# Compte rendu de projet Initiation à la Recherche

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# 1 Introduction

L'objectif de ce document est de décrire les notions essentielles à retenir en ce début de projet d'initiation à la recherche. Ces notions font partie d'un même sujet d'étude, au cœur des travaux de l'équipe OPTI. Elles concernent le sujet des contraintes et des intervalles.

# 2 Présentation du problème

#### 2.1 Définition du contexte

Un problème de satisfaction de contraintes (CSP) est défini par 3 éléments :

- Un ensemble de variables  $\mathbf{V} = \{v_1, ..., v_n\}.$
- Un domaine de valeurs pour chaque variable. Chaque valeur du domaine  $D_i$  associé à la variable  $v_i$  est une valeur que peut potentiellement prendre  $v_i$ :  $\mathbf{D} = D_1 \times ... \times D_n$ .
- Un ensemble de contraintes (relations) C restreignant les variables de V défini ci-dessus :  $C = \{c_1, ..., cm\}$ .

On s'intéressera notamment à la résolution des CSP sur le domaine continu. Dans ce cas les variables seront des intervalles à valeurs réelles et les contraintes seront généralement représentées par des équations et des inégalités.

# 2.2 Exemple

Une représentation simple de ce type de problèmes est la recherche des intersections de deux cercles dans un plan :

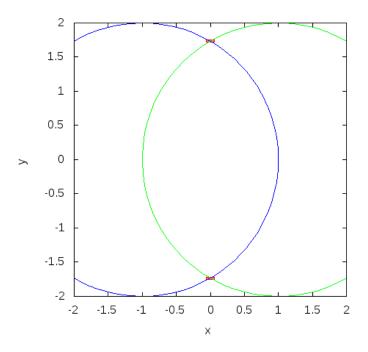


FIGURE 1 – Intersection de deux cercles

Définissons deux cercles respectivement de rayons  $r_1$  et  $r_2$  et de centres :  $(x_1, y_1)$  et  $(x_2, y_2)$ . On peut alors fixer les données en entrées du problème :

- Un ensemble de variables  $\{x,y\}$ .
- Un domaine de valeurs pour chaque variable.
- Les constantes du problème : les rayons de chaque cercle situés dans  $\mathbb{R}^+$ .
- L'ensemble des contrainte est composé par les équations des cercles :

$$\begin{cases} (x - x_1)^2 + (y - y_1)^2 = r_1^2 \\ (x - x_2)^2 + (y - y_2)^2 = r_2^2 \end{cases}$$
 (1)

```
/* Problem: consider a circle given by a center (x0,y0) and a radius R.
            Given a real D>=0, find all the points on the circle which
            distance to the origin is D.
*/
Constants
  x0 = -1,
  y0 = 0,
  R0 = 2,
  x1 = 1,
  y1 = 0,
 R1 = 2
Variables
  x in ]-oo, +oo[,
  y in ]-oo, +oo[
Constraints
  (x-x0)^2 + (y-y0)^2 \le R0^2,
  (x-x1)^2 + (y-y1)^2 \le R1^2
```

### 3 Méthodes de calculs

Les méthodes de calculs permettent la résolution de problèmes mathématiques en machine; en particulier lorsque l'on cherche à résoudre des problèmes sur les nombres réels. Elles permettent par exemple la résolution des CSP ou GCSP (Geometric Constraint Satisfaction Problem [C.J02]) et peuvent être divisées en deux catégories : les méthodes formelles et les méthodes numériques.

#### 3.1 Méthodes formelles

Les méthodes formelles permettent de résoudre des système d'équations ou d'inéquations en utilisant au maximum le calcul symbolique. Les approches les plus classiques des méthodes formelles utilisent des théories, telles que les idéaux polynomiaux pour les bases de Gröbner, ou la théorie des déterminants pour la méthode du résultant.

Ces méthodes ont l'énorme avantage de retourner des solutions exactes d'un système d'équation, ou tout du moins de minimiser l'utilisation de l'arithmétique flottante. Elles tenteront donc de résoudre le problème (1) en effectuant uniquement des opérations sur les équations sans évaluer les variables. On pourra donc avoir des expressions pour x et y représentant les solutions du problème de façon symbolique.

Cependant les résolutions de problèmes par des méthodes formelles sont forcément restreintes par les possibilités du calcul symbolique et ne pourront donc pas toujours offrir de solution générale et de mettre en œuvre des algorithmes de complexité exponentielles. Il n'existe par exemple pas de formules générales permettant de trouver les solutions d'un polynôme de degré supérieur ou égal à cinq.

# 3.2 Méthodes numériques

Les méthodes numériques consistent à évaluer de façon calculatoire la ou les solutions d'un problème. En effet elles sont capables d'essayer de résoudre n'importe quel système d'équation (ou d'égalités). Ainsi dans le cas du problème (1) la machine va affecter directement les calculs pour évaluer le résultats. Or l'utilisation de la représentation flottante et de son arithmétique pour simuler les opérations réelles va entrainer une diffusion et une augmentation de l'erreur de calcul, à tel point que l'on ne peut parfois plus assurer la validité d'une solution. On pourra d'ailleurs citer à titre d'exemple le problème de l'inversion d'une matrice mal conditionnée[Wik].

Cependant ces calculs numériques utilisés par des méthodes de résolutions par intervalles permettent de contourner ces problèmes. Pour plus de détails sur la représentation flottante, on pourra se référer à la thèse de Frédéric GOUALARD [F.G00]

# 4 Résolution par Intervalles

Les méthodes formelles et numériques, bien que performantes par certains aspects, sont rapidement limitées lorsque l'on veut résoudre des problèmes complexes ou que l'on veut pouvoir valider une solution (problème de propagation des erreurs...). C'est dans ce cadre que la méthode de résolution par intervalles a toute sa places. Construite grâce à l'arithmétique des intervalles, elle utilise aussi des notions apportées par la programmation par contrainte.

## 4.1 L'Arithmétique des intervalles

Cette arithmétique permet un calcul sur l'ensemble  $\mathbb{I}$  des intervalles à bornes sur  $\mathbb{R}$ . Les bornes b1 et b2 de l'intervalle [b1,b2], résultant de tout calcul, sont choisies en prenant un arrondi respectivement inférieur à b1 et supérieur à b2 de manière à garantir l'exactitude des calculs. L'extension des fonctions aux intervalles, introduite par MOORE en 1966, permet une transition à des intervalles grâce à un opérateur d'encadrement. Les opérations élémentaires sont alors réécrites en terme des bornes des intervalles par exemple :

$$\begin{cases} [a..b] + [c..d] = [a + c..b + d] \\ [a..b] \times [c..d] = [min(ac, ad, bc, bd)..max(ac, ad, bc, bd)] \end{cases}$$
(2)

Dans le cas d'une fonction non monotone comme le cosinus, on découpe les intervalles en domaines où la fonction est monotone (2)

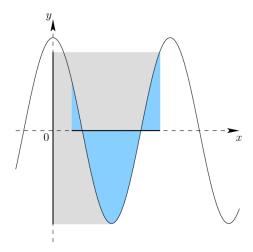


FIGURE 2 – Cas de la fonction cosinus

Une liste non-exhaustive des opérations de cet opérateur est listée dans [F.G00].

# 4.2 Utilisation des intervalles pour la notion de contraintes

Également, la méthode de résolution par intervalles utilise des notions de programmation par contraintes. On y retrouve celle de consistance. La consistance consiste à rechercher les valeurs cohérentes dans le domaine des variables pour les contraintes du CSP. Par exemple un CSP est globalement consistant lorsque toutes les valeurs des variables de son domaine appartiennent au moins à une solution. On devine qu'il peut être intéressant pour un CSP de posséder la consistance

la plus forte possible. Ainsi les opérations pour la résolution de problèmes seront moins nombreuses.

Dans le cas du problème (2), il serait possible d'avoir des solutions différentes selon la consistance choisie. Avec une hull-consistance, nous obtiendrions une boite contenant les deux solutions mais aussi une bonne partie de l'intersection des deux cercles. Tandis qu'avec une arc-consistance (cf [F.G00] Chapitre 3, section 3.3, définition 3.5), nous obtiendrions deux boites, plus petites que dans le premier cas, et chacune contenant une des solutions.

## 4.3 Exemples d'application

La précision de la méthode attirent le monde industriel. Notamment les applications composées de contraintes géométriques comme la robototique. La figure 3 illustre un robot avec deux points d'encrage (P1 et P2) possédant chacun un bras rotatif de longueurs respectives [L1] et [L2]. Ces bras sont composés de pistons permettant d'ajuster leurs longueurs. Ainsi leurs la longueur des bras sont comprises respectivement entre [L1min..L1max] et [L2min..L2max].

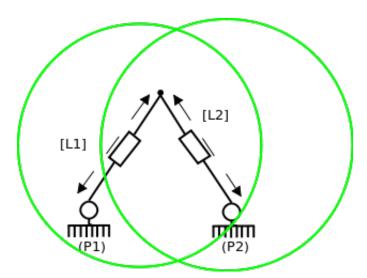


Figure 3 – Exemples d'application dans la robotique

L'objectif de ce robot est de positioner sa tête disposé au bout de ses bras sur l'intersection précise des deux cercles en vert. Les domaines de solutions de ce problème est illustré sur la figure  ${\bf 4}$ :

# image manquante

FIGURE 4 – Illustration des domaines solutions

Par ailleurs, la seule possibilité de trouver un minimum global intéresse régulièrement les industriels. On retrouve en effet dans [Sch03], le détails d'applications dans le secteur de la chimie industrielle mais aussi dans celui de la biologie avec une étude sur les protéines. La science fondamentale met aussi en application ces outils. C'est le cas en mathématique par exemple de problèmes tel que la conjecture de Kepler ou encore le maximum de clique.

# 5 Mise en œuvre de la méthode de résolution par intervalles

# 5.1 Algorithmes

L'algorithme de Branch and Prune est au centre de la méthode de résolution par intervalles. Nous résumons ici ses deux étapes :

#### Branch:

Diviser pour mieux régner

Cette méthode consiste à diviser récursivement un problème en deux sous problèmes. Appliquée à la méthode de résolution par intervalles, on découpe en deux l'intervalle concerné (en son milieu ou non). On obtient alors deux problèmes plus «petits» à étudier.

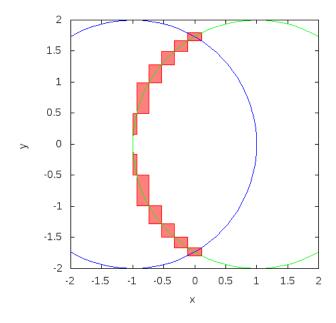


FIGURE 5 – Intersection d'un cercle et d'un disque

**Prune :** La découpe d'un problème en sous problèmes peut amener à une situation ou un des sous problèmes créés ne contient aucune solution. On peut alors étudier et trier ces sous problèmes pour en supprimer les espaces de recherche

superflus. Cette étape est appelée **pruning**. Au bout d'un certain nombre d'itération, l'algorithmes de Branch and Prune propose un ensemble de solutions sous la forme d'intervalles. On visualise sur la figure 5 un tel ensemble dans le cas d'une intersection entre un cercle et d'un disque.

