7082	77,0877	92,9819	85,8402	80,8097	77,8884
43	183,0885	106,3724	89,0439	77,9161	88,4335	82,7773	80,7716	77,1687	92,9925	85,8544	80,8666	77,889
44	183,0912	106,9475	89,3892	77,9852	88,4834	82,907	80,7773	77,1874	93,0049	85,9741	80,9858	77,9669
45	183,092	107,1408	89,6237	78,0476	88,4846	82,9774	80,7796	77,2188	93,0911	85,9899	81,0435	78,0042
46	183,2504	107,5202	89,7266	78,1448	88,6882	82,985	81,4722	77,2478	93,1239	86,1389	81,0988	78,124
47	183,2889	107,6054	89,7386	78,3556	88,8687	83,0149	82,0351	77,2526	93,1666	86,1736	81,1074	78,1367
48	183,348	107,6997	89,7575	78,5238	88,9388	83,0814	82,0442	77,4905	93,2067	86,2587	81,1419	78,1442
49	183,4082	107,9865	89,796	78,545	88,9433	83,0972	82,2746	77,972	93,263	86,2967	81,2596	78,1506
50	183,5372	108,1102	89,8115	78,7373	89,0484	83,1089	82,4037	78,0283	93,2744	86,3412	81,3127	78,2018
51	183,5513	108,1219	89,8266	79,0383	89,1433	83,1413	82,4238	78,1373	93,3074	86,4634	81,3205	78,2454
52	183,6604	108,398	89,8285	79,1565	89,1674	83,245	82,5506	78,1678	93,4572	86,5089	81,3228	78,3958
53	183,7793	108,413	89,8815	79,421	89,1845	83,2933	82,9263	78,3241	93,6039	86,5099	81,3403	78,5442
54	183,7972	108,4983	90,0531	79,5324	89,2212	83,3088	83,2022	78,4277	93,7039	86,553	81,3496	78,714
55	183,7976	108,5447	90,0706	79,5785	89,2219	83,3914	83,2203	78,5756	93,749	86,558	81,4348	79,0581
56	183,8761	108,6425	90,1201	79,6685	89,2831	83,596	83,2248	78,7547	93,8135	86,5872	81,494	79,0847
57	183,9899	108,8917	90,1609	79,7831	89,4441	83,6069	83,2626	79,0804	94,1136	86,6337	81,5692	79,1372
58	184,208	108,9791	90,2868	79,8108	89,4585	83,6598	84,0106	79,2606	94,1382	86,6677	81,5926	79,4796
59	184,8	109,3352	90,4184	79,8115	89,6835	83,8168	84,0136	79,3238	94,2344	86,7309	81,6989	79,7741
60	184,9042	109,4103	90,4221	79,971	89,686	83,9124	84,0692	79,4766	94,4463	86,7831	81,8499	79,9616
61	185,0415	110,0535	90,513	80,0315	89,7275	83,9127	84,1957	79,6193	94,5272	86,8169	81,8502	80,22
62	185,235	110,0871	90,6349	80,072	89,742	84,1831	84,3354	79,6221	94,551	86,8473	82,2817	80,4661
63	185,2647	110,2148	90,6904	80,6829	89,9068	84,26	84,3451	79,6694	94,6896	86,87	82,3206	80,4763
64	185,3871	110,4815	90,7827	80,8479	89,908	84,2886	84,3979	79,822	94,7807	86,8992	82,4128	80,7199
65	185,5665	110,7203	91,0193	80,9112	89,9832	84,3029	84,685	79,8432	95,2315	86,9004	82,5412	81,0277
66	185,7432	110,7656	91,0872	81,0907	90,0284	84,3815	85,2448	79,8666	95,2525	86,9556	82,622	81,2543
67	185,8462	110,7684	91,4239	82,128	90,1126	84,4697	85,326	80,0932	95,3418	87,0412	82,6548	81,4158
68	186,7062	111,1593	91,5137	82,2525	90,115	84,5623	85,4588	80,7343	95,3975	87,0604	82,7029	81,4745
69	187,4381	111,2786	91,5183	82,2561	90,1666	84,8355	85,6073	80,7402	95,4188	87,126	82,7285	81,6322
70	188,1869	112,1808	92,056	82,7141	90,3636	85,0449	85,717	80,9488	95,4513	87,1543	82,7288	82,4164
71	188,3452	112,4367	92,1986	83,111	90,3895	85,0674	85,7616	81,3796	95,4632	87,1669	82,8276	82,4619
72	188,5498	112,575	92,2214	83,5056	90,4047	85,2915	86,3776	81,6974	95,7724	87,2169	82,8638	82,8617
73	188,7461	112,7971	92,2533	83,8628	90,4976	85,6827	86,4902	81,7281	96,1234	87,2363	83,1832	84,1067
74	188,8171	112,8937	92,3384	84,15	90,5884	85,6855	86,624	81,7578	96,1475	87,2998	83,2895	84,1271
75	189,332	113,0258	92,4901	84,2923	90,6089	86,0877	87,0579	82,0113	96,238	87,3214	83,8702	84,433
76	189,6284	113,1307	92,5629	84,5045	90,6191	86,6426	87,3884	82,178	96,2681	87,3342	84,1579	84,7662
77	189,7242	113,247	92,6022	84,5082	90,627	86,6882	87,4967	82,2603	96,3949	87,4492	84,2221	84,911
78	189,7401	113,387	93,1438	85,5124	90,6575	86,9618	87,5403	83,1762	96,8972	87,4512	84,443	85,6368
79	190,1596	113,5379	93,181	86,0365	90,7129	87,6936	87,6381	83,4734	96,994	87,4541	84,6541	86,8007
80	190,2456	113,9591	93,6192	86,038	90,7816	87,9848	87,8188	84,1498	97,659	87,5983	84,7593	87,7153
81	190,6296	114,3837	93,7399	86,6166	90,8024	88,3925	88,036	84,5662	97,7779	87,7796	85,0652	87,8936
82	190,8803	114,5439	93,8091	87,9466	91,1766	88,4875	88,5699	84,7122	98,4391	87,9161	85,0725	89,6345
83	191,7116	115,1614	94,0442	88,0095	91,2509	88,7938	88,9288	84,8075	98,5319	87,9567	85,3877	89,7639
84	195,3259	115,2043	94,8343	92,0531	91,299	89,1798	88,9735	85,8957	101,514	87,9642	86,0673	89,8284
85	195,7551	115,3722	95,0899	92,0624	91,9127	89,2505	89,1451	85,9631	103,6295	88,0516	86,2809	91,412
86	196,064	115,6937	96,4998	92,2288	91,9526	89,5237	89,4527	86,7676	103,7776	88,1708	86,6503	91,6612
87	199,2638	118,5042	97,8372	92,8444	92,4496	89,7013	89,6036	88,1518	104,4124	88,1814	86,656	92,864
88	200,1691	118,5185	100,3034	97,4871	94,0846	90,2355	90,0182	89,1641	105,1278	88,3399	86,917	92,9427
89	200,1982	118,8964	103,256	98,9861	94,208	90,2965	90,1407	89,2884	105,4548	88,4059	88,7317	93,5793
90	200,9123	119,0772	103,9797	99,6324	94,3907	91,3359	90,1981	89,7655	105,6654	88,4606	89,3779	93,7997
91	201,0675	119,8136	108,5513	100,5353	94,7866	91,4494	90,88	90,0465	106,1837	88,8221	90,1008	94,3013
92	202,901	119,9634	110,9933	101,1236	96,5714	92,1295	91,0942	90,8938	106,2084	88,8626	90,4024	94,362
93	204,8058	120,5321	114,3134	102,3764	96,9579	93,2298	92,0099	92,7286	106,5458	89,025	90,6562	96,3217
94	206,2588	120,6439	116,4833	102,8469	98,0559	93,5039	93,544	92,8995	106,6705	89,2134	90,9123	98,3995
95	208,948	121,7436	122,8299	102,8627	98,8329	94,8338	93,7904	93,2181	106,9348	89,2949	91,7663	100,7501
96	209,6224	123,6657	125,7175	103,3996	99,131	95,3146	94,5666	93,557	107,7054	90,2573	91,8464	102,9469
97	209,642	127,9778	135,9572	103,9665	99,1759	95,5639	96,1906	95,1973	108,4349	90,6301	92,3993	103,2959
98	210,7661	132,4273	142,4751	105,7114	101,6649	96,4022	96,2589	97,4023	110,2762	91,7833	93,9362	104,5367
99	213,4789	132,474	143,1379	110,798	102,2125	96,8718	96,3179	98,5635	110,5808	95,5585	103,0783	107,9242
100	248,0842	146,2576	144,3511	111,6766	104,855	119,0071	98,1135	102,4446	111,146	104,5872	104,8435	117,816

Uporządkowane rosnąco czasy obliczania [ms] całki metodą trapezów dla liczby podprzedziałów = 1 mln

Lp.	Wątków											
	1	2	3	4	5	6	7	8	9	10	11	12
1	25,5461	12,7288	10,7301	11,4953	12,2995	10,7522	9,6613	8,7147	10,5625	9,6044	9,227	8,691
2	25,5763	12,7495	10,7697	11,5263	12,3223	10,8434	9,737	8,7692	10,5794	9,6799	9,2954	8,727
3	25,5995	12,7758	11,1873	11,5625	12,3264	10,8521	9,7416	8,7769	10,5823	9,8089	9,2968	8,7723
4	25,6214	12,8813	11,2069	11,5738	12,3277	11,051	9,7418	8,7993	10,5903	9,9606	9,2981	8,782
5	25,6405	12,888	11,2098	11,5867	12,3277	11,1228	9,744	8,8419	10,5904	9,9937	9,299	8,836
6	25,6429	12,9185	11,2305	11,6142	12,3393	11,171	9,7475	8,8458	10,5926	10,0064	9,3026	8,8489
7	25,6923	12,9612	11,2619	11,6699	12,356	11,2527	9,7484	8,8773	10,6235	10,1949	9,3029	8,852
8	25,7016	12,963	11,2677	11,6792	12,3561	11,3016	9,7488	8,8903	10,6446	10,2542	9,3031	9,0007
9	25,7114	13,2635	11,2997	11,7185	12,3588	11,3566	9,7503	8,9734	10,7888	10,4407	9,3071	9,0392
10	25,7161	13,2808	11,3031	11,7542	12,3619	11,3653	9,7532	8,9936	10,7889	10,4585	9,3182	9,0684
11	25,7536	13,2932	11,3045	11,8983	12,362	11,3763	9,7533	9,1156	10,7966	10,4712	9,3243	9,0859
12	25,7795	13,3472	11,3367	11,9121	12,3636	11,3858	9,7542	9,1337	10,813	10,5373	9,3355	9,1605
13	25,8098	13,4008	11,3374	11,9226	12,3662	11,4153	9,7562	9,199	10,8792	10,6508	9,3968	9,1656
14	25,8263	13,4023	11,356	11,9482	12,3746	11,4267	9,7604	9,2055	10,8926	10,6629	9,5151	9,1802
15	25,8547	13,4047	11,3629	11,9516	12,3785	11,5286	9,7618	9,2072	11,0199	11,2815	9,5434	9,1833
16	25,8652	13,4422	11,3656	11,9536	12,436	11,5669	9,7703	9,2189	11,0528	11,3265	9,5803	9,2064
17	25,8754	13,4802	11,3677	11,9751	12,4475	11,5764	9,7732	9,2373	11,0814	11,3455	9,6322	9,2423
18	25,8819	13,4894	11,3681	11,9773	12,4856	11,6139	9,7737	9,2763	11,0868	11,3727	9,713	9,2806
19	25,8851	13,4919	11,3694	11,9941	12,5105	11,6224	9,7768	9,28	11,0928	11,4277	9,7308	9,2985
20	25,897	13,5066	11,3719	12,0145	12,5664	11,6548	9,7959	9,2835	11,1063	11,4292	9,7548	9,3078
21	25,9078	13,698	11,3769	12,0185	12,5754	11,6751	9,8445	9,3519	11,1767	11,5572	9,7768	9,3236
22	25,9191	13,7109	11,3801	12,0835	12,5856	11,6857	9,8702	9,3729	11,2219	11,5796	9,8259	9,355
23	25,92	13,7237	11,3805	12,109	12,5889	11,8136	9,9891	9,412	11,2265	11,5852	9,8759	9,4082
24	25,9708	13,7883	11,3893	12,122	12,6224	11,8792	9,9969	9,4237	11,261	11,7215	9,9082	9,4364
25	26,0264	13,831	11,3893	12,1381	12,6684	11,8963	10,016	9,4578	11,2877	11,8271	9,9181	9,5457
26	26,0281	13,848	11,3994	12,1429	12,6887	11,9522	10,0194	9,5064	11,2921	12,034	9,9189	9,5559
27	26,1028	13,942	11,4309	12,1752	12,6901	12,0116	10,0846	9,5478	11,362	12,3698	9,9343	9,5786
28	26,1239	13,9669	11,4859	12,1811	12,6913	12,0482	10,1042	9,5959	11,3772	12,6819	9,9559	9,6362
29	26,1553	14,1506	11,5107	12,1875	12,7105	12,1008	10,1182	9,6287	11,4358	12,7043	9,9687	9,7138
30	26,1565	14,1948	11,5144	12,1904	12,7227	12,1033	10,135	9,6373	11,441	13,0242	9,9716	9,7499
31	26,2163	14,2039	11,5866	12,2156	12,7503	12,1044	10,1395	9,6638	11,4538	13,0289	9,9717	9,7765
32	26,2378	14,3335	11,6448	12,2395	12,7849	12,1061	10,1437	9,6991	11,5005	13,0994	9,9852	9,784
33	26,2481	14,3343	11,6625	12,2526	12,8005	12,1486	10,1703	9,7053	11,5045	13,1518	10,091	9,7946
34	26,2691	14,3795	11,6852	12,2574	12,809	12,191	10,1743	9,7097	11,5319	13,3972	10,0987	9,8361
35	26,2799	14,4019	11,6923	12,2851	12,8168	12,2241	10,1815	9,7177	11,533	13,5329	10,1193	9,8732
36	26,2874	14,4037	11,715	12,3127	12,8185	12,2366	10,1942	9,7539	11,5495	13,5566	10,1446	9,8901
37	26,3578	14,4392	11,7161	12,3127	12,8229	12,297	10,1958	9,7634	11,5504	13,5855	10,1465	9,9249
38	26,3618	14,4863	11,7205	12,3172	12,8549	12,3198	10,2011	9,8625	11,5655	13,8838	10,174	9,93
39	26,4013	14,4929	11,7324	12,4425	12,8695	12,351	10,2123	9,8666	11,5763	13,9372	10,2173	10,0098
40	26,4426	14,5378	11,7807	12,4573	12,9123	12,3778	10,245	9,873	11,6538	13,9576	10,2579	10,0149
41	26,4562	14,5924	11,7874	12,4599	12,9226	12,398	10,2746	9,9096	11,7638	13,9738	10,3519	10,0504
42	26,4678	14,6949	11,788	12,4607	12,9274	12,589	10,314	9,9906	11,7743	13,9823	10,3898	10,0529
43	26,4751	14,7161	11,7938	12,5048	12,929	12,6987	10,3472	9,9959	11,8755	13,9955	10,4749	10,0825
44	26,481	14,7197	11,7992	12,5733	12,9422	12,7266	10,3676	9,9968	11,9469	14,1146	10,505	10,1346
45	26,5337	14,7706	11,8372	12,6074	12,9438	12,7766	10,3868	10,0239	12,0316	14,1219	10,6363	10,1652
46	26,5344	14,9162	11,9047	12,6433	12,9464	12,803	10,4026	10,0291	12,05	14,1919	10,7292	10,2215
47	26,546	14,9835	11,9253	12,6981	12,9505	12,8292	10,4363	10,0523	12,0556	14,4179	10,8047	10,2241
48	26,5532	15,0264	11,9285	12,7046	12,9539	12,8739	10,4475	10,0804	12,0826	14,426	10,8718	10,2628
49	26,5648	15,0735	11,9397	12,7063	13,0551	12,9099	10,4537	10,1446	12,2046	14,81	10,8816	10,3136
50	26,5649	15,0794	11,9483	12,8683	13,1239	12,9198	10,4746	10,205	12,2432	15,0157	10,891	10,3153
51	26,584	15,1284	11,9834	12,8846	13,1349	12,9483	10,5	10,2254	12,3036	15,2158	10,8979	10,3238
52	26,6251	15,2237	11,995	12,9078	13,1458	12,9827	10,5309	10,2834	12,3312	15,3494	10,9788	10,3272
53	26,6291	15,4067	12,0635	12,9423	13,149	13,0066	10,585	10,3077	12,343	15,3819	11,0168	10,3592
54	26,7361	15,4158	12,0735	12,9595	13,1597	13,0277	10,6196	10,3184	12,3647	15,6448	11,098	10,3688
55	26,7468	15,4525	12,0777	12,9622	13,1597	13,0443	10,6276	10,4624	12,3875	15,6927	11,1257	10,4007
56	26,7481	15,4813	12,0793	12,9666	13,1651	13,0763	10,6457	10,5258	12,4326	15,6942	11,3252	10,4469
57	26,7531	15,4858	12,1009	12,9932	13,1797	13,2108	10,6549	10,5499	12,4713	15,9532	11,3813	10,4552
58	26,79	15,5224	12,105	13,0307	13,1974	13,2199	10,6942	10,5744	12,5402	15,957	11,3906	10,5183
59	26,8017	15,5502	12,1922	13,0572	13,222	13,2234	10,7024	10,5964	12,6493	15,9638	11,4264	10,576
60	26,8048	15,5523	12,1924	13,1195	13,231	13,2279	10,713	10,6054	12,6695	16,0362	11,4815	10,8243
61	26,8267	15,6089	12,1946	13,1289	13,2451	13,2406	10,793	10,6425	12,816	16,0718	11,5479	10,8272
62	26,8344	15,6453	12,1971	13,1354	13,2648	13,2587	10,8389	10,716	12,82	16,345	11,602	10,9388
63	26,8346	15,661	12,2307	13,1583	13,2923	13,2624	10,885	10,8347	12,8786	16,5501	11,615	10,9629
64	26,8392	15,6678	12,2553	13,17	13,2955	13,3233	10,9197	10,9859	13,0084	16,7863	11,9493	10,9667
65	26,8599	15,9177	12,2795	13,2353	13,3138	13,3592	10,9382	11,0259	13,088	16,8499	11,9819	11,0181
66	26,861	15,9189	12,2809	13,2869	13,3233	13,3897	10,958	11,0481	13,1783	17,157	11,9854	11,0186
67	26,8866	15,9951	12,2982	13,3405	13,3459	13,4603	10,9738	11,1087	13,349	17,4366	12,0706	11,033
68	26,9178	16,0682	12,319	13,4451	13,3559	13,4737	11,1175	11,1191	13,406	18,3267	12,1437	11,1452
69	26,92	16,116	12,3278	13,446	13,3997	13,4852	11,1179	11,1203	13,4455	18,4795	12,1497	11,1517
70	26,9341	16,1754	12,3291	13,4549	13,4366	13,5054	11,1505	11,1249	13,4796	18,5646	12,187	11,2478
71	26,9722	16,232	12,4052	13,4663	13,4464	13,5357	11,1934	11,1289	13,5426	18,9211	12,2583	11,2766
72	26,9884	16,2848	12,4107	13,4796	13,5025	13,6116	11,2438	11,1364	13,6877	19,5458	12,3075	11,2964
73	26,9914	16,3369	12,5341	13,5715	13,5154	13,6276	11,2713	11,2946	13,7691	19,5473	12,3896	11,2976
74	26,9916	16,3531	12,537	13,649	13,5155	13,6711	11,2848	11,3414	13,8511	19,6247	12,4578	11,3316
75	27,0321	16,4596	12,6194	13,7136	13,5229	13,722	11,3772	11,3507	13,8547	19,9594	12,5968	11,3731
76	27,0384	16,4667	12,6256	13,7259	13,5285	13,7736	11,3871	11,4053	13,8741	20,1846	12,6057	11,4134
77	27,098	16,5994	12,6382	13,8098	13,5621	13,8012	11,4423	11,4118	14,0463	20,7895	12,6525	11,4485
78	27,1327	16,6245	12,6661	13,9852	13,6075	13,8221	11,4656	11,4695	14,1845	21,1354	12,7915	11,5676
79	27,1574	16,6636	12,6687	14,6626	13,6286	13,8769	11,4825	11,4865	14,6742	22,6887	12,923	11,6168
80	27,165	16,7622	12,7254	14,6725	13,6512	13,8818	11,4829	11,4908	14,8788	23,3856	13,0705	11,7024
81	27,1708	16,8657	12,7349	14,9012	13,6718	13,8861	11,4888	11,5319	15,0638	24,4603	13,1723	11,7482
82	27,1944	17,1271	12,7821	14,9167	13,6896	13,9152	11,5425	11,6795	15,3558	24,6023	13,1763	11,8315
83	27,2088	17,4205	12,827	15,0998	13,6994	13,9404	11,55	12,1579	15,4464	25,0014	13,2345	11,8993
84	27,2269	17,4939	12,8282	15,3732	13,7208	13,951	11,5598	12,3687	15,4514	25,23	13,2681	11,9889
85	27,2495	17,5008	12,8488	15,4087	13,7401	13,9795	11,5674	12,3756	15,4865	25,5515	13,3206	12,2747
86	27,3486	17,5021	12,8608	15,4543	13,8214	13,9856	11,6304	12,4324	15,5686	25,5723	13,3274	12,4762
87	27,48	17,5132	12,9182	15,606	13,8363	14,0696	11,6492	12,4838	15,8016	25,5747	13,3856	13
88	27,496	17,5543	12,9822	15,6062	13,8522	14,0752	11,7102	12,5285	16,072	25,6351	13,4606	13,2749
89	27,5619	17,5687	12,996	15,9116	13,8822	14,0796	11,89	12,8119	16,835	26,0659	13,7501	13,513
90	27,5773	17,668	13,0001	15,9573	13,9707	14,0919	12,3405	12,9855	17,2513	27,6104	13,9348	13,5337
91	27,605	17,6772	13,0691	16,0184	14,0654	14,1337	12,5446	13,1333	17,4505	29,0743	14,0839	13,5926
92	27,6774	17,9144	13,1426	16,7729	14,1322	14,2373	12,6279	13,3735	17,5997	31,6815	14,137	13,6742
93	27,7039	17,926	13,2609	16,9011	14,1446	14,3384	12,9813	13,3844	17,6577	31,7674	14,2141	14,1032
94	27,8651	17,9706	13,2694	17,6972	14,2773	14,4319	13,2283	13,5342	17,7633	32,3087	14,7174	14,1072
95	28,0552	18,0756	13,3675	17,9994	14,2915	14,4842	13,5544	13,5898	18,1158	34,6792	14,7801	14,4529
96	28,35	18,7737	13,3815	19,0136	14,3557	14,5295	13,5985	13,9618	18,1889	35,2227	16,8777	14,5511
97	28,6279	20,1977	13,5231	19,5198	14,4134	14,8252	13,9599	15,149	18,3059	38,3541	17,0821	15,4575
98	29,1359	20,4126	14,4292	19,9641	14,9352	15,1852	14,7416	15,9031	18,8415	42,0016	19,6301	19,476
99	29,7706	30,8198	14,9512	20,4479	16,5776	16,2723	15,8352	21,3736	23,9548	47,6817	32,0389	23,5843
100	30,6903	52,2042	16,2311	24,8053	22,2247	27,1788	23,998	24,0586	31,8692	133,332	34,2229	34,9893

Uporządkowane rosnąco czasy obliczania [ms] całki metodą trapezów dla liczby podprzedziałów = 2 mln

Lp.	Wątków											
	1	2	3	4	5	6	7	8	9	10	11	12
1	51,4331	25,9129	21,9886	18,2655	24,9112	21,6263	19,5749	19,8066	21,3176	20,0739	18,9259	18,3783
2	51,5302	26,1163	22,0808	18,2678	25,022	21,7329	19,7463	19,9405	21,4631	20,2351	19,166	18,4819
3	51,5674	26,1311	22,1694	18,2873	25,0502	21,7574	19,7492	19,952	21,5089	20,2378	19,3962	18,5537
4	51,6598	26,2878	22,1953	18,3135	25,0995	22,0619	19,8232	19,979	21,5638	20,2755	19,5848	18,613
5	51,7293	26,3007	22,2511	18,3972	25,1284	22,0842	19,8714	20,0261	21,5657	20,3562	19,7711	18,6177
6	51,743	26,3269	22,3974	18,4668	25,2504	22,1113	19,9046	20,0386	21,5895	20,3724	19,773	18,6273
7	51,7744	26,4324	22,4221	18,4941	25,261	22,2103	19,9336	20,1076	21,6296	20,3833	19,8285	18,6583
8	51,7987	26,8194	22,5986	18,5344	25,2925	22,2741	19,9625	20,1705	21,6633	20,4518	19,9225	18,6641
9	51,8137	26,9539	22,6352	18,5381	25,3022	22,32	20,0354	20,2704	21,7074	20,4968	20,049	18,6825
10	51,8238	27,0243	22,6399	18,6332	25,3101	22,3371	20,0599	20,3139	21,7406	20,5889	20,1264	18,6967
11	51,8343	27,0713	22,6571	18,6354	25,37	22,3958	20,0629	20,4109	21,8	20,6337	20,1848	18,8023
12	51,8554	27,3247	22,7244	18,7042	25,3854	22,4289	20,1074	20,4234	21,8435	20,6783	20,2488	18,8785
13	51,8801	27,5961	22,8195	18,718	25,3912	22,4329	20,117	20,4563	21,8438	20,7178	20,2495	18,8817
14	51,9051	27,5979	22,9032	18,7842	25,4255	22,4699	20,2297	20,5113	21,8562	20,7815	20,2611	18,9067
15	51,91	27,7926	22,9312	18,8611	25,4271	22,4953	20,2737	20,5708	21,8605	20,845	20,2629	18,9777
16	51,9272	27,8022	22,9609	19,0195	25,4833	22,5194	20,2741	20,5846	21,8621	20,8803	20,3676	19,0186
17	51,93	27,8868	22,9826	19,0557	25,4879	22,5295	20,323	20,5932	21,8838	20,9201	20,3851	19,0205
18	51,9349	27,8941	22,9958	19,0922	25,4888	22,5371	20,3397	20,634	21,8984	20,9766	20,4066	19,0299
19	51,9529	27,9152	23,0392	19,1084	25,517	22,5425	20,3889	20,644	21,9125	20,9958	20,4089	19,0466
20	51,9897	27,9862	23,1105	19,1397	25,5206	22,57	20,4688	20,649	21,9163	21,0045	20,4708	19,0511
21	52,0072	28,0448	23,1661	19,1579	25,5783	22,6072	20,4836	20,7349	21,9528	21,0115	20,4919	19,0758
22	52,0101	28,1602	23,1683	19,1615	25,5798	22,6356	20,4876	20,7773	21,9536	21,026	20,4972	19,1393
23	52,0204	28,2051	23,235	19,1867	25,5971	22,6759	20,4906	20,8885	21,9602	21,0601	20,5478	19,1715
24	52,0371	28,2787	23,2579	19,1897	25,6146	22,6775	20,543	20,9035	21,9652	21,0876	20,5885	19,1794
25	52,0818	28,3171	23,3011	19,2328	25,6627	22,6899	20,5911	20,9076	21,9913	21,092	20,6084	19,2277
26	52,0897	28,342	23,3816	19,2778	25,6658	22,7839	20,5938	21,0112	22,025	21,1035	20,6093	19,2709
27	52,138	28,3602	23,3851	19,3379	25,7004	22,8013	20,6293	21,0886	22,0405	21,1523	20,6184	19,2967
28	52,149	28,4023	23,3864	19,3462	25,7392	22,8406	20,6336	21,1555	22,0609	21,154	20,6341	19,2979
29	52,1584	28,5733	23,3985	19,3722	25,7408	22,855	20,667	21,1915	22,0878	21,1631	20,6403	19,3013
30	52,1635	28,6176	23,4222	19,4417	25,7422	22,8608	20,6842	21,2251	22,1181	21,1651	20,6456	19,3281
31	52,2464	28,6443	23,4802	19,4876	25,7512	22,8694	20,6944	21,2408	22,1395	21,1831	20,7565	19,3698
32	52,2705	28,7468	23,4848	19,543	25,7855	22,8973	20,7204	21,2524	22,1427	21,1845	20,7578	19,3754
33	52,3102	28,8386	23,4893	19,5543	25,8394	22,919	20,7219	21,2575	22,1591	21,1973	20,811	19,4498
34	52,3447	28,8621	23,4906	19,5724	25,867	22,9203	20,7623	21,3274	22,1604	21,2192	20,8242	19,4801
35	52,3699	28,9363	23,4908	19,6005	25,8897	22,9268	20,7667	21,3337	22,1757	21,221	20,8822	19,5185
36	52,3705	29,0619	23,4976	19,6008	25,9025	22,9351	20,8071	21,3675	22,1864	21,2436	20,906	19,5426
37	52,3755	29,0934	23,5303	19,6442	25,904	22,9593	20,8093	21,3721	22,2273	21,2627	20,9136	19,5657
38	52,3933	29,2549	23,5456	19,6562	25,9399	22,9619	20,8402	21,3775	22,2712	21,2882	20,9713	19,583
39	52,4025	29,2863	23,6215	19,6755	25,9458	22,9768	20,8526	21,4105	22,2959	21,2887	20,9755	19,6341
40	52,4094	29,4848	23,6354	19,6871	25,9645	23,0011	20,8941	21,4357	22,3324	21,3237	21,0057	19,7183
41	52,4187	29,6001	23,6789	19,7226	25,9802	23,0378	20,9151	21,4591	22,4481	21,3385	21,0211	19,7724
42	52,4628	29,6828	23,7028	19,7285	25,9929	23,0604	20,9234	21,4899	22,4624	21,3533	21,0254	19,7911
43	52,4631	29,7185	23,712	19,734	26,0288	23,1343	20,9525	21,5315	22,4874	21,3667	21,0535	19,8155
44	52,4714	29,7963	23,7184	19,8275	26,0291	23,1652	21,0242	21,533	22,4942	21,3826	21,1158	19,8312
45	52,4728	29,8941	23,7401	19,8421	26,1505	23,1858	21,0664	21,7	22,5358	21,4226	21,1418	19,8426
46	52,477	29,9024	23,7534	19,8579	26,1543	23,24	21,0674	21,7423	22,5703	21,4293	21,2139	19,8876
47	52,4793	29,903	23,8196	19,8824	26,1764	23,2809	21,0933	21,7628	22,586	21,4701	21,2179	19,9148
48	52,4972	29,9156	23,8486	19,9456	26,2094	23,3609	21,0961	21,7793	22,6108	21,4728	21,2219	19,9292
49	52,5033	29,9163	23,8988	19,9523	26,2117	23,4428	21,1111	21,7936	22,6132	21,506	21,249	19,9438
50	52,5063	29,9237	23,9179	19,9963	26,2198	23,4465	21,1195	21,7972	22,6249	21,5077	21,2588	20,0031
51	52,524	29,9279	23,9189	20,0445	26,2206	23,45	21,1459	21,8452	22,6276	21,533	21,2609	20,0062
52	52,5349	30,0088	23,9795	20,0446	26,2255	23,4683	21,1654	21,9038	22,6641	21,5345	21,2762	20,0068
53	52,5493	30,038	23,9914	20,07	26,2438	23,4794	21,2249	21,9064	22,6719	21,573	21,3899	20,1219
54	52,5609	30,1646	24,0094	20,0801	26,2557	23,4843	21,2318	21,9669	22,7092	21,5931	21,4329	20,1869
55	52,5628	30,2025	24,0309	20,1469	26,2619	23,5604	21,2763	21,9981	22,736	21,5997	21,4947	20,1881
56	52,5908	30,2469	24,0424	20,1516	26,2641	23,5742	21,2789	22,0459	22,7472	21,6029	21,5563	20,2247
57	52,6144	30,3915	24,0933	20,1886	26,2819	23,6306	21,3392	22,0613	22,7519	21,6072	21,5613	20,2564
58	52,6343	30,4188	24,1582	20,1924	26,2827	23,6412	21,3729	22,0889	22,7744	21,6106	21,5834	20,2932
59	52,636	30,4488	24,171	20,2812	26,2849	23,6844	21,394	22,1032	22,8299	21,6278	21,6364	20,4265
60	52,6576	30,472	24,1989	20,2937	26,2975	23,7019	21,4061	22,1267	22,8354	21,6538	21,7484	20,4896
61	52,6634	30,4905	24,2181	20,3035	26,3477	23,7719	21,4074	22,211	22,8602	21,6763	21,7531	20,5621
62	52,6893	30,545	24,2475	20,3269	26,356	23,7866	21,4166	22,2176	22,8835	21,6829	21,7562	20,6259
63	52,746	30,5797	24,2584	20,3449	26,3632	23,811	21,5224	22,3842	22,8942	21,6992	21,8038	20,6544
64	52,7625	30,702	24,262	20,3473	26,3666	23,8793	21,5428	22,4013	22,9023	21,7046	21,826	20,6999
65	52,7676	30,7199	24,2888	20,3596	26,3748	23,8851	21,5519	22,4523	22,9423	21,7583	21,8779	20,7498
66	52,8043	30,872	24,3144	20,4014	26,39	23,9397	21,5688	22,475	22,9696	21,7627	21,903	20,8093
67	52,807	30,9581	24,3629	20,4578	26,4546	23,948	21,6115	22,5088	22,9829	21,766	21,9174	20,8504
68	52,8693	31,0278	24,3743	20,4893	26,4598	24,0074	21,707	22,5416	23,0091	21,782	22,0032	21,0106
69	52,8961	31,0482	24,6179	20,5104	26,4777	24,0141	21,7211	22,6635	23,0125	21,8497	22,1389	21,0334
70	52,9478	31,1585	24,6642	20,5136	26,4897	24,0301	21,7505	22,9658	23,0647	21,8506	22,1832	21,0531
71	52,9953	31,3108	24,6793	20,5751	26,4945	24,0944	21,8351	22,9715	23,1031	21,8513	22,2771	21,2338
72	53,0529	31,374	24,7162	20,6019	26,514	24,1031	21,8436	23,0779	23,1627	21,8705	22,3211	21,3855
73	53,0868	31,3875	24,8512	20,6643	26,5197	24,1122	21,9032	23,2138	23,3017	21,871	22,348	21,8296
74	53,097	31,4076	24,9253	20,6862	26,5222	24,1274	21,9452	23,2456	23,331	21,8955	22,4276	21,9248
75	53,3236	31,4624	25,2285	20,8223	26,5426	24,1315	21,9911	23,2555	23,3446	21,9011	22,4884	22,2456
76	53,3271	31,4734	25,3058	20,8247	26,5439	24,1454	22,0871	23,2583	23,3833	21,9122	22,5266	22,3418
77	53,4392	31,5056	25,3462	20,9573	26,5508	24,1487	22,2335	23,3659	23,3888	21,9533	22,6479	22,4906
78	53,44	31,516	25,4096	21,0978	26,6113	24,1689	22,4384	23,6	23,3927	21,9711	22,6948	22,5948
79	53,5789	31,5669	25,5648	21,1137	26,7017	24,2022	22,871	23,6821	23,4595	22,0674	22,756	22,6131
80	53,8753	31,6421	25,7172	21,201	26,7202	24,204	22,897	23,8013	23,4767	22,0818	22,7953	22,6301
81	53,9146	31,7399	25,8244	21,3148	26,7546	24,239	23,4309	23,9801	23,5188	22,1991	22,8561	22,7033
82	53,9246	31,8278	25,8488	21,3343	26,8542	24,2721	23,86	24,1819	23,6269	22,2327	22,9214	22,9255
83	53,9917	31,8289	25,8887	21,4206	26,8889	24,3377	23,9116	24,3275	23,6408	22,2687	23,0216	23,0096
84	54,0867	31,877	25,9471	21,4533	27,0706	24,3425	24,4942	24,6473	23,6778	22,3463	23,0732	23,402
85	54,1417	32,1945	26,2045	21,9278	27,0737	24,3556	24,8845	24,6537	23,6894	22,3881	23,1491	23,5468
86	54,3061	32,2952	26,2348	21,9591	27,1029	24,3872	24,9338	24,9994	23,69	22,4277	23,2179	23,6929
87	54,3773	32,3357	27,1269	21,9746	27,2651	24,4773	25,8643	25,469	23,708	22,4307	23,226	23,7305
88	54,5152	32,3678	27,5327	23,1641	27,3245	24,4794	27,1024	25,4998	23,7386	22,4567	23,234	24,0102
89	54,7757	32,535	27,6048	24,2058	27,3589	24,6647	27,2809	25,5198	23,9304	23,1395	23,915	24,0755
90	54,8685	32,6958	27,7476	24,8028	27,3803	24,8789	27,7536	25,5834	24,2585	23,5231	24,0023	24,0895
91	54,9495	32,8439	28,1267	25,5966	27,401	24,9037	28,0551	25,7906	24,3036	24,0663	24,2779	24,4099
92	55,3502	32,9151	28,5401	26,4368	27,502	25,0104	28,4285	25,838	24,6139	24,078	24,9653	24,7695
93	55,5319	33,116	28,6515	26,7289	27,5248	25,1325	28,5239	25,9941	24,7068	24,2734	25,4354	24,8248
94	55,592	33,2097	28,7563	27,3141	27,5652	25,2898	29,3698	26,0098	24,7977	24,4352	25,5014	24,9709
95	55,9451	33,3002	28,7634	30,5321	27,8622	26,1478	30,1291	26,5067	24,9794	24,5606	26,0697	26,1168
96	56,0339	33,379	29,2442	31,2268	27,9385	26,2916	31,076	28,0504	25,5023	24,606	26,1883	26,1765
97	56,0605	34,4225	29,8604	31,3452	28,0219	27,4975	31,2693	30,1614	31,5681	25,0785	27,8858	26,5467
98	56,8864	34,9199	30,5035	31,4119	29,0488	28,7825	34,1769	30,3293	32,7904	26,8637	28,3484	27,6064
99	57,5856	34,9737	30,5083	32,3772	29,5479	30,6439	35,8346	32,5693	35,9334	28,3334	31,1832	27,9341
100	60,3811	35,0769	36,7205	32,4371	31,4241	34,9634	36,9178	38,6855	39,3399	39,4224	42,39	45,8353