#### 5.2 Données en sortie

En sortie l'algorithme va nous retourner un ensemble de boîtes. Cet ensemble garantissant, à contrario des méthodes numériques classiques, que toutes les solutions y sont incluses. En voici une illustration dans le cas d'une d'intersections entre deux disques :

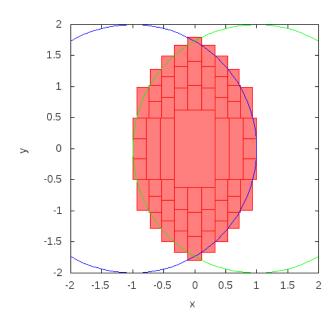


Figure 6 – Intersection de deux disques A

Il est d'ailleurs possible de savoir si tout l'espace d'une boîte est solution du problème. En contrepartie on ne peut toujours garantir l'existence d'une solution dans une enveloppe, il peut donc exister une approximation autour des résultats de l'algorithme.

#### 5.3 Outils existant

RealPaver Developpé au sein de l'équipe OPTI, cet outil reprend entre autre les méthodes de résolutions de contraintes géométriques par propagation d'intervalles. Il permet la résolution de sytèmes d'équations à n variables représentant des contraintes. Dans un soucis de précision ces solutions sont sous la forme d'intervalles. [GB06]

CHOCO Projet commun de l'École des Mines de Nantes, de LIRMM de Montpellier ansi que l'INRA de Toulouse. CHOCO est une librairie JAVA dédiée au résolution de CSP et à la programmation par contrainte. [cho99]



Google or-tools Bibliothèque Python fournissant un solveur de contraintes générique et des algorithmes : [ort11]

# A Sortie RealPaver : intersection de deux disques

```
RealPaver v. 0.4 (c) LINA 2004
INITIAL BOX
 x in ]-oo , +oo[
 y in ]-oo , +oo[
INNER BOX 1
 precision: 1.33, elapsed time: 0 ms
INNER BOX 2
 x in [-0.2952060277213756 , +0.2952060277213757]
 y in [-1.470023035500388 , -1.068344851083527]
 precision: 0.59, elapsed time: 0 ms
INNER BOX 3
 x in [-0.2952060277213756 , +0.2952060277213757]
 y in [-1.068344851083527, -0.666666666666667]
 precision: 0.59, elapsed time: 0 ms
INNER BOX 4
 x in [-0.2952060277213756 , +0.2952060277213757]
 y in [0.666666666666665, 1.068344851083527]
```

```
precision: 0.59, elapsed time: 0 ms
INNER BOX 5
  x in [-0.2952060277213756 , +0.2952060277213757]
 y in [1.068344851083527 , 1.470023035500388]
 precision: 0.59, elapsed time: 0 ms
INNER BOX 6
 x in [-0.4496899872832925 , -0.2952060277213756]
 y in [-1.238192769860558 , -0.9524297182636126]
 precision: 0.286, elapsed time: 0 ms
INNER BOX 7
  x in [-0.6888140646832098 , -0.4920100462022927]
 y in [-0.9524297182636126 , -0.666666666666667]
 precision: 0.286, elapsed time: 0 ms
INNER BOX 8
 x in [-0.4920100462022927, -0.2952060277213756]
 y in [-0.9524297182636126 , -0.666666666666667]
 precision: 0.286, elapsed time: 0 ms
INNER BOX 9
  x in [0.2952060277213757 , 0.4496899872832926]
 y in [-1.238192769860558 , -0.9524297182636123]
 precision: 0.286, elapsed time: 0 ms
INNER BOX 10
  x in [0.2952060277213757, 0.4920100462022928]
 y in [-0.9524297182636123 , -0.666666666666667]
 precision: 0.286, elapsed time: 0 ms
INNER BOX 11
 x in [0.4920100462022928 , 0.6888140646832099]
```

```
y in [-0.9524297182636123 , -0.666666666666667]
 precision: 0.286, elapsed time: 0 ms
INNER BOX 12
 x in [-0.7695217644443199 , -0.5514275488888266]
 precision: 0.444, elapsed time: 0 ms
INNER BOX 13
 precision: 0.444, elapsed time: 0 ms
INNER BOX 14
 y in [-0.22222222222223]
 precision: 0.444, elapsed time: 0 ms
INNER BOX 15
 y in [-0.22222222222222 , +0.2222222222221]
 precision: 0.444, elapsed time: 0 ms
INNER BOX 16
 x in [-0.7695217644443199 , -0.5514275488888266]
 y in [0.22222222222221], 0.666666666666665]
 precision: 0.444, elapsed time: 0 ms
INNER BOX 17
 y in [0.22222222222221], 0.666666666666665]
 precision: 0.444, elapsed time: 0 ms
```

```
INNER BOX 18
 x in [0.3333333333333333 , 0.5514275488888266]
 precision: 0.444, elapsed time: 0 ms
INNER BOX 19
 x in [0.5514275488888266 , 0.76952176444432]
 precision: 0.444, elapsed time: 0 ms
INNER BOX 20
 y in [-0.22222222222222 , +0.22222222222221]
 precision: 0.444, elapsed time: 0 ms
INNER BOX 21
 x in [0.5555555555555555 , 0.77777777777778]
 y in [-0.22222222222222 , +0.22222222222221]
 precision: 0.444, elapsed time: 0 ms
TNNER BOX 22
 x in [0.3333333333333333 , 0.5514275488888266]
 y in [0.22222222222221], 0.666666666666665]
 precision: 0.444, elapsed time: 0 ms
INNER BOX 23
 x in [0.5514275488888266 , 0.76952176444432]
 y in [0.22222222222221], 0.666666666666665]
```

## INNER BOX 24

x in [-0.6888140646832098 , -0.4920100462022927]
y in [0.666666666666665 , 0.9524297182636124]

precision: 0.444, elapsed time: 0 ms

```
precision: 0.286, elapsed time: 0 ms
INNER BOX 25
  x in [-0.4920100462022927 , -0.2952060277213756]
 y in [0.666666666666666 , 0.9524297182636124]
 precision: 0.286, elapsed time: 0 ms
INNER BOX 26
 x in [-0.4496899872832925 , -0.2952060277213756]
 y in [0.9524297182636124 , 1.238192769860558]
 precision: 0.286, elapsed time: 0 ms
INNER BOX 27
  x in [0.2952060277213757 , 0.4920100462022928]
 y in [0.6666666666666665], 0.9524297182636123]
 precision: 0.286, elapsed time: 0 ms
INNER BOX 28
 x in [0.4920100462022928 , 0.6888140646832099]
 y in [0.666666666666666 , 0.9524297182636123]
 precision: 0.286, elapsed time: 0 ms
INNER BOX 29
  x in [0.2952060277213757 , 0.4496899872832926]
 y in [0.9524297182636123 , 1.238192769860558]
 precision: 0.286, elapsed time: 0 ms
INNER BOX 30
  x in [-0.3603407527950472 , -0.2952060277213756]
 y in [-1.428701470925189 , -1.333447120392873]
 precision: 0.0953, elapsed time: 0 ms
INNER BOX 31
 x in [-0.4788220236221691 , -0.3870140256717723]
```

```
y in [-1.333447120392873 , -1.238192769860558]
 precision: 0.0953, elapsed time: 0 ms
INNER BOX 32
 x in [-0.3870140256717723 , -0.2952060277213756]
 y in [-1.333447120392873 , -1.238192769860558]
 precision: 0.0953, elapsed time: 0 ms
INNER BOX 33
  x in [-0.6041739468452093 , -0.4496899872832925]
 y in [-1.142938419328243 , -1.047684068795928]
 precision: 0.154, elapsed time: 0 ms
INNER BOX 34
  x in [-0.6041739468452093 , -0.4496899872832925]
 y in [-1.047684068795928 , -0.9524297182636126]
 precision: 0.154, elapsed time: 0 ms
INNER BOX 35
  x in [-0.0984020092404585 , +0.09840200924045861]
 y in [-1.575099017137251 , -1.470023035500388]
 precision: 0.197, elapsed time: 0 ms
INNER BOX 36
  x in [0.2952060277213757 , 0.3603407527950474]
 y in [-1.428701470925188 , -1.333447120392873]
 precision: 0.0953, elapsed time: 0 ms
INNER BOX 37
 x in [0.2952060277213757 , 0.3870140256717726]
 y in [-1.333447120392873 , -1.238192769860558]
```

precision: 0.0953, elapsed time: 0 ms

```
INNER BOX 38
  x in [0.3870140256717726 , 0.4788220236221695]
 y in [-1.333447120392873 , -1.238192769860558]
 precision: 0.0953, elapsed time: 0 ms
INNER BOX 39
 x in [0.4496899872832926 , 0.6041739468452095]
 y in [-1.142938419328243 , -1.047684068795927]
 precision: 0.154, elapsed time: 0 ms
INNER BOX 40
  x in [0.4496899872832926 , 0.6041739468452095]
 y in [-1.047684068795927 , -0.9524297182636123]
 precision: 0.154, elapsed time: 0 ms
INNER BOX 41
  x in [-0.6041739468452093 , -0.4496899872832925]
 y in [0.9524297182636124 , 1.047684068795928]
 precision: 0.154, elapsed time: 0 ms
TNNER BOX 42
  x in [-0.6041739468452093 , -0.4496899872832925]
 y in [1.047684068795928 , 1.142938419328243]
 precision: 0.154, elapsed time: 0 ms
INNER BOX 43
 x in [-0.4788220236221691 , -0.3870140256717723]
 y in [1.238192769860558 , 1.333447120392874]
 precision: 0.0953, elapsed time: 0 ms
```

INNER BOX 44

x in [-0.3870140256717723 , -0.2952060277213756] y in [1.238192769860558 , 1.333447120392874]

```
precision: 0.0953, elapsed time: 0 ms
INNER BOX 45
  x in [-0.3603407527950471 , -0.2952060277213756]
 y in [1.333447120392874 , 1.428701470925189]
 precision: 0.0953, elapsed time: 0 ms
INNER BOX 46
 x in [-0.0984020092404585 , +0.09840200924045861]
 y in [1.470023035500388 , 1.575099017137252]
 precision: 0.197, elapsed time: 0 ms
INNER BOX 47
  x in [0.4496899872832926 , 0.6041739468452095]
 y in [0.9524297182636123 , 1.047684068795928]
 precision: 0.154, elapsed time: 0 ms
INNER BOX 48
 x in [0.4496899872832926 , 0.6041739468452095]
 y in [1.047684068795928 , 1.142938419328243]
 precision: 0.154, elapsed time: 0 ms
INNER BOX 49
  x in [0.2952060277213757 , 0.3870140256717726]
 y in [1.238192769860558 , 1.333447120392873]
 precision: 0.0953, elapsed time: 0 ms
INNER BOX 50
  x in [0.3870140256717726 , 0.4788220236221694]
 y in [1.238192769860558 , 1.333447120392873]
 precision: 0.0953, elapsed time: 0 ms
```

x in [0.2952060277213757 , 0.3603407527950473]

INNER BOX 51

```
y in [1.333447120392873 , 1.428701470925189]
precision: 0.0953, elapsed time: 0 ms

INNER BOX 52
x in [-0.3647858013680041 , -0.3299959145446899]
y in [-1.450364431242905 , -1.428701470925189]

precision: 0.0348, elapsed time: 0 ms
```

## INNER BOX 53

x in [-0.3299959145446899 , -0.2952060277213756] y in [-1.492204371280066 , -1.460452921102627]

precision: 0.0348, elapsed time: 0 ms

#### INNER BOX 54

x in [-0.3299959145446899 , -0.2952060277213756]
y in [-1.460452921102627 , -1.428701470925189]

precision: 0.0348, elapsed time: 0 ms

#### INNER BOX 55

x in [-0.4254754778687188 , -0.3603407527950472]
y in [-1.39695002074775 , -1.365198570570312]

precision: 0.0651, elapsed time: 0 ms

#### INNER BOX 56

x in [-0.4254754778687188 , -0.3603407527950472] y in [-1.365198570570312 , -1.333447120392873]

precision: 0.0651, elapsed time: 0 ms

#### INNER BOX 57

x in [-0.640289064769753 , -0.6041739468452093]
y in [-1.113752892260402 , -1.033091305262007]

precision: 0.0807, elapsed time: 0 ms

```
INNER BOX 58
```

x in [-0.7071632532198205 , -0.6556686000325149]

y in [-1.033091305262007, -0.9524297182636126]

precision: 0.0807, elapsed time: 0 ms

#### INNER BOX 59

x in [-0.6556686000325149 , -0.6041739468452093]

y in [-1.033091305262007, -0.9524297182636126]

precision: 0.0807, elapsed time: 0 ms

#### INNER BOX 60

x in [-0.5526792936579037 , -0.5011846404705981]

y in [-1.238192769860558 , -1.142938419328243]

precision: 0.0953, elapsed time: 0 ms

#### INNER BOX 61

x in [-0.5011846404705981 , -0.4496899872832925]

y in [-1.238192769860558 , -1.142938419328243]

precision: 0.0953, elapsed time: 0 ms

#### INNER BOX 62

x in [-0.7282095045641771 , -0.6888140646832098]

y in [-0.9524297182636126 , -0.8571753677312972]

precision: 0.0953, elapsed time: 0 ms

#### INNER BOX 63

x in [-0.7957264351540503 , -0.74227024991863]

y in [-0.8571753677312972 , -0.761921017198982]

precision: 0.0953, elapsed time: 0 ms

#### INNER BOX 64

x in [-0.74227024991863 , -0.6888140646832098]

y in [-0.8571753677312972 , -0.761921017198982]

```
precision: 0.0953, elapsed time: 0 ms
INNER BOX 65
  x in [-0.8200167436704878 , -0.7544154041768488]
 y in [-0.761921017198982 , -0.666666666666667]
 precision: 0.0953, elapsed time: 0 ms
INNER BOX 66
 x in [-0.7544154041768488 , -0.6888140646832098]
 y in [-0.761921017198982 , -0.666666666666667]
 precision: 0.0953, elapsed time: 0 ms
INNER BOX 67
  x in [-0.1587775879152689 , -0.0984020092404585]
 y in [-1.604261395088855 , -1.537142215294622]
 precision: 0.0671, elapsed time: 0 ms
INNER BOX 68
 x in [-0.2296046882277366 , -0.1640033487340975]
 y in [-1.537142215294622 , -1.470023035500388]
 precision: 0.0671, elapsed time: 0 ms
INNER BOX 69
  x in [-0.1640033487340975 , -0.0984020092404585]
 y in [-1.537142215294622 , -1.470023035500388]
 precision: 0.0671, elapsed time: 0 ms
INNER BOX 70
  x in [-0.03280066974681946 , +0.03280066974681958]
 y in [-1.680174998774115 , -1.575099017137251]
 precision: 0.105, elapsed time: 0 ms
INNER BOX 71
 x in [0.09840200924045861 , 0.158777587915269]
```

```
y in [-1.604261395088855 , -1.537142215294622]
 precision: 0.0671, elapsed time: 0 ms
INNER BOX 72
 x in [0.09840200924045861 , 0.1640033487340977]
 y in [-1.537142215294622 , -1.470023035500388]
 precision: 0.0671, elapsed time: 0 ms
INNER BOX 73
  x in [0.1640033487340977 , 0.2296046882277367]
 y in [-1.537142215294622 , -1.470023035500388]
 precision: 0.0671, elapsed time: 0 ms
INNER BOX 74
  x in [0.2952060277213757 , 0.3299959145446901]
 y in [-1.492204371280065 , -1.460452921102627]
 precision: 0.0348, elapsed time: 0 ms
INNER BOX 75
  x in [0.2952060277213757 , 0.3299959145446901]
 y in [-1.460452921102627, -1.428701470925188]
 precision: 0.0348, elapsed time: 0 ms
INNER BOX 76
  x in [0.3299959145446901 , 0.3647858013680045]
 y in [-1.450364431242905 , -1.428701470925188]
 precision: 0.0348, elapsed time: 0 ms
INNER BOX 77
 x in [0.3603407527950474 , 0.425475477868719]
 y in [-1.39695002074775 , -1.365198570570311]
```

precision: 0.0651, elapsed time: 0 ms

```
INNER BOX 78
 precision: 0.0651, elapsed time: 0 ms
```

x in [0.3603407527950474 , 0.425475477868719] y in [-1.365198570570311 , -1.333447120392873]

INNER BOX 79

x in [0.4496899872832926 , 0.5011846404705983] y in [-1.238192769860558 , -1.142938419328243]

precision: 0.0953, elapsed time: 0 ms

INNER BOX 80

x in [0.5011846404705983 , 0.5526792936579039] y in [-1.238192769860558 , -1.142938419328243]

precision: 0.0953, elapsed time: 0 ms

INNER BOX 81

x in [0.6041739468452095 , 0.6402890647697532] y in [-1.113752892260402 , -1.033091305262007]

precision: 0.0807, elapsed time: 0 ms

TNNER BOX 82

x in [0.6041739468452095 , 0.6556686000325151] y in [-1.033091305262007 , -0.9524297182636123]

precision: 0.0807, elapsed time: 0 ms

INNER BOX 83

x in [0.6556686000325151 , 0.7071632532198208] y in [-1.033091305262007, -0.9524297182636123]

precision: 0.0807, elapsed time: 0 ms

INNER BOX 84

x in [0.6888140646832099 , 0.7282095045641773] y in [-0.9524297182636123 , -0.8571753677312971]

```
precision: 0.0953, elapsed time: 0 ms
INNER BOX 85
 x in [0.6888140646832099 , 0.7422702499186302]
 y in [-0.8571753677312971 , -0.7619210171989819]
 precision: 0.0953, elapsed time: 0 ms
INNER BOX 86
 x in [0.7422702499186302 , 0.7957264351540504]
 y in [-0.8571753677312971 , -0.7619210171989819]
 precision: 0.0953, elapsed time: 0 ms
INNER BOX 87
 x in [0.6888140646832099 , 0.7544154041768489]
 y in [-0.7619210171989819 , -0.666666666666667]
 precision: 0.0953, elapsed time: 0 ms
INNER BOX 88
 x in [0.7544154041768489 , 0.8200167436704879]
 y in [-0.7619210171989819 , -0.666666666666667]
 precision: 0.0953, elapsed time: 0 ms
INNER BOX 89
 x in [-0.8775842731264076 , -0.8235530187853637]
 precision: 0.148, elapsed time: 0 ms
INNER BOX 90
 x in [-0.8235530187853637, -0.7695217644443199]
 precision: 0.148, elapsed time: 0 ms
```

x in [-0.9001121102638202 , -0.83481693735407]

INNER BOX 91

```
y in [-0.5185185185185186 , -0.3703703703703705]
 precision: 0.148, elapsed time: 0 ms
INNER BOX 92
 x in [-0.83481693735407, -0.7695217644443199]
 y in [-0.5185185185185186 , -0.3703703703703705]
 precision: 0.148, elapsed time: 0 ms
INNER BOX 93
  x in [-0.914917908147982 , -0.8422198362961509]
 y in [-0.3703703703703705 , -0.22222222222223]
 precision: 0.148, elapsed time: 0 ms
TNNER BOX 94
  x in [-0.8422198362961509 , -0.7695217644443199]
 y in [-0.3703703703703705 , -0.22222222222223]
 precision: 0.148, elapsed time: 0 ms
INNER BOX 95
 x in [-0.9250111173562511 , -0.8513944475670144]
 y in [-0.22222222222223 , -0.07407407407407418]
 precision: 0.148, elapsed time: 0 ms
INNER BOX 96
  x in [-0.8513944475670144 , -0.77777777777778]
 y in [-0.22222222222223 , -0.07407407407407418]
 precision: 0.148, elapsed time: 0 ms
INNER BOX 97
 x in [-0.9259259259259259 , -0.8518518518518519]
 y in [-0.07407407407407418 , +0.07407407407407396]
 precision: 0.148, elapsed time: 0 ms
```

```
INNER BOX 98
```

x in [-0.8518518518518519 , -0.77777777777778] y in [-0.07407407407407418 , +0.07407407407407396]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 99

x in [-0.9250111173562511 , -0.8513944475670144] y in [0.07407407407407396 , 0.22222222222221]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 100

x in [-0.8513944475670144 , -0.77777777777778] y in [0.07407407407407396 , 0.22222222222221]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 101

x in [-0.914917908147982 , -0.8422198362961509] y in [0.222222222222221 , 0.3703703703702]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 102

x in [-0.8422198362961509 , -0.7695217644443199]
y in [0.222222222222221 , 0.3703703703702]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 103

x in [-0.9001121102638202 , -0.83481693735407]
y in [0.3703703703703702 , 0.5185185185185184]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 104

x in [-0.83481693735407 , -0.7695217644443199] y in [0.3703703703702 , 0.5185185185185184]

```
precision: 0.148, elapsed time: 0 ms
INNER BOX 105
 x in [-0.8775842731264077 , -0.8235530187853638]
 y in [0.5185185185185184], 0.666666666666665]
 precision: 0.148, elapsed time: 0 ms
INNER BOX 106
 x in [-0.8235530187853638 , -0.7695217644443199]
 y in [0.5185185185185184], 0.666666666666665]
 precision: 0.148, elapsed time: 0 ms
INNER BOX 107
 x in [0.76952176444432 , 0.8235530187853639]
 precision: 0.148, elapsed time: 0 ms
INNER BOX 108
 x in [0.8235530187853639, 0.8775842731264077]
 precision: 0.148, elapsed time: 0 ms
INNER BOX 109
 x in [0.76952176444432 , 0.8348169373540701]
 y in [-0.5185185185185186 , -0.3703703703703705]
 precision: 0.148, elapsed time: 0 ms
INNER BOX 110
 x in [0.8348169373540701, 0.9001121102638203]
 y in [-0.5185185185185186 , -0.3703703703703705]
 precision: 0.148, elapsed time: 0 ms
INNER BOX 111
 x in [0.76952176444432 , 0.842219836296151]
```

```
y in [-0.3703703703703705 , -0.22222222222223]
```