Uporządkowane rosnąco czasy obliczania [ms] całki metodą trapezów dla liczby podprzedziałów = 4 mln

Lp.	Wątków											
	1	2	3	4	5	6	7	8	9	10	11	12
1	102,6023	53,1618	44,4942	37,1219	50,0714	44,3998	39,6641	36,2962	43,1401	40,5763	38,5224	36,0323
2	103,1065	53,4179	44,5204	37,3875	50,326	44,6553	39,7957	36,4155	43,4082	40,7217	38,5601	36,1513
3	103,1324	53,578	45,052	37,6001	50,6318	44,6563	40,026	36,5437	43,6146	40,8821	38,6427	36,3407
4	103,1695	53,7648	45,3299	37,6891	50,8913	44,747	40,0287	36,7193	43,6831	41,0434	38,687	36,5032
5	103,2248	53,9012	45,4324	37,6955	50,91	44,9049	40,0617	36,7278	43,7275	41,1129	38,7016	36,7242
6	103,2464	54,601	45,6627	38,1021	50,9311	44,9257	40,1311	36,7892	43,7948	41,1526	38,7338	37,115
7	103,247	55,0316	45,9499	38,1518	50,9881	45,0506	40,1352	36,8712	43,8882	41,2592	38,7808	37,1951
8	103,2668	55,5449	46,2886	38,25	50,9916	45,0881	40,1733	36,9254	43,9221	41,4025	38,8046	37,2148
9	103,2758	55,5824	46,6198	38,3593	51,1013	45,3102	40,1775	37,0849	43,998	41,4844	38,8663	37,2425
10	103,289	55,6141	46,6773	38,4306	51,1486	45,3403	40,1982	37,1907	44,0655	41,5691	38,8777	37,3413
11	103,3064	55,8571	46,7174	38,449	51,1552	45,4013	40,2009	37,194	44,1135	41,5951	38,8789	37,4161
12	103,3172	55,9827	46,8556	38,4732	51,1634	45,4331	40,3063	37,4226	44,1342	41,6073	38,8854	37,5171
13	103,3312	56,8738	46,9319	38,495	51,3262	45,7251	40,3654	37,4622	44,1829	41,6086	38,8991	37,6634
14	103,3473	56,9675	46,9385	38,5234	51,3484	45,8236	40,3712	37,5176	44,2654	41,6638	38,9159	37,6647
15	103,356	57,0757	47,2004	38,5578	51,36	45,9658	40,3856	37,5989	44,2752	41,6712	38,9221	37,6914
16	103,4174	57,1057	47,205	38,6213	51,4689	45,9945	40,5508	37,6021	44,3366	41,695	38,9735	37,7132
17	103,4785	57,1991	47,2155	38,6412	51,4752	46,0581	40,553	37,6149	44,3746	41,7271	39,0326	37,7852
18	103,4905	57,2168	47,2879	38,6802	51,4904	46,1133	40,5665	37,6852	44,4198	41,7776	39,0998	37,8044
19	103,5092	57,5361	47,396	38,6875	51,5077	46,1212	40,6344	37,6927	44,4234	41,8474	39,1087	37,8236
20	103,5738	57,7239	47,4901	38,6965	51,5795	46,1374	40,6852	37,7712	44,4561	41,864	39,1164	37,8308
21	103,6251	57,7889	47,706	38,7155	51,5805	46,1407	40,7542	37,8834	44,4869	41,8666	39,1351	37,8963
22	103,6525	57,872	47,714	38,7428	51,5886	46,1603	40,7564	37,9023	44,4929	41,8983	39,2135	37,9253
23	103,6882	57,9648	47,7213	38,7979	51,5952	46,1629	40,818	37,9391	44,4936	41,9105	39,2246	37,9504
24	103,7037	57,9807	47,8414	38,8056	51,6218	46,1976	40,8341	37,9494	44,5162	41,985	39,2398	38,072
25	103,7087	58,025	47,8781	38,8159	51,6657	46,2089	40,9076	37,9572	44,5334	42,0117	39,2935	38,0846
26	103,711	58,0629	47,9174	38,9048	51,6727	46,2198	40,937	37,9918	44,5387	42,0291	39,3712	38,0905
27	103,7165	58,0864	47,9224	38,9484	51,7335	46,222	40,9412	38,0526	44,5407	42,0628	39,3883	38,1069
28	103,7275	58,1543	48,018	38,9548	51,8147	46,2561	40,9754	38,0939	44,5457	42,0786	39,4191	38,1571
29	103,7599	58,3682	48,0418	38,9712	51,8591	46,2765	40,9814	38,1082	44,5719	42,0939	39,4688	38,1632
30	103,8161	58,4054	48,1561	38,9952	51,9062	46,3071	41,0627	38,1754	44,5743	42,1083	39,493	38,1917
31	103,8165	58,4603	48,2082	39,0103	51,9466	46,332	41,0699	38,25	44,6323	42,1471	39,4934	38,3432
32	103,8166	58,6718	48,2377	39,0108	51,9988	46,377	41,1451	38,3073	44,6386	42,1784	39,5257	38,3992
33	103,877	58,744	48,2751	39,0191	52,0545	46,4402	41,1734	38,3099	44,6654	42,1863	39,5444	38,4081
34	103,8898	58,8326	48,3043	39,0282	52,104	46,4606	41,2094	38,4793	44,6735	42,2432	39,598	38,5213
35	103,9302	58,8419	48,3127	39,1019	52,126	46,4661	41,2133	38,5113	44,7111	42,345	39,6343	38,5397
36	103,9591	58,9194	48,3667	39,1223	52,1552	46,4876	41,2455	38,5565	44,7147	42,3611	39,6654	38,558
37	103,9619	59,1298	48,3821	39,1811	52,1632	46,5125	41,2587	38,5852	44,73	42,3777	39,6704	38,5688
38	103,9939	59,1431	48,4313	39,2123	52,1789	46,561	41,3386	38,7065	44,7439	42,4225	39,6775	38,5874
39	104,083	59,2216	48,5731	39,305	52,2338	46,5639	41,3731	38,7225	44,7574	42,4402	39,7087	38,6129
40	104,0857	59,2595	48,5759	39,3206	52,2734	46,6831	41,3997	38,7293	44,7768	42,4671	39,7357	38,6401
41	104,0958	59,2639	48,5903	39,3428	52,3066	46,6999	41,4218	38,7341	44,7845	42,4765	39,8176	38,6414
42	104,1215	59,3714	48,6776	39,3571	52,3663	46,7007	41,5184	38,7392	44,8271	42,4866	39,8237	38,7083
43	104,1525	59,465	48,6907	39,4319	52,3834	46,708	41,5187	38,8949	44,8282	42,5261	39,8367	38,7927
44	104,1601	59,5842	48,7107	39,6189	52,3867	46,7365	41,5201	38,9169	44,8355	42,5503	39,8467	38,8261
45	104,1705	59,6368	48,7113	39,6199	52,3867	46,9088	41,5213	38,9725	44,844	42,5581	39,9923	38,8735
46	104,211	59,7305	48,7447	39,6295	52,388	46,9412	41,5321	39,0328	44,8469	42,567	40,01	38,9106
47	104,2463	59,7455	48,7879	39,6492	52,519	46,975	41,5343	39,0725	44,8781	42,5754	40,0606	38,9158
48	104,3579	59,8837	48,8713	39,6571	52,538	46,9956	41,536	39,1942	44,8852	42,5905	40,1035	38,934
49	104,3625	60,0164	48,9176	39,658	52,5811	47,0238	41,5495	39,1989	44,8877	42,6153	40,1239	38,9374
50	104,369	60,0583	48,987	39,6869	52,5897	47,0588	41,5796	39,2221	44,9116	42,6965	40,1266	38,946
51	104,4048	60,1093	48,9935	39,7008	52,5914	47,0653	41,5885	39,2335	45,0918	42,7487	40,2646	38,9704
52	104,4121	60,1278	49,0866	39,7334	52,6004	47,0859	41,6656	39,2475	45,1174	42,8048	40,3195	39,0674
53	104,422	60,223	49,2108	39,7669	52,6037	47,0874	41,6828	39,2745	45,1651	42,8203	40,4271	39,0886
54	104,4588	60,3114	49,2155	39,8239	52,6455	47,0893	41,7684	39,3006	45,2536	42,8621	40,4433	39,0905
55	104,5972	60,3596	49,2749	39,8973	52,6466	47,0932	41,8442	39,3031	45,3582	42,8797	40,5539	39,1113
56	104,6179	60,4186	49,2783	39,9	52,6626	47,1096	41,855	39,3788	45,3589	42,9182	40,5687	39,1625
57	104,64	60,425	49,3029	39,9399	52,7036	47,114	41,875	39,4079	45,444	43,0103	40,6018	39,2039
58	104,6619	60,5801	49,4167	40,0366	52,7276	47,1742	41,8922	39,4097	45,4526	43,0194	40,6239	39,3151
59	104,7573	60,5866	49,5024	40,1427	52,8247	47,2204	42,1214	39,437	45,5129	43,0725	40,6975	39,3458
60	104,7683	60,6074	49,5141	40,1977	52,8689	47,2521	42,1563	39,5207	45,6891	43,1051	40,7258	39,5236
61	104,8585	60,7657	49,5712	40,272	52,8705	47,2602	42,1623	39,5313	45,6925	43,1146	40,7995	39,5538
62	104,9443	60,827	49,5839	40,5187	52,8954	47,2899	42,1701	39,6094	45,805	43,2233	40,8204	39,6717
63	104,9526	61,0781	49,5934	40,7788	53,0226	47,3023	42,3884	39,6523	45,8406	43,2266	40,918	39,7352
64	104,9679	61,1953	49,5976	41,0423	53,097	47,3294	42,4678	39,8527	45,8936	43,2419	41,1084	39,771
65	105,0249	61,2319	49,6582	41,3393	53,1158	47,351	42,5603	39,9233	45,9182	43,2546	41,1212	40,1933
66	105,136	61,4238	49,7029	41,3925	53,1338	47,3748	42,7049	39,9831	46,0625	43,2547	41,1691	40,3077
67	105,2033	61,4745	49,8145	41,4484	53,1934	47,3994	42,7786	40,0197	46,2145	43,2975	41,1775	40,4618
68	105,2206	61,5689	49,8368	41,4763	53,2445	47,4004	42,8988	40,0864	46,2641	43,3125	41,2747	40,5456
69	105,302	61,5723	49,8678	41,6565	53,2954	47,4342	42,9199	40,1258	46,3643	43,3615	41,3137	40,8595
70	105,3451	61,7824	49,915	41,8025	53,3061	47,4349	42,9231	40,3641	46,3783	43,4077	41,337	40,8909
71	105,3737	62,0148	49,9184	41,8996	53,3444	47,563	42,9477	40,4094	46,5481	43,4379	41,3596	41,19
72	105,3882	62,05	50,0466	41,9021	53,3567	47,6104	43,0578	40,5806	46,5845	43,5422	41,4093	41,3221
73	105,5881	62,1577	50,3457	42,084	53,4058	47,6363	43,0642	40,5996	46,5992	43,5688	41,4218	42,0072
74	105,6285	62,2674	50,4217	42,2489	53,4766	47,6869	43,2675	40,9868	46,903	43,7234	41,4371	42,1889
75	105,6364	62,3616	50,5058	42,6969	53,4872	47,7305	43,2961	40,9948	46,9491	43,7349	41,4557	42,2696
76	105,7024	62,3678	50,5078	43,3018	53,5509	47,785	43,4159	41,2262	46,9503	43,8462	41,5715	42,9595
77	105,7094	62,3687	50,5377	43,364	53,5596	48,0567	43,7346	41,9383	47,0617	43,934	41,6216	43,4769
78	105,8984	62,4151	50,7738	44,0983	53,5818	48,0631	43,8715	42,0415	47,1472	43,9777	41,8201	43,7058
79	105,9336	62,6752	50,7791	44,8516	53,6758	48,0947	43,9482	42,4272	47,1617	44,0253	41,9355	43,8935
80	106,1629	62,9092	50,8564	44,9272	53,7949	48,1019	44,5969	42,8789	47,2191	44,0693	42,0782	44,0674
81	106,1646	62,936	50,9196	45,088	53,8061	48,1039	44,731	43,9953	47,3205	44,114	42,2557	44,3209
82	106,2131	62,9414	51,2719	45,6136	54,0653	48,1359	45,3771	44,0845	47,5093	44,222	42,917	44,4469
83	106,3847	63,0983	51,9398	45,6325	54,0799	48,2441	45,3897	44,1709	47,6221	44,3167	42,9478	44,8743
84	106,4477	63,488	52,1086	46,2462	54,1337	48,2627	45,9267	44,7042	47,6406	44,4937	43,0056	44,9767
85	106,79	63,7497	52,3309	46,7807	54,3042	48,3344	45,9436	47,0334	47,6591	44,5904	43,563	45,05
86	107,0072	63,7497	52,3841	47,0707	54,3468	48,3546	46,5687	48,1596	47,7139	44,616	44,2857	45,3125
87	107,0671	63,793	52,5479	47,5017	54,3858	48,4208	47,076	48,7395	48,4305	44,7213	44,3487	45,5775
88	107,2165	63,982	52,8579	49,9542	54,4707	48,4399	47,2883	48,898	48,5856	44,7915	44,5685	45,6794
89	107,2679	64,5637	53,5852	50,0732	54,5703	48,4506	47,568	48,9364	48,8308	44,8709	44,6804	45,8714
90	107,5561	64,7997	54,8967	50,3799	54,7946	48,6426	47,6934	49,0889	48,887	44,9347	45,02	45,9971
91	108,7613	65,1196	55,7768	50,9937	54,8512	48,6767	47,7808	49,5587	49,1784	45,1686	45,2642	46,411
92	108,8311	65,561	57,2601	51,0648	54,9164	48,7304	47,919	49,68	49,4409	45,1889	45,5022	46,4808
93	109,3676	66,0136	57,3911	51,652	55,4281	48,8087	48,1089	49,871	49,4592	45,4125	45,6197	46,5938
94	110,2583	66,2042	59,0875	54,9611	55,4493	48,8383	48,7396	49,9945	49,6917	45,467	46,2352	47,0477
95	111,0483	67,4862	59,376	55,956	55,8382	49,0495	50,116	50,3464	49,8875	46,2406	47,8558	47,9613
96	111,6711	68,1215	65,5031	57,0207	56,4038	49,4122	51,7753	50,3464	50,6487	47,2526	48,2655	48,0992
97	113,5873	69,1962	70,9065	59,9574	56,783	53,9507	54,8047	50,838	51,5522	47,2783	48,2964	52,7137
98	120,365	70,2712	71,0518	60,5904	57,4192	55,0483	56,0072	51,6907	56,4885	53,5686	49,9739	53,1583
99	127,0002	70,6399	72,7618	62,8361	63,5603	56,5708	56,8977	52,4569	56,8064	65,6954	52,6794	53,5626
100	144,2475	77,8634	73,554	62,8646	64,2898	71,6707	57,162	61,0378	57,809	67,0102	62,3753	73,6142