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 112

x in [0.842219836296151 , 0.9149179081479821]
y in [-0.3703703703705 , -0.22222222222222]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 113

x in [0.777777777777778 , 0.8513944475670145]
y in [-0.22222222222222 , -0.07407407407418]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 114

x in [0.8513944475670145 , 0.9250111173562512]
y in [-0.222222222222223 , -0.07407407407418]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 115

x in [0.777777777777777 , 0.8518518518518519]
y in [-0.07407407407407418 , +0.07407407407407396]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 116

x in [0.8518518518518519 , 0.9259259259259259]
y in [-0.07407407407407418 , +0.07407407407396]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 117

x in [0.777777777777777 , 0.8513944475670145] y in [0.07407407407407396 , 0.222222222222221]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 118

x in [0.8513944475670145 , 0.9250111173562512]

y in [0.07407407407407396, 0.22222222222221]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 119

x in [0.76952176444432 , 0.842219836296151]

y in [0.22222222222221], 0.3703703703703702]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 120

x in [0.842219836296151, 0.9149179081479821]

y in [0.22222222222221], 0.3703703703703702]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 121

x in [0.76952176444432 , 0.8348169373540701]

y in [0.3703703703703702 , 0.5185185185185184]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 122

x in [0.8348169373540701 , 0.9001121102638203]

y in [0.3703703703703702 , 0.5185185185185184]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 123

x in [0.76952176444432 , 0.8235530187853639]

y in [0.5185185185185184], 0.666666666666665]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 124

x in [0.8235530187853639, 0.8775842731264079]

y in [0.5185185185185184 , 0.666666666666665]

precision: 0.148, elapsed time: 0 ms

#### INNER BOX 125

x in [-0.8200167436704878 , -0.7544154041768488]
y in [0.666666666666665 , 0.7619210171989819]

precision: 0.0953, elapsed time: 0 ms

#### INNER BOX 126

x in [-0.7544154041768488 , -0.6888140646832098]
y in [0.666666666666665 , 0.7619210171989819]

precision: 0.0953, elapsed time: 0 ms

#### INNER BOX 127

x in [-0.7957264351540503 , -0.74227024991863] y in [0.7619210171989819 , 0.8571753677312972]

precision: 0.0953, elapsed time: 0 ms

#### INNER BOX 128

x in [-0.74227024991863 , -0.6888140646832098] y in [0.7619210171989819 , 0.8571753677312972]

precision: 0.0953, elapsed time: 0 ms

#### INNER BOX 129

x in [-0.7282095045641771 , -0.6888140646832098]
y in [0.8571753677312972 , 0.9524297182636124]

precision: 0.0953, elapsed time: 0 ms

#### INNER BOX 130

x in [-0.7071632532198205 , -0.6556686000325149]
y in [0.9524297182636124 , 1.033091305262007]

precision: 0.0807, elapsed time: 0 ms

#### INNER BOX 131

x in [-0.6556686000325149, -0.6041739468452093]

```
y in [0.9524297182636124 , 1.033091305262007]
```

precision: 0.0807, elapsed time: 0 ms

#### INNER BOX 132

x in [-0.640289064769753 , -0.6041739468452093] y in [1.033091305262007 , 1.113752892260403]

precision: 0.0807, elapsed time: 0 ms

#### INNER BOX 133

x in [-0.5526792936579037 , -0.5011846404705981]
y in [1.142938419328243 , 1.238192769860558]

precision: 0.0953, elapsed time: 0 ms

#### INNER BOX 134

x in [-0.5011846404705981 , -0.4496899872832925] y in [1.142938419328243 , 1.238192769860558]

precision: 0.0953, elapsed time: 0 ms

#### INNER BOX 135

x in [-0.4254754778687185 , -0.3603407527950471]
y in [1.333447120392874 , 1.365198570570312]

precision: 0.0651, elapsed time: 0 ms

#### INNER BOX 136

x in [-0.4254754778687185 , -0.3603407527950471]
y in [1.365198570570312 , 1.396950020747751]

precision: 0.0651, elapsed time: 0 ms

#### INNER BOX 137

x in [-0.3647858013680038 , -0.3299959145446897]
y in [1.428701470925189 , 1.450364431242906]

precision: 0.0348, elapsed time: 0 ms

```
INNER BOX 138
```

x in [-0.3299959145446897 , -0.2952060277213756]

y in [1.428701470925189 , 1.460452921102628]

precision: 0.0348, elapsed time: 0 ms

#### INNER BOX 139

x in [-0.3299959145446897 , -0.2952060277213756]

y in [1.460452921102628, 1.492204371280066]

precision: 0.0348, elapsed time: 0 ms

#### INNER BOX 140

x in [-0.2296046882277366 , -0.1640033487340975]

y in [1.470023035500388 , 1.537142215294622]

precision: 0.0671, elapsed time: 0 ms

#### INNER BOX 141

x in [-0.1640033487340975 , -0.0984020092404585]

y in [1.470023035500388 , 1.537142215294622]

precision: 0.0671, elapsed time: 0 ms

#### INNER BOX 142

x in [-0.1587775879152689 , -0.0984020092404585]

y in [1.537142215294622 , 1.604261395088855]

precision: 0.0671, elapsed time: 0 ms

#### INNER BOX 143

x in [-0.03280066974681946 , +0.03280066974681958]

y in [1.575099017137252 , 1.680174998774115]

precision: 0.105, elapsed time: 0 ms

#### INNER BOX 144

x in [0.09840200924045861 , 0.1640033487340977]

y in [1.470023035500388 , 1.537142215294622]

precision: 0.0671, elapsed time: 0 ms

#### INNER BOX 145

x in [0.1640033487340977 , 0.2296046882277367]

y in [1.470023035500388 , 1.537142215294622]

precision: 0.0671, elapsed time: 0 ms

#### INNER BOX 146

x in [0.09840200924045861 , 0.1587775879152689]

y in [1.537142215294622 , 1.604261395088855]

precision: 0.0671, elapsed time: 0 ms

#### INNER BOX 147

x in [0.6888140646832099, 0.7544154041768489]

y in [0.666666666666666 , 0.7619210171989819]

precision: 0.0953, elapsed time: 0 ms

#### INNER BOX 148

x in [0.7544154041768489 , 0.8200167436704879]

precision: 0.0953, elapsed time: 0 ms

#### INNER BOX 149

x in [0.6888140646832099, 0.7422702499186302]

y in [0.7619210171989819 , 0.8571753677312971]

precision: 0.0953, elapsed time: 0 ms

#### INNER BOX 150

x in [0.7422702499186302 , 0.7957264351540504]

y in [0.7619210171989819 , 0.8571753677312971]

precision: 0.0953, elapsed time: 0 ms

#### INNER BOX 151

x in [0.6888140646832099 , 0.7282095045641773]

y in [0.8571753677312971 , 0.9524297182636123]

precision: 0.0953, elapsed time: 0 ms

#### INNER BOX 152

x in [0.4496899872832926 , 0.5011846404705983] y in [1.142938419328243 , 1.238192769860558]

precision: 0.0953, elapsed time: 0 ms

#### INNER BOX 153

x in [0.5011846404705983 , 0.5526792936579039]
y in [1.142938419328243 , 1.238192769860558]

precision: 0.0953, elapsed time: 0 ms

#### INNER BOX 154

x in [0.6041739468452095 , 0.6556686000325151]
y in [0.9524297182636123 , 1.033091305262007]

precision: 0.0807, elapsed time: 0 ms

#### INNER BOX 155

x in [0.6556686000325151 , 0.7071632532198208] y in [0.9524297182636123 , 1.033091305262007]

precision: 0.0807, elapsed time: 0 ms

#### INNER BOX 156

x in [0.6041739468452095 , 0.6402890647697532] y in [1.033091305262007 , 1.113752892260403]

precision: 0.0807, elapsed time: 0 ms

#### INNER BOX 157

x in [0.3603407527950473 , 0.4254754778687189] y in [1.333447120392873 , 1.365198570570312]

precision: 0.0651, elapsed time: 0 ms

x in [0.3603407527950473 , 0.4254754778687189]

y in [1.365198570570312 , 1.39695002074775]

precision: 0.0651, elapsed time: 0 ms

#### INNER BOX 159

x in [0.2952060277213757 , 0.32999591454469]

y in [1.428701470925189 , 1.460452921102627]

precision: 0.0348, elapsed time: 0 ms

## INNER BOX 160

x in [0.2952060277213757 , 0.32999591454469]

y in [1.460452921102627, 1.492204371280065]

precision: 0.0348, elapsed time: 0 ms

## INNER BOX 161

x in [0.32999591454469, 0.3647858013680043]

y in [1.428701470925189 , 1.450364431242905]

precision: 0.0348, elapsed time: 0 ms

## INNER BOX 162

x in [-0.3879790592502136 , -0.3763824303091088]

y in [-1.436153886898494 , -1.428701470925189]

precision: 0.0116, elapsed time: 0 ms

## INNER BOX 163

x in [-0.3763824303091088 , -0.3647858013680041]

y in [-1.450881273608308 , -1.439791372266748]

precision: 0.0116, elapsed time: 0 ms

## INNER BOX 164

x in [-0.3763824303091088 , -0.3647858013680041]

y in [-1.439791372266748 , -1.428701470925189]

```
precision: 0.0116, elapsed time: 0 ms
INNER BOX 165
```

x in [-0.3531891724268993 , -0.3415925434857946]
y in [-1.472027391560622 , -1.450364431242905]

precision: 0.0217, elapsed time: 0 ms

## INNER BOX 166

x in [-0.3415925434857946 , -0.3299959145446899]
y in [-1.472027391560622 , -1.450364431242905]

precision: 0.0217, elapsed time: 0 ms

#### INNER BOX 167

x in [-0.4401782696806391 , -0.4254754778687188]
y in [-1.379723200915215 , -1.356585160654044]

precision: 0.0231, elapsed time: 0 ms

## INNER BOX 168

x in [-0.4688986279178332 , -0.447187052893276]
y in [-1.356585160654044 , -1.333447120392873]

precision: 0.0231, elapsed time: 0 ms

#### INNER BOX 169

x in [-0.447187052893276 , -0.4254754778687188] y in [-1.356585160654044 , -1.333447120392873]

precision: 0.0231, elapsed time: 0 ms

## INNER BOX 170

x in [-0.3820523278196044 , -0.3603407527950472]
y in [-1.428701470925189 , -1.39695002074775]

precision: 0.0318, elapsed time: 0 ms

## INNER BOX 171

x in [-0.5009047226602127, -0.4788220236221691]

```
y in [-1.301695670215435 , -1.269944220037997]
 precision: 0.0318, elapsed time: 0 ms
INNER BOX 172
 x in [-0.5400273555891003 , -0.5094246896056347]
 y in [-1.269944220037997 , -1.238192769860558]
 precision: 0.0318, elapsed time: 0 ms
INNER BOX 173
  x in [-0.5094246896056347 , -0.4788220236221691]
 y in [-1.269944220037997 , -1.238192769860558]
 precision: 0.0318, elapsed time: 0 ms
INNER BOX 174
  x in [-0.6170643481947067 , -0.6041739468452093]
 y in [-1.167527283592666 , -1.140640087926534]
 precision: 0.0269, elapsed time: 0 ms
INNER BOX 175
  x in [-0.6421851062272451 , -0.6231795265362272]
 y in [-1.140640087926534 , -1.113752892260402]
 precision: 0.0269, elapsed time: 0 ms
INNER BOX 176
  x in [-0.6231795265362272 , -0.6041739468452093]
 y in [-1.140640087926534 , -1.113752892260402]
 precision: 0.0269, elapsed time: 0 ms
INNER BOX 177
```

x in [-0.6764041826942967 , -0.640289064769753]
y in [-1.086865696594271 , -1.059978500928139]

precision: 0.0361, elapsed time: 0 ms

```
INNER BOX 178
```

x in [-0.6764041826942967 , -0.640289064769753]

y in [-1.059978500928139 , -1.033091305262007]

precision: 0.0361, elapsed time: 0 ms

#### INNER BOX 179

x in [-0.6041739468452093 , -0.5526792936579037]

y in [-1.174689869505681 , -1.142938419328243]

precision: 0.0515, elapsed time: 0 ms

## INNER BOX 180

x in [-0.7676049444451444 , -0.7282095045641771]

y in [-0.920678268086174 , -0.8889268179087356]

precision: 0.0394, elapsed time: 0 ms

## INNER BOX 181

x in [-0.7676049444451444 , -0.7282095045641771]

y in [-0.8889268179087356 , -0.8571753677312972]

precision: 0.0394, elapsed time: 0 ms

## INNER BOX 182

x in [-0.1623320175987526 , -0.1303670134196055]

y in [-1.619484405830194 , -1.604261395088855]

precision: 0.032, elapsed time: 0 ms

## INNER BOX 183

x in [-0.1303670134196055 , -0.0984020092404585]

y in [-1.649007514951677 , -1.626634455020266]

precision: 0.032, elapsed time: 0 ms

## INNER BOX 184

x in [-0.1303670134196055 , -0.0984020092404585]

y in [-1.626634455020266 , -1.604261395088855]

```
precision: 0.032, elapsed time: 0 ms
INNER BOX 185
  x in [-0.2191531665900794 , -0.1587775879152689]
 y in [-1.581888335157444 , -1.559515275226033]
 precision: 0.0604, elapsed time: 0 ms
INNER BOX 186
 x in [-0.2191531665900794 , -0.1587775879152689]
 y in [-1.559515275226033 , -1.537142215294622]
 precision: 0.0604, elapsed time: 0 ms
INNER BOX 187
  x in [-0.2952060277213756 , -0.2296046882277366]
 y in [-1.514769155363211 , -1.492396095431799]
 precision: 0.0656, elapsed time: 0 ms
INNER BOX 188
 x in [-0.2952060277213756 , -0.2296046882277366]
 y in [-1.492396095431799 , -1.470023035500388]
 precision: 0.0656, elapsed time: 0 ms
INNER BOX 189
  x in [-0.0283006088873119 , +0.0283006088873119]
 y in [-1.702811582528344 , -1.680174998774115]
 precision: 0.0566, elapsed time: 0 ms
INNER BOX 190
  x in [-0.0984020092404585 , -0.03280066974681946]
 y in [-1.645149671561827 , -1.610124344349539]
 precision: 0.0656, elapsed time: 0 ms
```

x in [-0.0984020092404585 , -0.03280066974681946]

```
y in [-1.610124344349539 , -1.575099017137251]
 precision: 0.0656, elapsed time: 0 ms
INNER BOX 192
 x in [0.03280066974681958, 0.09840200924045861]
 y in [-1.645149671561827 , -1.610124344349539]
 precision: 0.0656, elapsed time: 0 ms
INNER BOX 193
  x in [0.03280066974681958, 0.09840200924045861]
 y in [-1.610124344349539 , -1.575099017137251]
 precision: 0.0656, elapsed time: 0 ms
INNER BOX 194
  x in [0.09840200924045861 , 0.1303670134196056]
 y in [-1.649007514951677 , -1.626634455020266]
 precision: 0.032, elapsed time: 0 ms
INNER BOX 195
  x in [0.09840200924045861 , 0.1303670134196056]
 y in [-1.626634455020266 , -1.604261395088855]
 precision: 0.032, elapsed time: 0 ms
INNER BOX 196
  x in [0.1303670134196056 , 0.1623320175987527]
 y in [-1.619484405830194 , -1.604261395088855]
 precision: 0.032, elapsed time: 0 ms
INNER BOX 197
 x in [0.158777587915269 , 0.2191531665900794]
 y in [-1.581888335157444 , -1.559515275226033]
```

precision: 0.0604, elapsed time: 0 ms

x in [0.158777587915269 , 0.2191531665900794]

y in [-1.559515275226033 , -1.537142215294622]

precision: 0.0604, elapsed time: 0 ms

#### INNER BOX 199

x in [0.2296046882277367 , 0.2952060277213757]

y in [-1.514769155363211 , -1.492396095431799]

precision: 0.0656, elapsed time: 0 ms

## INNER BOX 200

x in [0.2296046882277367 , 0.2952060277213757]

y in [-1.492396095431799 , -1.470023035500388]

precision: 0.0656, elapsed time: 0 ms

## INNER BOX 201

x in [0.3299959145446901, 0.3415925434857949]

y in [-1.472027391560621 , -1.450364431242905]

precision: 0.0217, elapsed time: 0 ms

#### TNNER BOX 202

x in [0.3415925434857949 , 0.3531891724268997]

y in [-1.472027391560621 , -1.450364431242905]

precision: 0.0217, elapsed time: 0 ms

## INNER BOX 203

x in [0.3647858013680045 , 0.3763824303091093]

y in [-1.450881273608307 , -1.439791372266748]

precision: 0.0116, elapsed time: 0 ms

## INNER BOX 204

x in [0.3647858013680045 , 0.3763824303091093]

y in [-1.439791372266748 , -1.428701470925188]

precision: 0.0116, elapsed time: 0 ms

#### INNER BOX 205

x in [0.3763824303091093 , 0.3879790592502141] y in [-1.436153886898493 , -1.428701470925188]

precision: 0.0116, elapsed time: 0 ms

#### INNER BOX 206

x in [0.3603407527950474 , 0.3820523278196046] y in [-1.428701470925188 , -1.39695002074775]

precision: 0.0318, elapsed time: 0 ms

#### INNER BOX 207

x in [0.425475477868719 , 0.4401782696806393]
y in [-1.379723200915214 , -1.356585160654044]

precision: 0.0231, elapsed time: 0 ms

#### INNER BOX 208

x in [0.425475477868719, 0.4471870528932763] y in [-1.356585160654044, -1.333447120392873]

precision: 0.0231, elapsed time: 0 ms

#### INNER BOX 209

x in [0.4471870528932763 , 0.4688986279178335]
y in [-1.356585160654044 , -1.333447120392873]

precision: 0.0231, elapsed time: 0 ms

## INNER BOX 210

x in [0.4788220236221695 , 0.5009047226602132] y in [-1.301695670215435 , -1.269944220037996]

precision: 0.0318, elapsed time: 0 ms

## INNER BOX 211

x in [0.4788220236221695 , 0.5094246896056351]

```
y in [-1.269944220037996 , -1.238192769860558]
 precision: 0.0318, elapsed time: 0 ms
INNER BOX 212
 x in [0.5094246896056351, 0.5400273555891008]
 y in [-1.269944220037996 , -1.238192769860558]
 precision: 0.0318, elapsed time: 0 ms
INNER BOX 213
  x in [0.5526792936579039, 0.6041739468452095]
 y in [-1.174689869505681 , -1.142938419328243]
 precision: 0.0515, elapsed time: 0 ms
INNER BOX 214
  x in [0.6041739468452095 , 0.6170643481947069]
 y in [-1.167527283592666 , -1.140640087926534]
 precision: 0.0269, elapsed time: 0 ms
INNER BOX 215
  x in [0.6041739468452095 , 0.6231795265362274]
 y in [-1.140640087926534 , -1.113752892260402]
 precision: 0.0269, elapsed time: 0 ms
INNER BOX 216
  x in [0.6231795265362274 , 0.6421851062272452]
 y in [-1.140640087926534 , -1.113752892260402]
```

x in [0.6402890647697532 , 0.6764041826942969]
y in [-1.08686569659427 , -1.059978500928139]

precision: 0.0361, elapsed time: 0 ms

precision: 0.0269, elapsed time: 0 ms

x in [0.6402890647697532 , 0.6764041826942969]

y in [-1.059978500928139 , -1.033091305262007]

precision: 0.0361, elapsed time: 0 ms

#### INNER BOX 219

x in [0.7282095045641773 , 0.7676049444451447]

y in [-0.9206782680861739 , -0.8889268179087355]

precision: 0.0394, elapsed time: 0 ms

## INNER BOX 220

x in [0.7282095045641773 , 0.7676049444451447]

y in [-0.8889268179087355 , -0.8571753677312971]

precision: 0.0394, elapsed time: 0 ms

## OUTER BOX 221

x in [-0.8070003843261118 , -0.7676049444451444]

y in [0.8833570617896725 , 0.9095387558480479]

precision: 0.0394, elapsed time: 0 ms

## OUTER BOX 222

x in [-0.8070003843261118, -0.7676049444451444]

y in [0.9095387558480479, 0.9357204499064231]

precision: 0.0394, elapsed time: 0 ms

## INNER BOX 223

x in [-0.7676049444451444 , -0.7282095045641771]

y in [0.8571753677312972 , 0.8889268179087356]