Uporządkowane rosnąco czasy obliczania [ms] całki metodą trapezów dla liczby podprzedziałów = 8 mln

Lp.	Wątków											
	1	2	3	4	5	6	7	8	9	10	11	12
1	206,3622	108,5428	85,3752	73,7686	84,7646	78,7136	73,8166	73,1172	81,0168	82,4116	76,2612	72,8227
2	206,7608	109,4754	86,3315	73,9818	85,1024	78,729	74,1321	73,152	83,6972	82,7524	76,4595	72,9727
3	206,9915	111,225	86,6316	74,0084	85,1229	78,952	74,3414	73,5407	84,2812	83,1845	77,4028	73,4014
4	207,0337	111,3039	86,8161	74,0556	85,2766	79,2358	74,6361	73,561	87,4589	83,3649	77,4297	73,7257
5	207,0495	111,5344	86,8746	74,4539	85,4531	79,2652	74,6437	73,5774	87,6321	83,4131	77,4946	73,735
6	207,081	111,7724	86,9107	74,5018	85,534	79,5178	74,6794	73,7254	87,7168	83,5908	77,5056	73,7433
7	207,1284	112,2083	86,981	74,5754	85,6229	79,5511	74,7175	73,7886	87,7321	83,613	77,6312	73,8082
8	207,1496	113,4153	87,1711	74,686	85,6426	79,8759	74,8502	73,945	87,8401	83,649	77,6714	74,0611
9	207,3075	113,4219	87,4302	74,7569	85,6624	79,9122	74,8665	74,0794	87,8555	83,691	77,7471	74,081
10	207,3429	113,5153	87,5747	74,8007	85,7115	79,9965	74,911	74,0917	87,8896	83,6946	77,78	74,1696
11	207,3453	113,8742	87,7933	74,8392	85,7203	80,0084	74,9292	74,1603	88,036	83,7442	77,8653	74,1771
12	207,5215	113,9292	87,8334	74,8575	85,8015	80,013	75,1214	74,229	88,0845	83,814	77,95	74,3676
13	207,536	114,0056	87,8934	74,8753	85,9253	80,0168	75,2238	74,3024	88,0886	83,8507	77,9665	74,509
14	207,5968	114,2405	88,2797	74,905	85,9821	80,0297	75,2317	74,3627	88,1819	83,8976	77,9723	74,5142
15	207,6001	114,3776	88,4295	74,9327	85,9891	80,205	75,2402	74,3834	88,3042	83,9514	78,0075	74,5626
16	207,6785	114,8602	88,5319	74,9454	85,9922	80,2246	75,3304	74,3909	88,3676	83,9994	78,134	74,6463
17	207,7512	114,915	88,6476	74,9537	86,0113	80,2492	75,3437	74,4384	88,4477	84,0018	78,1816	74,6505
18	207,7795	114,9584	88,7329	74,9936	86,1696	80,2599	75,4336	74,5387	88,4745	84,024	78,2245	74,6934
19	207,797	115,006	89,1729	74,9998	86,1775	80,3925	75,4834	74,5628	88,5036	84,0434	78,2248	74,7995
20	207,8238	115,02	89,2043	75,0545	86,2229	80,4235	75,5177	74,5732	88,5138	84,0493	78,2291	75,0258
21	207,8897	115,1799	89,3146	75,0925	86,2529	80,4318	75,5638	74,6521	88,5279	84,0689	78,2722	75,1266
22	207,9113	115,2284	89,398	75,1116	86,3396	80,4351	75,5979	74,6596	88,5313	84,1055	78,3025	75,189
23	208,0246	115,2736	89,5099	75,1198	86,4131	80,5029	75,626	74,8417	88,6169	84,1672	78,4334	75,1916
24	208,0488	115,2944	89,5792	75,1511	86,419	80,5408	75,726	74,854	88,7821	84,2575	78,4364	75,2646
25	208,0785	115,5881	89,6714	75,1776	86,5669	80,5691	75,784	74,9191	88,8069	84,2678	78,4593	75,3584
26	208,0983	115,6861	89,7099	75,2023	86,6855	80,6538	75,9176	74,927	88,8494	84,3239	78,593	75,3991
27	208,1129	115,728	89,7179	75,2065	86,7031	80,6967	76,0858	74,9484	88,9028	84,3246	78,7448	75,4044
28	208,1199	115,7551	89,7439	75,2496	86,7035	80,7111	76,1163	75,0351	88,965	84,3264	78,7666	75,4093
29	208,1572	115,8414	89,8658	75,2841	86,7197	80,7447	76,1281	75,0577	88,9846	84,4061	78,7745	75,4729
30	208,2929	116,0232	90,056	75,407	86,818	80,7875	76,1586	75,0964	88,998	84,4129	78,7861	75,475
31	208,3087	116,0321	90,167	75,4126	86,8299	80,8557	76,1804	75,1467	88,9981	84,4849	78,8773	75,4826
32	208,3628	116,2245	90,2039	75,4397	87,0421	80,9698	76,3173	75,221	89,0192	84,4904	78,9054	75,5057
33	208,3677	116,2414	90,2194	75,6103	87,063	81,0231	76,3252	75,2421	89,0612	84,5752	78,9076	75,5516
34	208,4121	116,4358	90,2255	75,6445	87,1445	81,0268	76,4776	75,2425	89,0729	84,6139	78,9707	75,6107
35	208,4481	116,7575	90,3357	75,7521	87,1851	81,1269	76,4892	75,262	89,1084	84,6637	78,9781	75,6648
36	208,4661	116,8075	90,3566	75,8394	87,2083	81,1708	76,5213	75,401	89,1374	84,6716	79,0688	75,6787
37	208,4863	116,8292	90,3716	75,8698	87,2233	81,214	76,5335	75,4347	89,1748	84,6757	79,0905	75,695
38	208,5319	116,8949	90,515	76,0015	87,3172	81,2838	76,6448	75,4637	89,1972	84,6788	79,1819	75,7026
39	208,5485	116,9623	90,6069	76,094	87,3471	81,3009	76,6774	75,4714	89,2064	84,6856	79,184	75,7202
40	208,5666	117,0656	90,6615	76,1136	87,4166	81,3842	76,7607	75,484	89,2739	84,7989	79,2678	75,7367
41	208,6146	117,8018	90,7364	76,1162	87,4445	81,425	76,8403	75,5709	89,4293	84,8278	79,2682	75,7721
42	208,6214	117,8476	90,8065	76,245	87,5284	81,5557	76,8533	75,8936	89,5134	84,8703	79,2995	75,8399
43	208,6919	117,952	90,846	76,2456	87,5446	81,6352	76,8828	75,9009	89,5556	84,8722	79,3216	75,8535
44	208,8738	117,9981	90,8623	76,2794	87,6032	81,789	76,9643	75,9263	89,5776	84,8838	79,3331	76,0212
45	208,9084	118,3371	90,9074	76,3023	87,6079	81,8783	76,9945	75,9921	89,5781	84,9265	79,3396	76,2488
46	209,0126	118,3544	90,9386	76,4545	87,6146	81,8897	77,0972	76,1218	89,5981	85,0007	79,3604	76,2829
47	209,1502	118,3623	91,1839	76,5281	87,6727	81,9154	77,2213	76,1719	89,6125	85,0199	79,4269	76,3498
48	209,1566	118,3887	91,2843	76,541	87,6923	82,0188	77,2644	76,184	89,6204	85,074	79,4711	76,3773
49	209,2084	118,4168	91,3127	76,6654	87,7861	82,0775	77,2712	76,2191	89,713	85,148	79,4808	76,3958
50	209,2125	118,6143	91,3223	76,6791	87,813	82,1664	77,2864	76,2559	89,7735	85,1546	79,5102	76,4132
51	209,222	118,7885	91,5111	76,7566	87,8947	82,2359	77,4537	76,2698	89,8326	85,2129	79,5974	76,6442
52	209,3006	119,0269	91,662	76,7945	87,8984	82,271	77,5766	76,3604	89,8588	85,2294	79,6447	76,8511
53	209,368	119,0952	91,6877	76,8639	87,9089	82,2995	77,6538	76,3623	89,9431	85,2704	79,702	76,931
54	209,5057	119,5169	91,7134	76,9144	87,9491	82,5715	77,8654	76,4922	89,9831	85,4719	79,7283	77,3657
55	209,5899	119,6484	91,7804	76,9697	88,012	82,5777	77,8804	76,8968	90,0069	85,4884	79,7585	77,3957
56	209,9194	119,6648	91,8292	77,218	88,0226	82,6173	77,9579	76,9496	90,0709	85,5319	79,7699	77,7863
57	210,0976	120,0034	91,9296	77,8337	88,0564	82,6321	78,2181	77,1552	90,0894	85,6125	79,841	77,9391
58	210,1248	120,0816	91,9469	77,9952	88,1512	82,6393	78,2337	77,1812	90,105	85,6135	79,9994	78,3068
59	210,1657	120,3016	91,9772	78,3657	88,1608	82,6568	78,2417	77,197	90,1154	85,6751	80,0754	78,3202
60	210,2485	120,4577	92,0177	78,4862	88,4273	82,6648	78,2532	77,2416	90,1427	85,7295	80,0959	78,3436
61	210,5764	120,6628	92,0484	78,7869	88,4964	82,8767	78,5426	77,3998	90,2003	85,74	80,1268	78,3793
62	210,7074	120,8684	92,143	79,1997	88,5428	82,8871	78,5441	77,4647	90,2354	85,7401	80,1557	78,8046
63	210,7567	120,9122	92,1935	79,3535	88,6425	82,8896	78,6834	77,7747	90,2858	85,8811	80,2323	79,2738
64	211,0687	120,925	92,2468	79,4881	88,6623	82,9473	78,7067	77,8124	90,3678	86,0004	80,2383	79,4272
65	211,2956	120,9367	92,3117	79,5102	88,8757	83,051	78,8169	77,8761	90,3839	86,0413	80,3761	79,6274
66	211,3703	121,5328	92,3697	79,7855	88,8821	83,167	78,8229	78,0243	90,4037	86,0523	80,3804	80,9293
67	211,4891	121,5499	92,372	80,018	88,9632	83,2376	78,9133	78,8913	90,6352	86,0861	80,5717	81,4648
68	212,084	122,1597	92,4476	80,1747	88,9684	83,2457	79,0761	79,0916	90,6712	86,2205	80,7527	81,4926
69	212,8336	122,2779	92,532	80,2394	89,0562	83,3319	79,0824	79,5281	90,6919	86,4842	80,7769	81,5675
70	213,5265	122,4375	92,6482	80,3126	89,1137	83,7472	79,2958	79,6649	90,7873	86,5995	80,9825	81,8525
71	213,5669	122,4485	92,6488	80,706	89,1848	83,7595	79,3042	80,0605	90,8475	86,9955	80,9902	82,0487
72	213,7716	122,4798	92,7155	80,7158	89,3835	83,8887	79,5868	80,0939	90,8501	87,109	81,1784	82,669
73	213,9106	122,5236	92,7973	81,1257	89,3877	84,1648	80,1747	80,1692	90,865	87,1548	81,2088	83,6273
74	214,1535	122,7607	92,8133	81,1656	89,4928	84,1888	80,3006	80,6338	91,0866	87,4533	81,2552	83,9205
75	214,6888	122,8437	92,8999	81,2411	89,6006	84,4213	80,5052	80,7819	91,1421	87,4875	81,2872	84,3727
76	214,9656	123,1969	92,9246	81,695	89,6678	84,4286	80,6215	80,9471	91,1592	87,5835	81,6235	84,4508
77	215,2056	123,3234	92,9274	81,9944	89,9556	84,465	80,8085	81,048	91,1828	87,5982	81,6463	84,6093
78	216,1608	123,3764	92,9584	82,0722	90,022	84,6021	81,2239	81,7804	91,2573	87,6324	81,7423	84,6178
79	219,258	123,4478	92,9856	82,6002	90,1194	85,0882	81,302	82,1263	91,4525	87,6968	81,8149	85,305
80	219,3042	124,3248	93,0399	83,1347	90,423	85,1691	81,466	82,5247	91,4544	87,7126	81,9347	85,4423
81	220,2552	124,3655	93,0463	83,7166	90,4269	85,2378	81,488	82,6857	91,4844	87,815	82,0684	86,9109
82	221,4257	124,747	93,1234	84,3357	90,5836	85,3346	81,6795	83,0261	91,519	88,4525	82,2388	87,4117
83	222,8448	125,3613	93,3615	84,8501	90,6285	85,8146	81,7654	83,1316	91,6263	88,4969	82,4579	87,9845
84	222,9668	125,3765	93,625	85,3244	90,7479	86,5637	82,2068	83,176	91,8488	88,5981	82,4876	88,6537
85	223,6482	126,1608	93,6529	85,9453	90,952	87,5286	82,2139	83,1936	91,9636	88,6027	82,7456	89,9019
86	224,5724	126,3947	94,2911	86,8026	90,9556	89,0658	82,2914	83,2552	92,0826	88,6903	82,7585	90,2383
87	227,3802	127,6797	94,4656	87,2014	91,2629	89,2019	82,4328	83,772	92,6481	89,2234	82,9815	90,3263
88	227,621	127,8816	94,6655	87,6096	91,3527	89,2432	82,6642	85,2107	92,7038	89,2262	83,4228	91,736
89	227,8635	127,9351	94,8157	87,785	91,8598	89,8641	83,1433	85,4893	93,4662	90,4145	83,8646	92,0195
90	227,9113	128,9106	94,9447	88,9756	92,062	90,5677	83,3506	86,1426	93,5815	90,6858	84,035	92,1245
91	229,9632	129,0463	96,1757	91,4452	92,1982	90,9887	83,549	87,0812	93,59	91,2883	84,1772	92,188
92	230,1398	129,3936	96,3675	91,5966	92,2518	91,5996	84,4649	87,6924	93,8348	91,4996	84,2484	92,6008
93	231,8778	129,5756	97,0581	100,5338	93,2004	92,9075	84,8242	87,8317	94,519	91,6078	84,3013	92,7389
94	231,9425	130,5926	98,3016	100,8692	93,2131	94,0612	85,6086	88,6198	94,8258	91,6465	84,5638	93,0968
95	232,9588	131,1862	100,2356	101,1135	93,4648	94,4271	85,7407	88,9171	95,7074	92,1134	87,8808	93,1667
96	235,2925	132,245	100,3682	102,049	93,882	95,0227	86,0785	95,3808	98,8911	94,5309	88,2345	93,5214
97	238,9879	133,837	101,7208	102,4384	94,674	97,2753	89,6883	95,7284	99,1363	95,127	89,8995	93,7551
98	253,4131	134,1284	102,1513	102,5395	95,1312	97,8984	91,0939	96,1236	99,6266	95,66	90,5224	94,1974
99	259,7034	139,373	103,3735	103,3037	96,751	107,9143	91,9633	100,3516	99,8527	99,2157	99,5542	98,2202
100	282,1194	144,2744	109,2362	108,1997	97,0951	125,3179	97,484	111,4522	101,0027	105,4192	101,1954	101,641

Uporządkowane rosnąco czasy obliczania [ms] całki metodą Simpsona dla liczby podprzedziałów = 1 mln

Lp.	Wątków											
	1	2	3	4	5	6	7	8	9	10	11	12
1	51,3891	25,927	21,4386	17,9655	24,7536	21,9333	19,6244	17,901	21,2468	19,6766	18,8421	18,1054
2	51,5083	26,1196	21,8294	18,1734	24,7699	22,0042	19,6438	18,0652	21,3639	19,8249	18,8474	18,2253
3	51,6162	26,1499	21,8455	18,2036	24,8547	22,2159	19,7013	18,3077	21,3851	19,8324	18,8645	18,2358
4	51,6275	26,503	21,8952	18,3094	24,9085	22,3102	19,7293	18,3146	21,466	20,0004	19,0877	18,3124
5	51,6668	26,5183	21,929	18,3264	24,9314	22,4276	19,7644	18,3188	21,4695	20,0622	19,1426	18,3203
6	51,6865	26,5648	21,9341	18,3513	24,9852	22,5749	19,798	18,3525	21,514	20,1	19,1684	18,4259
7	51,7496	26,6442	22,0952	18,3632	25,0133	22,6802	19,8691	18,3696	21,532	20,1378	19,1698	18,4306
8	51,8329	26,6895	22,141	18,3785	25,0445	22,7122	19,8725	18,5173	21,569	20,1579	19,1957	18,443
9	51,8493	26,7498	22,1677	18,4913	25,0511	22,7305	19,8922	18,5563	21,5712	20,3057	19,2027	18,4816
10	51,8674	27,1889	22,1695	18,5217	25,0879	22,7318	19,9364	18,5689	21,5879	20,3167	19,2803	18,4934
11	51,8692	27,1916	22,1795	18,544	25,1104	22,7588	19,9887	18,5796	21,6274	20,386	19,2899	18,5125
12	51,9197	27,2556	22,2152	18,5962	25,1809	22,8203	20,0149	18,597	21,6489	20,3868	19,3136	18,5466
13	51,93	27,4826	22,221	18,6159	25,218	22,8277	20,0207	18,6025	21,6584	20,3982	19,331	18,5473
14	51,963	27,5585	22,2413	18,6358	25,2525	22,8504	20,0221	18,6118	21,6704	20,4169	19,3349	18,6167
15	51,9684	27,5776	22,2569	18,6724	25,2687	22,8569	20,0326	18,6234	21,6842	20,4251	19,3545	18,6577
16	51,9884	27,6697	22,3207	18,7574	25,2696	22,9167	20,0343	18,6594	21,6929	20,4611	19,395	18,6578
17	52,0011	27,6771	22,3834	18,7959	25,2727	22,9454	20,051	18,697	21,7216	20,4682	19,4261	18,6666
18	52,1024	27,7704	22,3867	18,8297	25,275	23,087	20,0596	18,7108	21,7223	20,4884	19,4572	18,6841
19	52,1147	27,7913	22,447	18,8544	25,3319	23,1551	20,0608	18,7376	21,7478	20,4906	19,4789	18,7021
20	52,1188	27,8908	22,4612	18,8662	25,3628	23,1605	20,1009	18,789	21,7484	20,504	19,5654	18,744
21	52,1194	27,9507	22,488	18,897	25,385	23,2104	20,1145	18,8725	21,7708	20,507	19,5672	18,7651
22	52,1733	28,0881	22,5015	18,9054	25,3972	23,2392	20,1167	18,8896	21,7941	20,5316	19,5886	18,7731
23	52,1752	28,0993	22,5229	18,9428	25,4115	23,2578	20,1182	18,9794	21,8019	20,5371	19,6188	18,8333
24	52,2107	28,1453	22,5463	19,0219	25,4129	23,3208	20,1189	18,9847	21,8109	20,547	19,6207	18,8352
25	52,2278	28,2006	22,585	19,0456	25,428	23,3913	20,2264	18,9942	21,8164	20,5733	19,7097	18,849
26	52,2533	28,2489	22,6094	19,0679	25,4319	23,4179	20,259	19,0047	21,8177	20,6716	19,8981	18,8909
27	52,2581	28,2751	22,6177	19,0892	25,4359	23,5192	20,2724	19,0129	21,8545	20,6806	19,9118	18,9678
28	52,2637	28,4477	22,624	19,122	25,4417	23,5346	20,2795	19,0132	21,8652	20,7078	19,9314	18,9803
29	52,2773	28,5204	22,6352	19,1265	25,4972	23,6095	20,2868	19,0151	21,901	20,7229	19,9439	18,9883
30	52,2839	28,5293	22,6666	19,1562	25,5096	23,644	20,2868	19,0458	21,9116	20,7352	19,9525	18,9944
31	52,306	28,5492	22,6707	19,1791	25,5782	23,6499	20,2942	19,0695	21,9634	20,737	20,1224	19,0057
32	52,3558	28,5893	22,7552	19,1806	25,5949	23,6581	20,3009	19,0773	21,9824	20,7558	20,1393	19,0379
33	52,3668	28,6059	22,77	19,1938	25,5951	23,6763	20,3273	19,1911	22,0654	20,7769	20,1599	19,0481
34	52,3776	28,724	22,7721	19,2064	25,645	23,687	20,3664	19,1942	22,0974	20,8825	20,1655	19,0672
35	52,3792	28,853	22,7831	19,2203	25,6701	23,701	20,3886	19,1993	22,1027	20,8885	20,1675	19,0896
36	52,3872	28,9544	22,8148	19,2674	25,7408	23,7461	20,4077	19,2101	22,133	20,8948	20,3163	19,0954
37	52,4025	29,0192	22,8526	19,2742	25,7511	23,8111	20,427	19,2427	22,1364	20,8953	20,3229	19,1057
38	52,4215	29,1302	22,8744	19,3778	25,7519	23,8246	20,4377	19,2717	22,1375	20,9485	20,3246	19,2026
39	52,4578	29,145	22,9666	19,3814	25,7586	23,8357	20,5027	19,2765	22,1441	20,9584	20,3465	19,2388
40	52,5218	29,1659	22,9937	19,3842	25,7691	23,8452	20,5185	19,3008	22,1833	20,9854	20,3569	19,2879
41	52,5829	29,2339	23,0109	19,3852	25,8161	23,8811	20,5531	19,3373	22,2128	20,9931	20,3677	19,48
42	52,5846	29,3489	23,0866	19,4102	25,8164	23,8852	20,566	19,3626	22,22	21,0326	20,3944	19,4918
43	52,5882	29,3657	23,1261	19,4438	25,8797	24,0642	20,5872	19,3705	22,2706	21,0504	20,4086	19,6003
44	52,6058	29,3908	23,143	19,4491	25,9068	24,0675	20,6026	19,3826	22,2951	21,0823	20,4397	19,6451
45	52,6384	29,4108	23,2125	19,517	25,922	24,1027	20,619	19,4373	22,2961	21,0834	20,4397	19,6511
46	52,6481	29,5193	23,2389	19,5256	25,9236	24,1271	20,6676	19,4384	22,3363	21,1167	20,4883	19,6519
47	52,7411	29,556	23,2516	19,5589	25,9393	24,2091	20,6699	19,4834	22,3445	21,1767	20,5003	19,7159
48	52,7889	29,5659	23,2593	19,6255	25,9495	24,2332	20,6823	19,5024	22,3464	21,1836	20,5006	19,7163
49	52,7926	29,5815	23,2698	19,6431	25,9672	24,2644	20,6957	19,5487	22,3477	21,2185	20,5082	19,724
50	52,8264	29,7433	23,285	19,6626	25,9749	24,2742	20,7029	19,5826	22,3507	21,2217	20,5661	19,7367
51	52,8403	29,9024	23,2903	19,6725	25,9773	24,2789	20,7077	19,6546	22,3662	21,2512	20,5806	19,7558
52	52,8525	29,979	23,3197	19,6759	25,9893	24,3167	20,7206	19,6786	22,3681	21,2738	20,5937	19,7767
53	52,9644	29,9925	23,3231	19,7159	26,0195	24,3913	20,8251	19,6904	22,3967	21,2752	20,6285	19,7809
54	52,9867	30,1012	23,327	19,7165	26,022	24,4084	20,9492	19,6946	22,4483	21,2774	20,6645	19,8454
55	52,9888	30,1253	23,3295	19,746	26,0572	24,4096	20,9706	19,7194	22,4804	21,281	20,6753	19,8536
56	53,0486	30,2167	23,3758	19,7541	26,0914	24,4601	20,9954	19,7242	22,5058	21,392	20,6838	19,867
57	53,0922	30,2202	23,3763	19,7831	26,0964	24,4878	21,0173	19,8019	22,554	21,4358	20,6912	19,8778
58	53,126	30,2518	23,4089	19,8157	26,0969	24,5027	21,0254	19,8262	22,563	21,4564	20,7538	19,8922
59	53,1682	30,3913	23,4782	19,848	26,1151	24,5081	21,0299	19,843	22,5823	21,4841	20,84	19,8936
60	53,2448	30,4806	23,5047	19,875	26,1379	24,5099	21,0619	19,8847	22,5969	21,4854	20,8615	19,9012
61	53,293	30,4908	23,5302	19,9017	26,1573	24,5642	21,1001	19,8969	22,6033	21,494	20,8988	19,9032
62	53,4491	30,5083	23,5524	19,9364	26,1608	24,6025	21,1281	19,9042	22,6476	21,5093	20,9065	19,9251
63	53,5677	30,6584	23,5613	19,9388	26,1739	24,6689	21,1536	19,9075	22,6547	21,5331	20,9727	19,9261
64	53,69	31,1977	23,5676	19,9652	26,174	24,6815	21,1545	19,9311	22,6776	21,5853	21,0026	19,9313
65	53,7918	31,3297	23,6083	19,9731	26,2179	24,7649	21,1615	19,9396	22,6807	21,6	21,0239	19,9948
66	53,8214	31,4792	23,6377	19,9771	26,2487	24,7667	21,162	19,996	22,6874	21,631	21,262	20,0436
67	53,8618	31,5795	23,6463	19,9786	26,2711	24,7669	21,2017	20,0313	22,712	21,634	21,3015	20,0739
68	53,9912	31,6419	23,7065	20,0713	26,2816	24,8045	21,2838	20,0445	22,7198	21,6346	21,3203	20,0819
69	54,0821	31,7473	23,7191	20,1737	26,2982	24,8321	21,3268	20,0676	22,7407	21,6856	21,3424	20,1455
70	54,2455	31,811	23,7243	20,2047	26,2983	24,8402	21,3404	20,1224	22,7446	21,7067	21,3888	20,2062
71	54,4879	31,8222	23,7433	20,246	26,3099	24,874	21,3862	20,1247	22,7631	21,7182	21,4271	20,2076
72	54,7263	31,8587	23,7961	20,263	26,3156	24,9163	21,4597	20,1755	22,7895	21,7321	21,4327	20,2155
73	55,1386	31,9516	23,8206	20,4838	26,3563	24,9261	21,5334	20,1911	22,8005	21,7434	21,4855	20,2416
74	55,3129	32,0631	23,8245	20,5324	26,3563	24,9427	21,6687	20,1943	22,8083	21,803	21,4931	20,2518
75	55,5926	32,2757	23,8402	20,5647	26,3702	24,9929	21,7576	20,1963	22,8265	21,8088	21,5417	20,2551
76	55,6509	32,3569	23,8463	20,5805	26,3809	25,01	21,7611	20,2191	22,8496	21,8378	21,6321	20,2823
77	55,7207	32,6441	23,8558	20,7402	26,3848	25,0241	21,771	20,2312	22,923	21,8649	21,6766	20,349
78	56,0489	32,7654	23,9046	20,7561	26,4001	25,0796	21,7741	20,2851	22,972	21,8792	21,738	20,3623
79	56,1983	33,0967	23,9174	20,8412	26,4046	25,3832	21,775	20,3142	23,0078	21,9038	22,0611	20,3905
80	56,2769	33,1546	23,9712	21,0061	26,4283	25,4722	21,8154	20,5437	23,0168	21,9114	22,2601	20,3926
81	56,4842	33,2617	23,9766	21,0297	26,4964	25,5079	21,8457	20,5886	23,0358	21,9142	22,2701	20,407
82	56,5637	33,339	24,2415	21,2623	26,5305	25,5346	21,8514	20,6059	23,1275	21,9241	22,2789	20,4089
83	56,6471	33,3395	24,2968	21,4224	26,5334	25,6835	21,8654	20,7604	23,1582	21,9445	22,8445	20,436
84	56,68	33,4009	24,3005	21,5424	26,6024	25,7438	21,8688	20,8571	23,2054	22,0064	23,1074	20,883
85	56,9985	33,4551	24,3065	21,609	26,765	25,7818	21,9744	20,9661	23,2183	22,0674	23,2819	21,043
86	57,1333	33,4738	24,3097	21,6901	26,7941	25,7833	22,0332	21,149	23,2941	22,0787	24,4846	21,3133
87	57,2396	33,6395	24,3874	22,6721	26,8482	25,8986	22,1066	21,1859	23,3137	22,2459	24,5288	21,7772
88	57,461	33,6932	24,3897	24,4707	27,0575	26,0534	22,226	21,2989	23,3153	22,2499	24,5745	22,1794
89	57,7998	33,8244	24,4698	25,2647	27,0779	26,0916	22,5833	21,3687	23,4615	22,2673	25,5899	22,4908
90	57,9632	33,8264	24,5229	25,562	27,1142	26,1535	22,8645	21,5276	23,512	22,2951	25,9967	22,9278
91	58,4712	34,2068	25,1645	26,5149	27,1501	26,1723	23,276	21,762	23,6603	23,2028	25,9987	23,5839
92	59,0882	34,4886	25,2353	27,0877	27,6503	26,2715	23,51	24,1901	23,939	23,6263	26,0876	23,6676
93	59,2158	35,1688	25,3661	28,8395	27,7158	26,3357	24,1574	24,8936	24,3067	23,6438	26,2086	23,9123
94	60,4636	35,1788	25,4694	28,8521	28,0938	26,4206	24,6602	25,34	24,3217	24,2561	26,3652	24,3933
95	63,6762	35,2114	25,5213	29,5136	28,6325	26,685	25,2384	25,5669	25,3954	26,0348	26,7797	25,1514
96	64,5517	35,2165	25,5325	30,0325	29,1857	26,8293	26,0006	26,9794	25,5343	26,08	27,031	25,5722
97	65,3906	35,6945	25,7096	31,2618	29,2047	26,8526	26,0429	27,2893	25,7361	26,4184	27,2724	26,8536
98	65,5966	36,1666	25,763	31,6432	29,466	26,9846	26,1064	27,4155	26,0613	26,4286	27,2946	28,7247
99	67,7088	37,1103	27,8898	32,8658	32,4239	29,395	27,2204	27,764	30,8848	27,0112	27,8523	30,8553
100	79,5049	37,9397	27,9076	33,5028	37,461	35,4185	32,0852	46,7905	39,0858	41,0794	41,2595	50,216