precision: 0.0394, elapsed time: 0 ms

## INNER BOX 224

x in [-0.7676049444451444 , -0.7282095045641771]

y in [0.8889268179087356 , 0.920678268086174]

precision: 0.0394, elapsed time: 0 ms

#### OUTER BOX 225

x in [-0.7676049444451444 , -0.7282095045641771] y in [0.920678268086174 , 0.9524297182636124]

precision: 0.0394, elapsed time: 0 ms

#### OUTER BOX 226

x in [-0.7586579064071262 , -0.7071632532198205]
y in [0.9524297182636124 , 0.9793169139297442]

precision: 0.0515, elapsed time: 0 ms

## OUTER BOX 227

x in [-0.7586579064071262 , -0.7071632532198205]
y in [0.9793169139297442 , 1.006204109595876]

precision: 0.0515, elapsed time: 0 ms

#### OUTER BOX 228

x in [-0.7586579064071262 , -0.7071632532198205]
y in [1.006204109595876 , 1.033091305262007]

precision: 0.0515, elapsed time: 0 ms

#### OUTER BOX 229

x in [-0.7125193006188404 , -0.6764041826942967] y in [1.033091305262007 , 1.05230070176066]

precision: 0.0361, elapsed time: 0 ms

## OUTER BOX 230

x in [-0.7125193006188404 , -0.6764041826942967]
y in [1.05230070176066 , 1.071510098259312]

precision: 0.0361, elapsed time: 0 ms

## OUTER BOX 231

x in [-0.7125193006188404 , -0.6764041826942967]

```
y in [1.071510098259312 , 1.090719494757964]
 precision: 0.0361, elapsed time: 0 ms
INNER BOX 232
 x in [-0.6764041826942967, -0.640289064769753]
 y in [1.033091305262007, 1.059978500928139]
 precision: 0.0361, elapsed time: 0 ms
INNER BOX 233
  x in [-0.6764041826942967, -0.640289064769753]
 y in [1.059978500928139 , 1.086865696594271]
 precision: 0.0361, elapsed time: 0 ms
OUTER BOX 234
  x in [-0.6764041826942967 , -0.640289064769753]
  y in [1.086865696594271 , 1.113752892260403]
 precision: 0.0361, elapsed time: 0 ms
OUTER BOX 235
  x in [-0.6611906859182628 , -0.6421851062272449]
 y in [1.113752892260403 , 1.140640087926534]
 precision: 0.0269, elapsed time: 0 ms
INNER BOX 236
  x in [-0.6421851062272449 , -0.6231795265362271]
 y in [1.113752892260403 , 1.140640087926534]
 precision: 0.0269, elapsed time: 0 ms
```

x in [-0.6231795265362271 , -0.6041739468452093] y in [1.113752892260403 , 1.140640087926534]

precision: 0.0269, elapsed time: 0 ms

#### OUTER BOX 238

x in [-0.6428451508937014 , -0.6299547495442041]

y in [1.140640087926534, 1.167527283592666]

precision: 0.0269, elapsed time: 0 ms

## OUTER BOX 239

x in [-0.6299547495442041, -0.6170643481947067]

y in [1.140640087926534, 1.167527283592666]

precision: 0.0269, elapsed time: 10 ms

## INNER BOX 240

x in [-0.6170643481947067 , -0.6041739468452093]

y in [1.140640087926534 , 1.167527283592666]

precision: 0.0269, elapsed time: 10 ms

## OUTER BOX 241

x in [-0.623847296412668 , -0.6041739468452093]

y in [1.167527283592666 , 1.176489682148043]

precision: 0.0197, elapsed time: 10 ms

## OUTER BOX 242

x in [-0.623847296412668 , -0.6041739468452093]

y in [1.176489682148043 , 1.18545208070342]

precision: 0.0197, elapsed time: 10 ms

## OUTER BOX 243

x in [-0.623847296412668 , -0.6041739468452093]

y in [1.18545208070342 , 1.194414479258797]

precision: 0.0197, elapsed time: 10 ms

## INNER BOX 244

x in [-0.6041739468452093 , -0.5526792936579037]

y in [1.142938419328243 , 1.174689869505682]

precision: 0.0515, elapsed time: 10 ms

#### OUTER BOX 245

x in [-0.6041739468452093 , -0.5526792936579037]

y in [1.174689869505682 , 1.20644131968312]

precision: 0.0515, elapsed time: 10 ms

#### OUTER BOX 246

x in [-0.6041739468452093 , -0.5526792936579037]

y in [1.20644131968312, 1.238192769860558]

precision: 0.0515, elapsed time: 10 ms

## OUTER BOX 247

x in [-0.5706300215725659 , -0.5400273555891003]

y in [1.238192769860558 , 1.269944220037997]

precision: 0.0318, elapsed time: 10 ms

## INNER BOX 248

x in [-0.5400273555891003, -0.5094246896056347]

y in [1.238192769860558 , 1.269944220037997]

precision: 0.0318, elapsed time: 10 ms

#### INNER BOX 249

x in [-0.5094246896056347 , -0.4788220236221691]

y in [1.238192769860558 , 1.269944220037997]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 250

x in [-0.5450701207362998 , -0.5229874216982562]

y in [1.269944220037997 , 1.301695670215435]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 251

x in [-0.5229874216982562 , -0.5009047226602127]

```
y in [1.269944220037997 , 1.301695670215435]
```

precision: 0.0318, elapsed time: 10 ms

## INNER BOX 252

x in [-0.5009047226602127 , -0.4788220236221691] y in [1.269944220037997 , 1.301695670215435]

precision: 0.0318, elapsed time: 10 ms

#### OUTER BOX 253

x in [-0.5184164060436087 , -0.5052182785697955]
y in [1.301695670215435 , 1.333447120392874]

precision: 0.0318, elapsed time: 10 ms

#### OUTER BOX 254

x in [-0.5052182785697955 , -0.4920201510959823] y in [1.301695670215435 , 1.333447120392874]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 255

x in [-0.4920201510959823 , -0.4788220236221691]
y in [1.301695670215435 , 1.333447120392874]

precision: 0.0318, elapsed time: 10 ms

#### OUTER BOX 256

x in [-0.49061020294239 , -0.4688986279178328] y in [1.333447120392874 , 1.356585160654044]

precision: 0.0231, elapsed time: 10 ms

## INNER BOX 257

x in [-0.4688986279178328 , -0.4471870528932756] y in [1.333447120392874 , 1.356585160654044]

precision: 0.0231, elapsed time: 10 ms

x in [-0.4471870528932756 , -0.4254754778687185]

y in [1.333447120392874 , 1.356585160654044]

precision: 0.0231, elapsed time: 10 ms

#### OUTER BOX 259

x in [-0.4695838533044792 , -0.4548810614925589]

y in [1.356585160654044 , 1.379723200915215]

precision: 0.0231, elapsed time: 10 ms

## OUTER BOX 260

x in [-0.4548810614925589 , -0.4401782696806387]

y in [1.356585160654044 , 1.379723200915215]

precision: 0.0231, elapsed time: 10 ms

## INNER BOX 261

x in [-0.4401782696806387, -0.4254754778687185]

y in [1.356585160654044 , 1.379723200915215]

precision: 0.0231, elapsed time: 10 ms

## OUTER BOX 262

x in [-0.4478825535437168 , -0.4254754778687185]

y in [1.379723200915215 , 1.387435881002272]

precision: 0.0224, elapsed time: 10 ms

## OUTER BOX 263

x in [-0.4478825535437168 , -0.4254754778687185]

y in [1.387435881002272 , 1.395148561089329]

precision: 0.0224, elapsed time: 10 ms

## OUTER BOX 264

x in [-0.4478825535437168 , -0.4254754778687185]

y in [1.395148561089329 , 1.402861241176386]

precision: 0.0224, elapsed time: 10 ms

#### OUTER BOX 265

x in [-0.4254754778687185 , -0.4037639028441614]
y in [1.396950020747751 , 1.428701470925189]

precision: 0.0318, elapsed time: 10 ms

#### OUTER BOX 266

x in [-0.4037639028441614 , -0.3820523278196042] y in [1.396950020747751 , 1.428701470925189]

precision: 0.0318, elapsed time: 10 ms

## INNER BOX 267

x in [-0.3820523278196042 , -0.3603407527950471]
y in [1.396950020747751 , 1.428701470925189]

precision: 0.0318, elapsed time: 10 ms

#### OUTER BOX 268

x in [-0.3995756881913179 , -0.3957101452109497]
y in [1.428701470925189 , 1.439970184095106]

precision: 0.0113, elapsed time: 10 ms

#### OUTER BOX 269

x in [-0.3957101452109497 , -0.3918446022305814]
y in [1.428701470925189 , 1.439970184095106]

precision: 0.0113, elapsed time: 10 ms

## OUTER BOX 270

x in [-0.3918446022305814 , -0.3879790592502132]
y in [1.428701470925189 , 1.439970184095106]

precision: 0.0113, elapsed time: 10 ms

## INNER BOX 271

x in [-0.3879790592502132, -0.3763824303091085]

```
y in [1.428701470925189 , 1.436153886898494]
 precision: 0.0116, elapsed time: 10 ms
OUTER BOX 272
 x in [-0.3879790592502132 , -0.3763824303091085]
 y in [1.436153886898494 , 1.443606302871799]
 precision: 0.0116, elapsed time: 10 ms
OUTER BOX 273
  x in [-0.3879790592502132 , -0.3763824303091085]
 y in [1.443606302871799 , 1.451058718845103]
 precision: 0.0116, elapsed time: 10 ms
TNNER BOX 274
  x in [-0.3763824303091085 , -0.3647858013680038]
 y in [1.428701470925189, 1.439791372266749]
 precision: 0.0116, elapsed time: 10 ms
INNER BOX 275
  x in [-0.3763824303091085 , -0.3647858013680038]
 y in [1.439791372266749 , 1.450881273608308]
 precision: 0.0116, elapsed time: 10 ms
  x in [-0.3763824303091085 , -0.3647858013680038]
```