Uporządkowane rosnąco czasy obliczania [ms] całki metodą Simpsona dla liczby podprzedziałów = 2 mln

Lp.	Wątków											
	1	2	3	4	5	6	7	8	9	10	11	12
1	102,7036	52,983	42,9609	35,8491	43,9614	43,3315	38,4875	36,1175	43,1667	40,6106	37,6512	35,7094
2	103,1038	53,1489	43,207	35,9157	48,6587	44,2797	39,0988	36,4811	43,251	40,6914	38,0148	36,0437
3	103,1803	53,8321	43,3093	36,1201	49,7319	44,3857	39,5522	36,7545	43,2602	40,764	38,0487	36,2872
4	103,1991	53,9811	43,4128	36,1941	49,9076	44,3957	39,6168	36,9534	43,3014	40,8355	38,0612	36,2949
5	103,2129	54,2743	43,4497	36,5203	50,0299	44,5105	39,6483	37,0362	43,4175	40,9481	38,1547	36,3277
6	103,2162	54,4301	43,7055	36,7182	50,0931	44,6061	39,6741	37,1027	43,5189	41,0641	38,1628	36,4186
7	103,2196	54,581	43,7546	37,0007	50,1086	44,6696	39,6776	37,137	43,5247	41,2316	38,2774	36,6447
8	103,2529	54,7668	43,7742	37,0526	50,375	44,7592	39,7407	37,1496	43,5383	41,2778	38,2944	36,6624
9	103,2792	54,7869	43,8029	37,335	50,4078	44,9404	39,7421	37,1522	43,5749	41,3208	38,3226	36,7252
10	103,3589	55,0372	43,8518	37,3471	50,4642	45,0604	39,8035	37,2936	43,5956	41,3248	38,3592	36,7338
11	103,3797	55,0471	43,9309	37,3677	50,5464	45,0768	39,8521	37,299	43,6462	41,3447	38,461	36,7424
12	103,3999	55,1934	44,0731	37,3737	50,5506	45,0851	39,9036	37,31	43,6513	41,3705	38,4853	36,9293
13	103,44	55,4668	44,0755	37,3786	50,61	45,1572	39,9359	37,3479	43,6621	41,3863	38,4883	36,9457
14	103,4736	55,6425	44,0905	37,4489	50,6189	45,1939	39,964	37,3896	43,7193	41,4031	38,4921	37,0729
15	103,4853	55,6784	44,2381	37,5001	50,6331	45,2284	40,0638	37,3911	43,7535	41,469	38,5495	37,1109
16	103,512	56,0934	44,3069	37,6634	50,6504	45,3876	40,161	37,3939	43,7757	41,5983	38,5628	37,1898
17	103,5225	56,1284	44,3736	37,6672	50,6666	45,4548	40,169	37,434	43,8559	41,6164	38,5942	37,2349
18	103,5513	56,1397	44,4256	37,6744	50,7031	45,457	40,1704	37,4461	43,8601	41,6193	38,7096	37,2599
19	103,6001	56,4284	44,4406	37,6769	50,7181	45,5662	40,1814	37,4463	43,8724	41,6264	38,7411	37,2714
20	103,631	56,5181	44,4677	37,7	50,7188	45,5832	40,2285	37,4971	43,9029	41,6719	38,7434	37,276
21	103,6862	56,5489	44,5368	37,7429	50,7718	45,6101	40,2407	37,4991	43,9117	41,7461	38,7439	37,3023
22	103,7173	56,844	44,5602	37,7834	50,7752	45,717	40,2484	37,5187	43,9471	41,7853	38,7896	37,3145
23	103,7229	56,9155	44,5888	37,7844	50,7868	45,7676	40,3664	37,6056	43,9702	41,8804	38,8388	37,3189
24	103,7336	56,9737	44,6199	37,8123	50,7876	45,7693	40,3886	37,6112	44,0231	41,8927	38,8726	37,3495
25	103,7469	57,0384	44,7363	37,8189	50,7971	45,778	40,3946	37,6852	44,0459	42,0062	38,8844	37,4615
26	103,8526	57,0796	44,7394	37,8529	50,847	45,8082	40,4254	37,6966	44,0524	42,0725	38,8949	37,4893
27	103,8766	57,1258	44,7542	37,8741	50,8728	45,8818	40,4376	37,7328	44,0814	42,1152	38,9291	37,6149
28	104,0034	57,3002	44,7652	37,8779	50,9179	45,8897	40,4405	37,774	44,0871	42,1355	38,93	37,6193
29	104,0372	57,3018	44,9065	37,9012	50,9246	45,9004	40,4452	37,8117	44,1031	42,148	38,9576	37,6768
30	104,078	57,4683	44,9842	37,9292	50,9783	45,9102	40,4804	37,835	44,155	42,1963	38,9703	37,7136
31	104,0935	57,4851	45,0608	37,9647	50,9884	45,918	40,5239	37,8941	44,2429	42,2277	39,0098	37,7493
32	104,1196	57,6032	45,0739	37,967	51,0379	45,9704	40,567	37,9428	44,2996	42,2366	39,0248	37,7844
33	104,1619	57,6058	45,0808	37,9868	51,0572	45,9968	40,5683	37,9926	44,3211	42,2736	39,0288	37,8189
34	104,214	57,8186	45,1021	37,9892	51,0632	45,9995	40,5755	37,9934	44,3411	42,3596	39,0361	37,8251
35	104,238	57,8222	45,1201	38,0502	51,0636	46,0022	40,5872	38,0976	44,3458	42,3622	39,1216	37,8344
36	104,2417	57,9991	45,1504	38,0732	51,1039	46,0088	40,5879	38,1564	44,3554	42,3716	39,1634	37,8368
37	104,2637	58,0762	45,2141	38,0896	51,1585	46,0251	40,6415	38,2073	44,3745	42,3749	39,1693	37,8544
38	104,3265	58,087	45,3015	38,0926	51,1647	46,0411	40,6421	38,2379	44,3982	42,4304	39,2443	37,8839
39	104,3927	58,0904	45,3433	38,1151	51,2184	46,0522	40,6469	38,2483	44,4279	42,4521	39,2693	37,9056
40	104,4866	58,1067	45,4398	38,1232	51,2548	46,1292	40,6475	38,2777	44,4338	42,4893	39,3088	37,9735
41	104,5108	58,3192	45,4665	38,1301	51,259	46,1354	40,6482	38,2845	44,4378	42,5186	39,3368	37,9778
42	104,5502	58,5785	45,4849	38,1998	51,2742	46,1868	40,6639	38,3058	44,4665	42,529	39,3699	37,9991
43	104,6546	58,6659	45,5335	38,2454	51,3109	46,1921	40,6701	38,3141	44,4713	42,5558	39,5023	38,0633
44	104,8251	58,8479	45,5599	38,2848	51,3126	46,221	40,7016	38,3341	44,4893	42,5609	39,5044	38,0873
45	104,8256	58,8746	45,6205	38,2901	51,3131	46,2295	40,759	38,4053	44,4982	42,5635	39,5256	38,1347
46	104,8947	58,9737	45,7056	38,3422	51,343	46,2436	40,7739	38,4271	44,5158	42,5739	39,534	38,1547
47	104,9265	59,016	45,8195	38,3941	51,3524	46,2526	40,7765	38,4649	44,5374	42,5834	39,5467	38,1655
48	104,9875	59,1001	45,8679	38,4418	51,367	46,2972	40,7798	38,5129	44,5554	42,5868	39,5948	38,221
49	105,0864	59,3185	45,9038	38,4985	51,376	46,3516	40,7855	38,5176	44,568	42,6005	39,6229	38,2522
50	105,1614	59,4295	45,9418	38,5106	51,3893	46,387	40,8079	38,5311	44,5922	42,6478	39,666	38,3165
51	105,2505	59,4598	45,9557	38,5554	51,4188	46,3882	40,8193	38,5444	44,5983	42,6778	39,68	38,3298
52	105,3174	59,989	45,9955	38,5587	51,4202	46,4359	40,8212	38,5466	44,6227	42,6779	39,6958	38,3786
53	105,3384	60,006	46,0108	38,5676	51,5216	46,5602	40,8221	38,5717	44,6271	42,7078	39,7515	38,4684
54	105,3946	60,0152	46,028	38,6311	51,5234	46,6619	40,8284	38,5871	44,6371	42,7191	39,7546	38,4838
55	105,5355	60,4673	46,0562	38,6422	51,5651	46,733	40,8864	38,6247	44,6446	42,7362	39,8493	38,5567
56	105,5607	60,4885	46,0865	38,6545	51,5799	46,7695	40,9524	38,7388	44,6686	42,743	39,8509	38,5588
57	105,6195	60,5128	46,157	38,7296	51,5882	46,7833	41,0004	38,7602	44,7116	42,7472	39,8966	38,5628
58	105,6755	60,8111	46,1578	38,7965	51,651	46,7942	41,0241	38,7765	44,7273	42,8314	39,9078	38,567
59	105,7917	60,818	46,1579	38,797	51,6637	46,846	41,0242	38,7863	44,729	42,9023	39,941	38,7083
60	105,846	60,908	46,1896	38,8377	51,7084	46,8936	41,0253	38,8476	44,7392	42,9047	39,954	38,714
61	105,8874	60,9197	46,1905	38,8399	51,8043	46,8989	41,0418	38,8837	44,7547	42,9115	39,9627	38,8044
62	106,0754	60,9227	46,2116	38,8957	51,9462	46,9167	41,1924	38,9064	44,7917	42,9582	39,9893	38,9404
63	106,0971	60,9363	46,2134	38,9172	51,9516	46,9318	41,2274	38,9174	44,813	43,0017	40,0125	38,9666
64	106,1858	61,1376	46,2827	38,9356	51,991	46,9416	41,2311	38,9497	44,8369	43,0396	40,0671	38,9746
65	106,9942	61,1665	46,3629	38,959	52,0023	46,9538	41,2387	38,988	44,8742	43,0458	40,1268	39,077
66	107,0669	61,167	46,3691	38,9661	52,031	46,9833	41,3699	39,061	44,8862	43,0687	40,1703	39,0975
67	107,6149	61,2415	46,3734	39,1008	52,0316	47,0087	41,4208	39,1114	44,8868	43,0881	40,1778	39,267
68	107,9217	61,3658	46,4518	39,2206	52,0458	47,0386	41,443	39,1521	44,9146	43,0985	40,286	39,4169
69	108,2027	61,484	46,4775	39,3544	52,0671	47,0839	41,5086	39,2174	44,9511	43,1399	40,3013	39,4981
70	108,2563	61,6091	46,4799	39,3924	52,1	47,0873	41,511	39,2997	44,9844	43,1498	40,3355	39,66
71	108,3323	61,6096	46,5384	39,3993	52,1071	47,092	41,5186	39,3314	44,9852	43,1834	40,4751	39,8117
72	109,6208	61,7077	46,5816	39,4973	52,1099	47,1393	41,5696	39,4631	44,9864	43,1837	40,5154	39,9943
73	110,3611	61,7438	46,6261	39,6676	52,1252	47,1411	41,6757	39,5342	44,9981	43,1929	40,6307	40,0847
74	110,5354	62,0158	46,674	39,9432	52,1439	47,1657	41,716	39,5626	45,1366	43,2168	40,76	40,5119
75	110,702	62,021	46,8569	39,9667	52,204	47,2289	41,7763	39,6563	45,1584	43,364	40,828	41,0861
76	110,7795	62,1034	47,0208	40,0292	52,2143	47,2716	41,8857	39,724	45,1766	43,4495	40,8605	41,5288
77	111,2564	62,1105	47,0564	40,0428	52,2355	47,3436	41,9571	40,0221	45,2155	43,4885	40,8639	42,6779
78	111,5433	62,1323	47,1225	40,5449	52,2401	47,3465	42,0676	40,1236	45,2269	43,5189	41,0763	42,7657
79	111,8229	62,1956	47,1482	40,6046	52,2692	47,5287	42,0919	42,2512	45,2679	43,558	41,1497	43,0725
80	112,7218	62,2911	47,1641	40,6464	52,2696	47,764	42,4817	42,3474	45,2974	43,5737	41,4107	43,1434
81	113,3426	62,3132	47,1795	41,0143	52,283	47,7857	42,6181	42,7195	45,4082	43,6096	41,4165	43,2534
82	114,4492	62,3527	47,2597	41,2325	52,3309	47,9432	42,9231	44,7254	45,4325	43,6507	42,0079	43,4515
83	114,5228	62,5209	47,2651	41,2796	52,3333	47,9563	43,269	44,8923	45,641	43,6717	42,3148	43,7612
84	114,6717	62,5626	47,3188	42,4035	52,5788	48,0146	43,3085	45,3916	45,7186	44,0385	43,9512	43,9062
85	114,7401	62,7248	47,3522	42,4678	52,6218	48,0154	43,3789	45,9095	45,975	44,0631	43,969	44,2513
86	114,9143	62,8841	47,4615	43,0167	52,8846	48,1219	43,6305	46,7037	46,0631	44,1682	44,1453	45,1256
87	115,5864	63,0184	47,5198	43,5618	53,0382	48,5848	43,8021	46,7374	46,0825	44,285	44,2878	45,3518
88	115,6985	63,3931	47,5249	45,6179	53,2678	48,6399	43,8293	47,2951	46,1385	44,2862	45,4553	45,7958
89	115,9619	63,5486	47,8242	46,922	53,3077	48,646	44,6579	47,4961	46,4571	44,5985	45,8967	45,8929
90	116,1377	63,9034	47,9156	47,0155	53,3429	48,7636	44,7273	47,6411	46,4716	44,6923	45,9443	45,9519
91	117,2694	64,0287	48,0769	47,1952	53,7779	49,0244	45,3044	48,0555	46,5007	44,975	46,2179	46,162
92	118,5503	64,1729	48,1594	47,5009	53,8919	49,2873	47,7201	48,572	46,7855	45,3789	46,3521	46,2934
93	118,727	64,3122	48,3345	47,6029	53,9331	49,3123	48,5019	48,6057	47,1585	45,406	46,5548	46,3776
94	119,3161	65,5286	49,0602	48,4404	53,9378	49,4272	48,9218	49,8513	47,6026	45,5446	46,9753	46,5159
95	119,6789	66,0673	49,071	51,625	54,4729	49,4928	49,1498	49,8513	47,643	45,6475	47,2773	46,6453
96	123,2403	66,4553	49,5718	56,029	54,6157	50,2569	49,3692	50,5053	47,9695	45,8131	47,6599	47,3156
97	124,7503	66,6201	49,7375	57,2016	54,7218	51,4842	49,6293	51,275	48,7735	45,9815	49,4197	47,9973
98	125,5676	67,4288	50,2644	58,0434	55,3657	51,6895	49,8051	51,5905	50,839	47,6971	51,7215	48,2206
99	128,4744	67,7276	52,8343	60,3618	55,4652	55,0895	50,1923	54,5366	51,5122	50,8003	54,851	49,4436
100	131,2621	78,8191	57,2208	63,0885	58,5654	64,905	54,6953	56,5819	58,7611	55,1271	59,9006	63,6883