## OUTER BOX 276

y in [1.450881273608308 , 1.461971174949868]

precision: 0.0116, elapsed time: 10 ms

## OUTER BOX 277

x in [-0.3647858013680038 , -0.3531891724268991]y in [1.450364431242906 , 1.472027391560622]

precision: 0.0217, elapsed time: 10 ms

x in [-0.3531891724268991 , -0.3415925434857944]

y in [1.450364431242906 , 1.472027391560622]

precision: 0.0217, elapsed time: 10 ms

#### INNER BOX 279

x in [-0.3415925434857944 , -0.3299959145446897]

y in [1.450364431242906 , 1.472027391560622]

precision: 0.0217, elapsed time: 10 ms

## OUTER BOX 280

x in [-0.3539332917449189 , -0.3459541660115092]

y in [1.472027391560622 , 1.493690351878339]

precision: 0.0217, elapsed time: 10 ms

## OUTER BOX 281

x in [-0.3459541660115092 , -0.3379750402780994]

y in [1.472027391560622 , 1.493690351878339]

precision: 0.0217, elapsed time: 10 ms

## OUTER BOX 282

x in [-0.3379750402780994 , -0.3299959145446897]

y in [1.472027391560622 , 1.493690351878339]

precision: 0.0217, elapsed time: 10 ms

## OUTER BOX 283

x in [-0.3299959145446897 , -0.318399285603585]

y in [1.492204371280066 , 1.523955821457504]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 284

x in [-0.318399285603585 , -0.3068026566624803]

y in [1.492204371280066 , 1.523955821457504]

precision: 0.0318, elapsed time: 10 ms

#### OUTER BOX 285

x in [-0.3068026566624803 , -0.2952060277213756]
y in [1.492204371280066 , 1.523955821457504]

precision: 0.0318, elapsed time: 10 ms

#### INNER BOX 286

x in [-0.2952060277213756 , -0.2296046882277366]
y in [1.470023035500388 , 1.4923960954318]

precision: 0.0656, elapsed time: 10 ms

## INNER BOX 287

x in [-0.2952060277213756 , -0.2296046882277366] y in [1.4923960954318 , 1.514769155363211]

precision: 0.0656, elapsed time: 10 ms

## OUTER BOX 288

x in [-0.2952060277213756 , -0.2296046882277366]
y in [1.514769155363211 , 1.537142215294622]

precision: 0.0656, elapsed time: 10 ms

#### OUTER BOX 289

x in [-0.2795287452648896 , -0.2594035523732861] y in [1.537142215294622 , 1.585454369066919]

precision: 0.0483, elapsed time: 10 ms

## OUTER BOX 290

x in [-0.2594035523732861 , -0.2392783594816827]
y in [1.537142215294622 , 1.585454369066919]

precision: 0.0483, elapsed time: 10 ms

## OUTER BOX 291

x in [-0.2392783594816827 , -0.2191531665900792]

```
y in [1.537142215294622 , 1.585454369066919]
```

precision: 0.0483, elapsed time: 10 ms

## INNER BOX 292

x in [-0.2191531665900792 , -0.1587775879152689] y in [1.537142215294622 , 1.559515275226033]

precision: 0.0604, elapsed time: 10 ms

## INNER BOX 293

x in [-0.2191531665900792 , -0.1587775879152689]
y in [1.559515275226033 , 1.581888335157444]

precision: 0.0604, elapsed time: 10 ms

#### OUTER BOX 294

x in [-0.2191531665900792 , -0.1587775879152689]
y in [1.581888335157444 , 1.604261395088855]

precision: 0.0604, elapsed time: 10 ms

## OUTER BOX 295

x in [-0.1942970217778992 , -0.1836420203848502]
y in [1.604261395088855 , 1.627570054057525]

precision: 0.0233, elapsed time: 10 ms

#### OUTER BOX 296

x in [-0.1836420203848502 , -0.1729870189918012]
y in [1.604261395088855 , 1.627570054057525]

precision: 0.0233, elapsed time: 10 ms

## OUTER BOX 297

x in [-0.1729870189918012 , -0.1623320175987523] y in [1.604261395088855 , 1.627570054057525]

precision: 0.0233, elapsed time: 10 ms

```
INNER BOX 298
x in [-0.16
y in [1.604
```

x in [-0.1623320175987523 , -0.1303670134196054]

y in [1.604261395088855 , 1.619484405830195]

precision: 0.032, elapsed time: 10 ms

#### OUTER BOX 299

x in [-0.1623320175987523 , -0.1303670134196054]
y in [1.619484405830195 , 1.634707416571534]

precision: 0.032, elapsed time: 10 ms

## OUTER BOX 300

x in [-0.1623320175987523 , -0.1303670134196054] y in [1.634707416571534 , 1.649930427312874]

precision: 0.032, elapsed time: 10 ms

## INNER BOX 301

x in [-0.1303670134196054 , -0.0984020092404585]
y in [1.604261395088855 , 1.626634455020266]

precision: 0.032, elapsed time: 10 ms

## INNER BOX 302

x in [-0.1303670134196054 , -0.0984020092404585]
y in [1.626634455020266 , 1.649007514951678]

precision: 0.032, elapsed time: 10 ms

## OUTER BOX 303

x in [-0.1303670134196054 , -0.0984020092404585] y in [1.649007514951678 , 1.671380574883089]

precision: 0.032, elapsed time: 10 ms

## INNER BOX 304

x in [-0.0984020092404585 , -0.03280066974681946] y in [1.575099017137252 , 1.610124344349539]

```
precision: 0.0656, elapsed time: 10 ms
INNER BOX 305
  x in [-0.0984020092404585 , -0.03280066974681946]
 y in [1.610124344349539 , 1.645149671561827]
 precision: 0.0656, elapsed time: 10 ms
OUTER BOX 306
 x in [-0.0984020092404585 , -0.03280066974681946]
 y in [1.645149671561827 , 1.680174998774115]
 precision: 0.0656, elapsed time: 10 ms
INNER BOX 307
  x in [0.03280066974681958 , 0.09840200924045861]
 y in [1.575099017137252 , 1.610124344349539]
 precision: 0.0656, elapsed time: 10 ms
INNER BOX 308
 x in [0.03280066974681958 , 0.09840200924045861]
 y in [1.610124344349539 , 1.645149671561827]
 precision: 0.0656, elapsed time: 10 ms
OUTER BOX 309
  x in [0.03280066974681958, 0.09840200924045861]
 y in [1.645149671561827 , 1.680174998774115]
 precision: 0.0656, elapsed time: 10 ms
OUTER BOX 310
  x in [-0.08490182666193524 , -0.06603475407039407]
 y in [1.680174998774115 , 1.715400203381702]
```

OUTER BOX 311

x in [-0.06603475407039407, -0.04716768147885291]

precision: 0.0352, elapsed time: 10 ms

```
y in [1.680174998774115 , 1.715400203381702]
```

precision: 0.0352, elapsed time: 10 ms

## OUTER BOX 312

x in [-0.04716768147885291 , -0.02830060888731175]

y in [1.680174998774115 , 1.715400203381702]

precision: 0.0352, elapsed time: 10 ms

## INNER BOX 313

x in [-0.02830060888731175 , +0.02830060888731174]

y in [1.680174998774115 , 1.702811582528344]

precision: 0.0566, elapsed time: 10 ms

#### OUTER BOX 314

x in [-0.02830060888731175 , +0.02830060888731174]

y in [1.702811582528344 , 1.725448166282574]

precision: 0.0566, elapsed time: 10 ms

## OUTER BOX 315

x in [-0.02830060888731175 , +0.02830060888731174]

y in [1.725448166282574 , 1.748084750036803]

precision: 0.0566, elapsed time: 10 ms

#### OUTER BOX 316

x in [0.02830060888731174 , 0.04716768147885291]

y in [1.680174998774115 , 1.715400203381702]

precision: 0.0352, elapsed time: 10 ms

## OUTER BOX 317

x in [0.04716768147885291 , 0.06603475407039408]

y in [1.680174998774115 , 1.715400203381702]

precision: 0.0352, elapsed time: 10 ms

#### OUTER BOX 318

x in [0.06603475407039408 , 0.08490182666193524]

y in [1.680174998774115 , 1.715400203381702]

precision: 0.0352, elapsed time: 10 ms

#### INNER BOX 319

x in [0.2296046882277367, 0.2952060277213757]

y in [1.470023035500388 , 1.4923960954318]

precision: 0.0656, elapsed time: 10 ms

## INNER BOX 320

x in [0.2296046882277367 , 0.2952060277213757]

y in [1.4923960954318 , 1.514769155363211]

precision: 0.0656, elapsed time: 10 ms

## OUTER BOX 321

x in [0.2296046882277367, 0.2952060277213757]

y in [1.514769155363211 , 1.537142215294622]

precision: 0.0656, elapsed time: 10 ms

## INNER BOX 322

x in [0.1587775879152689 , 0.2191531665900793]

y in [1.537142215294622 , 1.559515275226033]

precision: 0.0604, elapsed time: 10 ms

## INNER BOX 323

x in [0.1587775879152689 , 0.2191531665900793]

y in [1.559515275226033 , 1.581888335157444]

precision: 0.0604, elapsed time: 10 ms

## OUTER BOX 324

x in [0.1587775879152689 , 0.2191531665900793]

y in [1.581888335157444 , 1.604261395088855]

precision: 0.0604, elapsed time: 10 ms

#### OUTER BOX 325

x in [0.2191531665900793 , 0.2392783594816827]

y in [1.537142215294622 , 1.585454369066919]

precision: 0.0483, elapsed time: 10 ms

#### OUTER BOX 326

x in [0.2392783594816827 , 0.2594035523732862]

y in [1.537142215294622 , 1.585454369066919]

precision: 0.0483, elapsed time: 10 ms

#### OUTER BOX 327

x in [0.2594035523732862 , 0.2795287452648896]

y in [1.537142215294622 , 1.585454369066919]

precision: 0.0483, elapsed time: 10 ms

#### INNER BOX 328

x in [0.09840200924045861, 0.1303670134196055]

y in [1.604261395088855 , 1.626634455020266]

precision: 0.032, elapsed time: 10 ms

#### INNER BOX 329

x in [0.09840200924045861 , 0.1303670134196055]

y in [1.626634455020266 , 1.649007514951678]

precision: 0.032, elapsed time: 10 ms

## OUTER BOX 330

x in [0.09840200924045861, 0.1303670134196055]

y in [1.649007514951678 , 1.671380574883089]

precision: 0.032, elapsed time: 10 ms

## INNER BOX 331

x in [0.1303670134196055, 0.1623320175987523]

y in [1.604261395088855 , 1.619484405830195]

precision: 0.032, elapsed time: 10 ms

## OUTER BOX 332

x in [0.1303670134196055 , 0.1623320175987523] y in [1.619484405830195 , 1.634707416571534]

precision: 0.032, elapsed time: 10 ms

## OUTER BOX 333

x in [0.1303670134196055 , 0.1623320175987523] y in [1.634707416571534 , 1.649930427312874]

precision: 0.032, elapsed time: 10 ms

#### OUTER BOX 334

x in [0.1623320175987523 , 0.1729870189918013] y in [1.604261395088855 , 1.627570054057525]

precision: 0.0233, elapsed time: 10 ms

## OUTER BOX 335

x in [0.1729870189918013 , 0.1836420203848503] y in [1.604261395088855 , 1.627570054057525]

precision: 0.0233, elapsed time: 10 ms

#### OUTER BOX 336

x in [0.1836420203848503 , 0.1942970217778992] y in [1.604261395088855 , 1.627570054057525]

precision: 0.0233, elapsed time: 10 ms

#### OUTER BOX 337

x in [0.8200167436704879 , 0.8856180831641269] y in [0.6666666666666666 , 0.698418116844105]