Uporządkowane rosnąco czasy obliczania [ms] całki metodą Simpsona dla liczby podprzedziałów = 4 mln

Lp.	Wątków											
	1	2	3	4	5	6	7	8	9	10	11	12
1	205,4608	107,8889	86,2521	72,3862	82,8412	77,7735	73,2593	71,9948	79,0208	81,1199	75,8275	72,7281
2	205,7792	108,4551	86,5776	72,4559	84,437	78,4877	73,7089	72,0875	86,3409	81,5717	75,8721	72,8598
3	205,781	108,9516	86,5831	72,7362	84,5676	78,714	73,7772	72,3825	86,396	81,6131	76,0096	73,1278
4	205,7985	109,7897	86,7376	72,8077	84,6319	78,7936	73,9816	72,7184	86,7256	82,0592	76,1744	73,2074
5	205,8641	109,9651	86,789	73,5659	84,8311	79,0465	74,4711	72,8364	87,0498	82,0878	76,342	73,3903
6	205,9132	110,2598	86,8463	73,5947	84,8524	79,1043	74,551	72,8433	87,2595	82,3353	76,3442	73,4114
7	205,9786	110,4418	86,9837	73,6576	84,905	79,1339	74,6205	72,8814	87,288	82,5054	76,4962	73,4313
8	206,1164	110,7085	87,1004	73,7613	84,9988	79,1734	74,6665	73,0026	87,3997	82,5507	76,5077	73,5996
9	206,129	110,8739	87,208	73,8526	85,125	79,2494	74,7658	73,1514	87,4033	82,5577	76,5342	73,6079
10	206,1342	111,5643	87,3368	73,8716	85,1575	79,2905	74,8499	73,1583	87,4175	82,5697	76,706	73,6797
11	206,2096	111,7981	87,4739	73,9488	85,1932	79,5695	75,0069	73,1709	87,6063	82,733	76,7883	73,8745
12	206,2447	112,1061	87,4986	74,0295	85,2109	79,6573	75,0587	73,2154	87,6154	82,8396	76,8421	73,9409
13	206,2574	112,2997	87,5392	74,0413	85,2851	79,7013	75,1013	73,2499	87,7114	82,8397	76,8461	74,0282
14	206,2726	112,4162	87,633	74,1883	85,3476	79,7057	75,1144	73,262	87,7128	82,8535	77,0545	74,1088
15	206,2736	112,8999	87,6409	74,2047	85,4266	79,7226	75,2163	73,3254	87,7729	82,8783	77,0724	74,1573
16	206,2857	113,2921	87,6914	74,2393	85,4273	79,7231	75,2252	73,5441	87,7852	82,9338	77,1586	74,5121
17	206,2941	113,3297	87,7076	74,3176	85,5026	79,8693	75,3047	73,5712	87,8569	82,9798	77,1762	74,5168
18	206,316	113,4419	87,71	74,3179	85,5569	79,8853	75,3581	73,6021	87,8601	83,0786	77,2214	74,5428
19	206,3483	113,5255	87,7942	74,3734	85,6166	79,927	75,4812	73,6293	87,8936	83,1948	77,2919	74,6235
20	206,402	113,6025	87,8354	74,3946	85,6391	79,9724	75,5499	73,7627	87,9215	83,2381	77,2954	74,7534
21	206,4472	113,9132	87,8986	74,4831	85,6604	80,0388	75,5584	73,7869	87,9477	83,24	77,3226	74,7809
22	206,4917	113,9723	88,0778	74,4921	85,7018	80,0443	75,6145	73,8384	88,053	83,3051	77,3341	74,7949
23	206,5137	113,9961	88,1455	74,5106	85,7143	80,0454	75,7304	74,0047	88,0569	83,342	77,4688	74,8178
24	206,5287	114,3688	88,1746	74,518	85,7367	80,1821	75,8115	74,0895	88,1841	83,3792	77,4931	74,8325
25	206,5548	114,6417	88,2189	74,5766	85,7857	80,2499	75,8664	74,1437	88,2114	83,4325	77,6505	74,8327
26	206,6009	114,8879	88,3667	74,5951	85,9111	80,336	75,9207	74,1656	88,3047	83,4448	77,6978	74,8736
27	206,6212	115,0195	88,4823	74,6249	85,9226	80,4176	75,9213	74,1904	88,3081	83,4557	77,757	74,8824
28	206,6368	115,1284	88,5098	74,7411	86,0778	80,4462	76,0249	74,239	88,3141	83,7431	77,7785	74,8825
29	206,6422	115,1422	88,5251	74,815	86,0851	80,4609	76,0454	74,2676	88,3282	83,7543	77,8392	74,911
30	206,6553	115,1591	88,7444	74,818	86,1568	80,5351	76,0644	74,2754	88,3486	83,777	77,8652	74,9582
31	206,7439	115,2579	88,9863	74,8612	86,1793	80,5766	76,1088	74,3891	88,3826	83,7794	77,9075	75,007
32	206,7983	115,3161	88,9999	74,8879	86,2131	80,5972	76,1495	74,3976	88,4033	83,7806	77,9522	75,0284
33	206,8258	115,499	89,0331	74,9007	86,2182	80,821	76,1641	74,5487	88,4382	83,8512	78,0328	75,0714
34	206,8697	115,5856	89,0377	74,9733	86,2437	80,827	76,1644	74,5624	88,4406	83,8595	78,0473	75,0777
35	207,0063	115,6189	89,0454	74,9777	86,2477	80,9042	76,1822	74,6517	88,5499	83,9059	78,095	75,0906
36	207,0096	115,7529	89,1356	74,9966	86,2594	80,9545	76,1903	74,6735	88,5526	83,9066	78,1223	75,1454
37	207,1044	115,8394	89,2636	75,0985	86,26	81,0163	76,3264	74,6922	88,5783	84,0981	78,145	75,1693
38	207,1232	116,0727	89,2747	75,3476	86,2863	81,0555	76,3877	74,709	88,6261	84,0981	78,1543	75,2251
39	207,1573	116,1113	89,3642	75,384	86,3476	81,1765	76,4691	74,7701	88,7158	84,1663	78,1653	75,2377
40	207,2191	116,183	89,4412	75,5052	86,4094	81,1821	76,5685	74,7933	88,7395	84,1864	78,2801	75,2607
41	207,2279	116,3961	89,5019	75,5624	86,4578	81,2215	76,5838	74,8437	88,8645	84,2254	78,2846	75,3302
42	207,2404	116,4977	89,5187	75,5654	86,472	81,2371	76,7616	74,8903	88,8693	84,2396	78,4128	75,3305
43	207,2989	116,7118	89,5206	75,574	86,4904	81,257	76,8166	74,9295	88,8693	84,2528	78,4336	75,4289
44	207,382	116,7639	89,5725	75,6278	86,5122	81,2835	76,8209	75,037	88,8883	84,3279	78,4867	75,4415
45	207,4932	116,7706	89,5849	75,6452	86,5395	81,3099	76,8559	75,0883	88,8895	84,3832	78,5788	75,4515
46	207,61	116,8189	89,7013	75,7141	86,5936	81,3349	76,9429	75,094	88,905	84,4303	78,5827	75,7843
47	207,662	116,8192	89,7159	75,727	86,6327	81,3692	76,9471	75,2336	88,9976	84,4665	78,5879	75,9384
48	207,6665	116,85	89,7228	75,7732	86,6628	81,4218	77,02	75,3154	89,0056	84,4959	78,6094	75,9978
49	207,7367	116,89	89,7357	75,787	86,6739	81,4224	77,0421	75,5027	89,0263	84,642	78,6603	76,0808
50	207,7913	116,9305	89,8632	75,8435	86,6868	81,4274	77,0444	75,6117	89,147	84,6573	78,6754	76,1266
51	207,8389	117,1631	89,8835	75,8569	86,8332	81,5158	77,125	75,7514	89,1497	84,6587	78,8302	76,1361
52	207,9014	117,2723	90,1496	75,9062	86,8665	81,5885	77,1344	75,9129	89,1806	84,7542	78,8403	76,2555
53	207,9345	117,2793	90,1734	76,0485	86,8963	81,5969	77,3425	75,9613	89,1859	84,7584	78,8818	76,2753
54	207,9631	117,5552	90,1791	76,0858	86,9197	81,6085	77,3808	76,1328	89,3684	84,7602	78,8838	76,3076
55	208,0929	117,6264	90,2015	76,1187	86,9247	81,685	77,3881	76,2545	89,4632	84,8002	78,936	76,3728
56	208,1125	117,8158	90,2213	76,242	86,9596	81,7361	77,5676	76,5297	89,5195	84,8786	78,9361	76,504
57	208,1584	117,956	90,3355	76,3144	86,9961	81,7416	77,77	76,5743	89,5284	84,8894	78,9929	76,7179
58	208,1982	118,0045	90,399	76,3672	87,004	81,8025	77,878	76,7832	89,5429	84,9128	79,1579	76,8691
59	208,275	118,0072	90,4522	76,3748	87,1222	81,9044	77,9881	76,785	89,6152	84,932	79,2537	76,9211
60	208,5621	118,0672	90,5252	76,38	87,2278	81,9345	78,1484	77,1907	89,7334	84,963	79,3786	77,0313
61	208,72	118,1007	90,5276	76,4716	87,2584	81,9392	78,2832	77,2487	89,7678	84,9648	79,3823	77,1685
62	208,7834	118,5369	90,5388	76,5769	87,3922	82,2818	78,5427	77,2708	89,8306	85,0343	79,3914	77,1735
63	208,813	118,5629	90,5993	76,7314	87,4736	82,3098	78,5975	77,4203	89,9545	85,0881	79,5022	77,4091
64	208,8167	118,7096	90,6929	76,7368	87,6147	82,3431	79,2069	77,4519	90,0249	85,1573	79,5627	78,6663
65	209,0598	118,7894	90,7032	76,7407	87,6171	82,3797	79,3491	77,4578	90,0375	85,375	79,6514	79,3295
66	209,2038	118,9689	90,9358	76,8597	87,6859	82,4685	79,5364	78,1256	90,0485	85,3874	79,6562	79,4782
67	209,2129	119,0128	90,9699	76,9345	87,7429	82,8532	79,5648	78,2393	90,0877	85,5273	79,8173	79,4904
68	209,3322	119,1068	90,9765	77,0132	87,8343	83,5332	79,5708	78,4372	90,1447	86,0676	79,9008	79,5335
69	209,3509	119,2439	91,3407	77,4458	87,9906	83,6448	79,6591	78,9879	90,1752	86,1227	79,9154	80,4565
70	209,7821	119,3498	91,4715	78,084	88,1613	84,0227	79,8457	79,538	90,4806	86,1352	80,4191	80,5453
71	209,9518	119,6307	91,6285	78,7404	88,2224	84,1245	79,8504	80,2613	90,5113	86,158	80,4379	80,9073
72	209,9523	119,8392	91,6626	79,2832	88,2358	84,1636	79,9695	80,899	90,5336	86,2473	80,5737	81,1148
73	209,9652	120,0281	91,8283	79,2871	88,2385	84,2064	80,209	81,0235	90,5876	86,3904	80,5751	81,7764
74	210,2893	120,0447	91,8289	79,758	88,405	84,2387	80,402	81,5994	90,6831	86,8878	80,6017	81,7931
75	210,5374	120,271	91,9428	80,23	88,4357	84,2804	80,7435	82,6353	90,7217	86,8923	80,6081	81,8322
76	210,7259	120,2805	91,9519	80,3226	88,4374	84,5305	81,1239	83,0659	90,7852	87,3651	80,7498	81,999
77	210,8744	120,3744	92,1756	80,4669	88,4996	84,635	81,1825	83,2063	90,994	87,3943	81,0559	82,3864
78	211,3362	120,5193	92,5239	80,7578	88,5092	85,5352	81,2169	83,2971	90,9972	87,4886	81,3513	82,5187
79	211,4305	120,8398	92,5569	80,8707	88,6473	85,8562	81,4243	85,0683	91,2716	87,5673	81,5543	82,583
80	211,5136	121,1737	92,7097	81,4778	88,6588	86,2755	81,585	85,0969	91,337	87,7784	81,7427	82,696
81	211,9896	121,2009	92,9801	81,7377	88,764	86,4111	81,8413	86,0825	91,3761	87,911	81,7727	82,841
82	212,261	121,2394	93,2351	81,8075	88,7715	86,7258	82,0606	86,7156	91,3941	88,4371	81,9397	82,9348
83	212,4106	121,2492	93,2878	81,8224	88,841	87,9758	82,9116	88,3475	91,4194	88,4514	81,9609	83,0752
84	212,6167	121,4826	93,5308	82,0182	89,1771	88,2711	83,3822	88,9643	91,4871	88,5369	81,9853	84,6587
85	213,4225	121,7794	93,5319	82,0969	89,2501	88,4219	84,0635	89,3037	91,5464	88,7374	82,0721	85,043
86	214,4635	121,8302	93,588	82,1272	89,377	89,2483	84,2177	89,4311	91,6805	88,847	82,5656	86,1386
87	215,3125	121,8833	93,8304	82,3279	89,6772	89,3864	84,3871	89,4847	91,6875	88,8869	82,6398	86,4587
88	217,3184	122,0255	94,3728	82,8828	89,7701	92,7201	85,0999	90,5532	91,728	88,9148	82,7793	86,9483
89	217,9426	122,0406	94,8103	83,045	89,8509	93,9817	85,3052	90,5698	91,7854	89,0653	82,823	87,1477
90	218,4135	122,2269	94,8491	83,5069	90,143	95,0717	85,6753	92,071	91,9202	89,7434	82,8373	88,0566
91	218,6241	122,8743	95,4734	84,3587	90,5806	95,1429	86,0879	92,3271	92,149	89,817	83,1582	88,3649
92	220,1662	122,9105	96,4419	84,6975	91,4057	95,2032	86,6568	92,9062	92,2143	89,9145	83,2186	89,1035
93	220,3361	123,0203	96,4777	92,5674	91,628	95,2033	86,785	93,1645	92,2357	90,1077	83,2589	89,4673
94	221,0218	123,3117	97,4238	93,0537	91,8274	95,6984	87,5761	93,2929	92,7083	90,6673	83,3286	89,5254
95	222,1872	123,4069	99,9591	98,9482	91,902	96,7498	89,591	93,3539	92,9201	90,719	84,0538	90,6225
96	222,529	123,6343	100,07	99,7042	92,1516	96,8394	91,0118	94,0984	93,4972	91,6779	84,0822	93,0321
97	223,1378	124,5002	101,6537	100,9713	93,2848	97,3041	92,2225	94,5151	93,5508	94,1012	84,4823	93,3002
98	225,8573	124,7926	104,0458	101,2274	96,2704	98,8308	93,9912	94,5299	95,3498	100,1116	89,6278	94,2039
99	232,0559	125,4814	104,0658	102,8419	99,6373	101,5388	98,5993	94,8892	106,3338	104,6425	93,947	97,3575
100	232,6377	163,1101	105,5348	105,3043	100,4136	109,2026	104,7005	96,1759	134,1418	110,4333	105,6491	98,2539

Uporządkowane rosnąco czasy obliczania [ms] całki metodą Simpsona dla liczby podprzedziałów = 8 mln

Lp.	Wątków											
	1	2	3	4	5	6	7	8	9	10	11	12
1	411,6187	222,0338	174,5421	149,6612	152,1508	155,648	150,5983	147,934	158,6961	149,7695	150,9166	149,8262
2	411,7554	224,4274	175,7945	150,3764	152,7548	156,4852	150,8066	149,3963	158,8781	150,9083	151,5538	149,9524
3	412,1643	224,9629	176,7508	150,5419	153,0612	156,6533	150,8914	149,6793	158,9241	150,939	151,8038	149,9619
4	412,3286	225,5004	176,8035	150,9099	153,9869	156,8079	151,0691	150,5404	158,9379	151,2312	152,6991	150,2917
5	412,3478	227,3167	176,8699	151,3302	154,2356	157,1683	151,183	150,5812	158,9612	151,5849	152,9335	150,2985
6	412,6632	227,4093	176,885	151,3675	154,2434	157,3778	151,2021	150,654	159,3749	151,7013	153,2124	150,6201
7	412,7664	228,0298	177,1239	151,6086	154,3408	157,4165	151,3335	150,6821	159,4152	151,8648	153,3763	150,6446
8	412,788	228,1516	177,2439	151,6237	154,4895	157,6221	151,4854	150,7117	159,4917	151,9334	153,4284	150,9533
9	412,8309	228,4278	177,676	151,687	154,6432	157,6471	151,5325	151,0086	159,5256	152,0491	153,5598	151,6783
10	413,0025	229,5611	177,7063	151,695	154,7373	157,686	151,6877	151,1282	159,6427	152,0588	153,7238	152,2122
11	413,0384	230,2189	177,8431	151,7279	154,9243	158,0006	151,7422	151,2004	159,7866	152,216	154,0895	152,2608
12	413,0764	230,2403	177,8747	151,7426	154,9403	158,4545	151,9681	151,3	159,8024	152,3031	154,2025	152,41
13	413,2658	230,3461	178,0475	151,8205	155,0659	158,4651	152,1837	151,5073	160,1446	152,3766	154,2456	152,5484
14	413,3217	230,5529	178,1831	151,9284	155,2923	158,6387	152,3592	151,6202	160,3023	152,4348	154,2617	152,6322
15	413,3692	230,6627	178,1843	152,047	155,4438	158,7496	152,5063	151,6331	160,3564	152,5665	154,2741	152,7425
16	413,6229	230,9009	178,218	152,3733	155,5381	158,7643	152,6468	151,6791	160,5017	152,6874	154,2926	153,6046
17	413,6502	230,9881	178,3405	152,6301	155,6198	158,8139	153,0638	152,1982	160,6073	152,8125	154,3841	153,6164
18	413,8637	231,3565	178,4021	152,7489	155,8155	158,8161	153,1471	152,3658	160,7346	152,8868	154,5077	153,6915
19	413,8929	231,4323	178,4274	153,8279	155,9896	158,8313	153,2084	152,4998	160,7687	152,982	154,5703	153,8673
20	413,9669	231,4772	178,4671	154,1497	156,0447	158,9478	153,2916	152,5044	161,2098	153,03	154,6461	153,8954
21	413,9717	231,6057	178,4738	154,8098	156,1393	159,1596	153,3427	152,7447	161,2327	153,2707	154,7338	154,1433
22	414,1049	231,8951	178,5611	154,9346	156,1564	159,4413	153,369	152,833	161,2683	153,3831	154,9251	154,2089
23	414,2397	231,9005	178,6393	155,1034	156,497	159,5445	153,6783	152,8702	161,3348	153,422	155,0003	154,2761
24	414,411	232,0592	178,9834	155,5413	156,5459	159,5646	153,6907	153,364	161,3937	153,4301	155,1438	154,3236
25	414,4121	232,3145	179,1526	156,0249	156,9419	159,6361	153,888	153,368	161,4691	153,6864	155,221	155,1062
26	414,4965	232,3543	179,1865	156,081	157,5982	159,7723	154,0922	153,5069	161,4817	153,7348	155,5412	156,4476
27	414,5094	232,4005	179,3112	156,158	157,6979	159,9345	154,2935	153,8089	161,5406	153,8615	155,5453	156,4636
28	414,5124	232,6103	179,3641	156,5406	158,1067	160,1182	154,3784	153,8758	161,5758	154,016	155,647	156,9221
29	414,5677	232,6308	179,5036	156,6248	158,3343	160,3108	154,3989	154,2724	161,6747	154,0318	155,686	157,4255
30	414,5718	233,1052	179,9404	156,6678	158,3404	160,4136	154,489	154,3523	161,6821	154,0675	155,7216	157,8302
31	414,5864	233,1917	179,9985	157,0287	158,5521	160,4553	154,7148	154,779	161,7026	154,3378	155,9006	157,8729
32	414,6375	233,2783	180,0538	157,3646	158,9969	160,8024	154,7505	155,2488	161,7203	154,7569	156,0524	158,1163
33	414,8728	233,3727	180,2305	157,5381	159,476	161,2346	154,7573	155,5315	161,7967	154,846	156,3909	158,3244
34	414,8876	233,6094	180,2763	157,8963	159,5752	161,3407	154,8623	156,077	161,8328	154,9649	156,4246	158,4107
35	414,9801	233,95	180,5371	158,1917	159,7322	161,3535	154,882	156,7424	161,8362	155,01	156,7611	159,0201
36	415,0005	234,2565	180,6278	158,7111	159,9331	161,4157	155,2547	156,9182	161,9163	155,0848	156,8093	159,0835
37	415,1315	234,3348	180,8791	158,8803	159,9812	161,422	155,4256	157,1203	161,9334	155,1966	156,8379	159,228
38	415,1605	234,3538	180,8803	159,0552	159,9886	161,5392	155,5024	157,2906	162,0029	155,4308	156,8632	159,5295
39	415,1945	234,3872	180,9676	159,0853	160,0241	161,6469	155,538	157,7747	162,0749	155,6259	156,8703	159,8579
40	415,2835	234,4428	181,1813	160,5814	160,0405	161,7561	155,5912	157,9884	162,2365	155,6641	156,9744	159,9391
41	415,3085	234,525	181,3168	160,9545	160,5558	161,7903	155,8501	158,1965	162,2729	155,9879	157,031	160,1878
42	415,384	234,684	181,3489	160,9587	160,575	161,976	155,8635	158,5731	162,2841	156,2349	157,0478	160,2703
43	415,4354	235,0299	181,8598	160,9792	160,8347	162,0409	155,9026	158,5836	162,3165	156,3341	157,0615	160,2718
44	415,4879	235,3863	181,8798	161,3894	160,8349	162,144	156,0901	158,9334	162,4185	156,3519	157,0881	160,3028
45	415,5003	235,5641	182,0198	161,4625	160,8713	162,1684	156,2712	159,4263	162,4365	156,48	157,5098	160,3655
46	415,6611	235,6905	182,1741	161,9139	161,1155	162,3561	156,2948	160,0327	162,4665	156,8297	157,5613	160,5705
47	415,7584	236,0098	182,198	162,4334	161,2058	162,3861	156,8212	160,9732	162,783	157,0138	157,5939	160,7289
48	415,8219	236,036	182,4516	162,4768	161,5788	162,3985	156,9252	161,9916	162,8467	157,309	157,737	160,7547
49	415,827	236,2659	182,5873	162,6709	161,6118	162,4155	156,9392	162,2696	162,9364	157,3271	157,879	160,9792
50	415,9038	236,4947	182,7444	163,312	161,8066	163,0623	157,0462	162,278	163,0258	157,8508	158,0013	160,9956
51	415,9072	236,5921	182,756	163,8775	161,8871	163,0656	157,0716	162,3193	163,0995	157,8791	158,0951	161,0424
52	415,9131	236,6478	182,7989	163,9759	161,9655	163,1236	157,2182	162,7536	163,118	158,5782	158,1452	161,0857
53	415,916	236,8087	182,9773	164,7632	162,4893	163,1249	157,2205	162,8772	163,1241	158,7711	158,7663	161,1154
54	416,013	237,2634	183,0563	166,1886	162,6356	163,5321	157,4335	163,8289	163,1492	158,9585	158,8359	161,2649
55	416,0232	237,5363	183,0574	166,4152	162,8391	164,4971	157,435	164,0959	163,2062	159,0865	158,8692	161,3897
56	416,1075	237,5892	183,0954	166,5649	162,9312	164,5482	157,8467	165,1174	163,2182	159,2085	159,1204	161,4451
57	416,302	238,042	183,1758	168,6048	163,0198	164,5949	157,9839	165,1638	163,2204	159,3413	159,2839	161,5445
58	416,3125	238,0841	183,1805	168,9993	163,3958	164,8981	158,1359	166,0168	163,2758	159,3722	159,3151	161,6464
59	416,3572	238,0982	183,416	169,5743	163,4727	165,2896	158,1893	166,6359	163,3247	159,3904	159,4108	161,8183
60	416,4639	238,2476	183,5054	169,9134	163,4879	165,4298	158,1965	166,824	163,356	159,4621	159,4634	161,9418
61	416,5479	238,5659	183,656	170,2342	163,5888	165,7172	158,262	169,0488	163,539	159,9492	159,6439	161,9853
62	416,5667	238,7131	183,929	172,2109	163,6271	165,7284	158,5814	170,183	163,769	160,0631	159,9706	161,9937
63	416,7763	238,9615	184,6198	172,431	163,7863	165,8202	158,7265	171,2281	163,8971	160,4157	160,0879	162,3316
64	416,9537	239,0851	184,7734	173,8103	163,8711	166,0388	158,731	171,3391	164,2637	161,7224	160,1246	162,3668
65	417,3346	239,0973	185,0385	174,8812	163,9514	166,0668	159,0798	171,6286	164,6387	161,8062	160,1628	162,3969
66	417,3928	239,7063	185,3099	175,7012	164,116	166,5128	159,1455	171,8325	164,6997	162,161	160,4222	163,4523
67	417,5079	240,032	185,3332	176,5429	164,1513	166,7887	159,2093	171,8487	164,756	162,5646	160,4535	164,0651
68	417,5925	240,0669	185,3687	176,9745	164,1842	167,0527	159,2785	172,0952	164,9475	162,7351	160,4756	165,1639
69	417,9614	240,0835	185,8126	177,3807	164,6317	167,0547	159,6456	172,1786	165,0975	163,0249	160,6459	165,2136
70	418,0268	240,1214	186,079	177,8604	164,7549	167,0922	159,9263	172,3274	165,1523	163,2071	160,7012	165,7273
71	418,1089	240,322	186,2143	178,3446	165,4456	167,1795	159,9305	172,4821	165,2978	164,1109	160,9463	165,7328
72	418,1447	240,547	186,349	178,4942	165,4574	167,6885	160,2294	172,6196	165,4519	164,6368	160,9691	166,1495
73	418,367	241,2368	186,4635	178,624	165,6138	167,8731	160,2726	173,0393	165,4703	164,7825	161,0848	166,1676
74	418,4227	241,363	186,5219	179,1595	165,6577	168,5155	160,4604	173,1772	165,5026	164,8571	161,164	167,3586
75	418,7391	241,7322	186,7138	179,4256	166,0074	168,8719	160,5814	173,7462	165,5353	165,4403	161,3277	167,5011
76	418,8923	242,2231	186,8491	179,8453	166,1682	169,1207	160,6952	174,2135	165,5868	165,9279	161,6847	167,9719
77	419,1672	243,3308	187,5712	180,1572	166,2637	169,2188	160,7119	174,2337	165,6453	166,5426	162,2024	168,0324
78	420,6944	243,3671	188,025	180,8487	166,503	169,3319	160,8481	174,7277	165,6474	167,1962	162,2233	168,3534
79	420,7717	243,7118	188,273	181,111	166,5365	170,0934	161,0563	175,1968	165,656	167,7818	162,2619	168,4018
80	421,4761	243,8624	190,1701	181,6894	166,6272	170,1804	161,1458	175,2792	165,7217	168,2253	162,6921	168,4953
81	422,3127	244,7051	190,7515	182,3949	167,2079	170,1993	161,398	175,4039	166,1457	168,8985	162,7749	169,5959
82	423,7982	244,7373	192,1384	182,571	167,8499	170,4934	161,5969	175,4462	166,5481	170,4147	163,276	169,6611
83	425,8223	245,3913	192,1531	183,296	168,0535	170,811	162,1982	175,7677	166,6766	171,2213	164,0498	169,9682
84	426,2263	245,9224	194,5368	184,9362	168,1274	170,9902	163,4395	175,8335	166,8348	171,4458	164,2179	170,3821
85	426,9065	245,9667	197,3054	185,0657	168,5705	171,8419	163,4739	177,054	167,0809	171,987	164,2894	171,2015
86	427,0092	246,2395	201,3049	185,227	169,9644	172,6586	165,3292	178,3088	167,5958	172,1555	164,9518	171,4928
87	427,0837	246,8554	202,3208	185,6666	170,3567	172,7255	165,3404	178,3501	167,6405	173,7259	165,6067	172,4554
88	427,1238	247,0073	203,313	185,917	172,9656	173,3312	165,8734	178,3507	167,7841	174,1863	165,7604	172,4731
89	427,9105	247,9176	208,3025	187,0963	173,2226	173,4416	165,8764	178,6433	167,8182	174,8461	165,8601	172,8795
90	428,5754	249,6848	210,1137	187,112	174,7789	175,401	166,4431	179,1032	167,9449	175,5109	166,1353	173,2094
91	429,0987	250,9382	211,7132	187,2589	174,9466	176,2597	167,6645	179,7522	168,0588	175,6609	166,1393	173,3717
92	430,4715	251,1407	215,3464	188,945	175,4804	176,4979	169,7516	180,3239	168,3011	177,5405	166,3807	173,9426
93	432,4647	252,426	218,4306	189,3265	175,8511	177,1394	169,9202	180,906	168,421	179,8292	166,4493	173,9729
94	434,0909	254,9886	219,6985	190,1312	177,4483	179,5406	169,947	183,1866	168,6693	180,6983	169,5012	175,0459
95	436,9984	258,2691	227,4342	190,8783	177,786	179,7788	171,5367	183,8412	169,6774	180,7046	169,9884	175,6729
96	445,1557	269,5289	227,6682	192,907	179,7796	185,3873	174,1306	184,0504	169,835	181,684	172,5428	177,0582
97	456,3633	308,9797	241,8804	196,0165	181,9696	186,4177	174,4789	184,0626	170,0555	190,8417	174,3111	185,9011
98	460,0182	339,2123	253,246	198,4651	182,8727	186,7701	179,8874	188,1703	170,811	192,396	182,8925	190,3864
99	465,8111	377,7969	304,723	199,1175	184,5007	188,8025	192,0977	193,4024	175,9167	192,9879	196,4067	198,1432
100	466,5646	387,4733	327,9776	226,449	187,8983	196,7041	197,4158	200,0403	177,7746	197,1345	203,7226	202,4016