precision: 0.0656, elapsed time: 10 ms

## OUTER BOX 338

x in [0.8200167436704879 , 0.8856180831641269]

y in [0.698418116844105, 0.7301695670215435]

precision: 0.0656, elapsed time: 10 ms

#### OUTER BOX 339

x in [0.8200167436704879 , 0.8856180831641269]

y in [0.7301695670215435, 0.7619210171989819]

precision: 0.0656, elapsed time: 10 ms

## OUTER BOX 340

x in [0.7957264351540504 , 0.8491826203894706]

y in [0.7619210171989819, 0.7936724673764203]

precision: 0.0535, elapsed time: 10 ms

## OUTER BOX 341

x in [0.7957264351540504, 0.8491826203894706]

y in [0.7936724673764203 , 0.8254239175538587]

precision: 0.0535, elapsed time: 10 ms

## OUTER BOX 342

x in [0.7957264351540504 , 0.8491826203894706]

y in [0.8254239175538587, 0.8571753677312971]

precision: 0.0535, elapsed time: 10 ms

## INNER BOX 343

x in [0.7282095045641773 , 0.7676049444451447]

y in [0.8571753677312971 , 0.8889268179087355]

precision: 0.0394, elapsed time: 10 ms

## INNER BOX 344

x in [0.7282095045641773, 0.7676049444451447]

y in [0.8889268179087355 , 0.9206782680861739]

precision: 0.0394, elapsed time: 10 ms

#### OUTER BOX 345

x in [0.7282095045641773 , 0.7676049444451447] y in [0.9206782680861739 , 0.9524297182636123]

precision: 0.0394, elapsed time: 10 ms

#### OUTER BOX 346

x in [0.7676049444451447 , 0.807000384326112] y in [0.8571753677312971 , 0.8833570617896721]

precision: 0.0394, elapsed time: 10 ms

#### OUTER BOX 347

x in [0.7676049444451447 , 0.807000384326112] y in [0.8833570617896721 , 0.9095387558480471]

precision: 0.0394, elapsed time: 10 ms

#### OUTER BOX 348

x in [0.7676049444451447 , 0.807000384326112] y in [0.9095387558480471 , 0.9357204499064221]

precision: 0.0394, elapsed time: 10 ms

#### INNER BOX 349

x in [0.5526792936579039 , 0.6041739468452095] y in [1.142938419328243 , 1.174689869505682]

precision: 0.0515, elapsed time: 10 ms

## OUTER BOX 350

x in [0.5526792936579039 , 0.6041739468452095]
y in [1.174689869505682 , 1.20644131968312]

precision: 0.0515, elapsed time: 10 ms

## OUTER BOX 351

x in [0.5526792936579039 , 0.6041739468452095]

y in [1.20644131968312 , 1.238192769860558]

precision: 0.0515, elapsed time: 10 ms

## OUTER BOX 352

x in [0.7071632532198208 , 0.7586579064071264]
y in [0.9524297182636123 , 0.9793169139297441]

precision: 0.0515, elapsed time: 10 ms

## OUTER BOX 353

x in [0.7071632532198208 , 0.7586579064071264] y in [0.9793169139297441 , 1.006204109595876]

precision: 0.0515, elapsed time: 10 ms

#### OUTER BOX 354

x in [0.7071632532198208 , 0.7586579064071264] y in [1.006204109595876 , 1.033091305262007]

precision: 0.0515, elapsed time: 10 ms

## INNER BOX 355

x in [0.6402890647697532 , 0.6764041826942968]
y in [1.033091305262007 , 1.059978500928139]

precision: 0.0361, elapsed time: 10 ms

#### INNER BOX 356

x in [0.6402890647697532 , 0.6764041826942968] y in [1.059978500928139 , 1.086865696594271]

precision: 0.0361, elapsed time: 10 ms

## OUTER BOX 357

x in [0.6402890647697532 , 0.6764041826942968] y in [1.086865696594271 , 1.113752892260403]

precision: 0.0361, elapsed time: 10 ms

#### OUTER BOX 358

x in [0.6764041826942968 , 0.7125193006188404]

y in [1.033091305262007, 1.05230070176066]

precision: 0.0361, elapsed time: 10 ms

#### OUTER BOX 359

x in [0.6764041826942968 , 0.7125193006188404]

y in [1.05230070176066 , 1.071510098259312]

precision: 0.0361, elapsed time: 10 ms

## OUTER BOX 360

x in [0.6764041826942968 , 0.7125193006188404]

y in [1.071510098259312 , 1.090719494757963]

precision: 0.0361, elapsed time: 10 ms

## INNER BOX 361

x in [0.6041739468452095 , 0.6231795265362273]

y in [1.113752892260403 , 1.140640087926534]

precision: 0.0269, elapsed time: 10 ms

## INNER BOX 362

x in [0.6231795265362273 , 0.6421851062272451]

y in [1.113752892260403 , 1.140640087926534]

precision: 0.0269, elapsed time: 10 ms

## OUTER BOX 363

x in [0.6421851062272451 , 0.6611906859182628]

y in [1.113752892260403 , 1.140640087926534]

precision: 0.0269, elapsed time: 10 ms

## INNER BOX 364

x in [0.6041739468452095 , 0.6170643481947069]

y in [1.140640087926534 , 1.167527283592666]

precision: 0.0269, elapsed time: 10 ms

#### OUTER BOX 365

x in [0.6170643481947069 , 0.6299547495442042] y in [1.140640087926534 , 1.167527283592666]

precision: 0.0269, elapsed time: 10 ms

## OUTER BOX 366

x in [0.6299547495442042 , 0.6428451508937014] y in [1.140640087926534 , 1.167527283592666]

precision: 0.0269, elapsed time: 10 ms

#### OUTER BOX 367

x in [0.6041739468452095 , 0.623847296412668] y in [1.167527283592666 , 1.176489682148043]

precision: 0.0197, elapsed time: 10 ms

## OUTER BOX 368

x in [0.6041739468452095 , 0.623847296412668] y in [1.176489682148043 , 1.18545208070342]

precision: 0.0197, elapsed time: 10 ms

#### OUTER BOX 369

x in [0.6041739468452095 , 0.623847296412668]
y in [1.18545208070342 , 1.194414479258797]

precision: 0.0197, elapsed time: 10 ms

## INNER BOX 370

x in [0.4788220236221694 , 0.509424689605635] y in [1.238192769860558 , 1.269944220037997]

precision: 0.0318, elapsed time: 10 ms

## INNER BOX 371

x in [0.509424689605635, 0.5400273555891006]

y in [1.238192769860558 , 1.269944220037997]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 372

x in [0.5400273555891006, 0.5706300215725661] y in [1.238192769860558, 1.269944220037997]

precision: 0.0318, elapsed time: 10 ms

## INNER BOX 373

x in [0.4788220236221694 , 0.5009047226602129]
y in [1.269944220037997 , 1.301695670215435]

precision: 0.0318, elapsed time: 10 ms

#### OUTER BOX 374

x in [0.5009047226602129 , 0.5229874216982565] y in [1.269944220037997 , 1.301695670215435]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 375

x in [0.5229874216982565 , 0.5450701207363] y in [1.269944220037997 , 1.301695670215435]

precision: 0.0318, elapsed time: 10 ms

#### OUTER BOX 376

x in [0.4788220236221694 , 0.4920201510959825] y in [1.301695670215435 , 1.333447120392873]

precision: 0.0318, elapsed time: 10 ms

#### OUTER BOX 377

x in [0.4920201510959825 , 0.5052182785697956] y in [1.301695670215435 , 1.333447120392873]

precision: 0.0318, elapsed time: 10 ms

#### OUTER BOX 378

x in [0.5052182785697956 , 0.5184164060436087]

y in [1.301695670215435 , 1.333447120392873]

precision: 0.0318, elapsed time: 10 ms

#### INNER BOX 379

x in [0.3603407527950473 , 0.3820523278196045]

y in [1.39695002074775, 1.428701470925189]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 380

x in [0.3820523278196045 , 0.4037639028441617]

y in [1.39695002074775 , 1.428701470925189]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 381

x in [0.4037639028441617, 0.4254754778687189]

y in [1.39695002074775 , 1.428701470925189]

precision: 0.0318, elapsed time: 10 ms

## INNER BOX 382

x in [0.4254754778687189 , 0.4471870528932761]

y in [1.333447120392873 , 1.356585160654044]

precision: 0.0231, elapsed time: 10 ms

## INNER BOX 383

x in [0.4471870528932761 , 0.4688986279178333]

y in [1.333447120392873 , 1.356585160654044]

precision: 0.0231, elapsed time: 10 ms

## OUTER BOX 384

x in [0.4688986279178333, 0.4906102029423904]

y in [1.333447120392873 , 1.356585160654044]

precision: 0.0231, elapsed time: 10 ms

#### INNER BOX 385

x in [0.4254754778687189 , 0.4401782696806391]

y in [1.356585160654044 , 1.379723200915215]

precision: 0.0231, elapsed time: 10 ms

#### OUTER BOX 386

x in [0.4401782696806391 , 0.4548810614925592]

y in [1.356585160654044 , 1.379723200915215]

precision: 0.0231, elapsed time: 10 ms

#### OUTER BOX 387

x in [0.4548810614925592 , 0.4695838533044794]

y in [1.356585160654044 , 1.379723200915215]

precision: 0.0231, elapsed time: 10 ms

## OUTER BOX 388

x in [0.4254754778687189 , 0.447882553543717]

y in [1.379723200915215 , 1.387435881002272]

precision: 0.0224, elapsed time: 10 ms

#### OUTER BOX 389

x in [0.4254754778687189 , 0.447882553543717]

y in [1.387435881002272 , 1.395148561089328]

precision: 0.0224, elapsed time: 10 ms

## OUTER BOX 390

x in [0.4254754778687189 , 0.447882553543717]

y in [1.395148561089328 , 1.402861241176385]

precision: 0.0224, elapsed time: 10 ms

## OUTER BOX 391

x in [0.2952060277213757 , 0.3068026566624805]

y in [1.492204371280065 , 1.523955821457504]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 392

x in [0.3068026566624805, 0.3183992856035853] y in [1.492204371280065, 1.523955821457504]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 393

x in [0.3183992856035853 , 0.32999591454469]
y in [1.492204371280065 , 1.523955821457504]

precision: 0.0318, elapsed time: 10 ms

#### INNER BOX 394

x in [0.32999591454469 , 0.3415925434857948] y in [1.450364431242905 , 1.472027391560622]

precision: 0.0217, elapsed time: 10 ms

## INNER BOX 395

x in [0.3415925434857948 , 0.3531891724268996]
y in [1.450364431242905 , 1.472027391560622]

precision: 0.0217, elapsed time: 10 ms

#### OUTER BOX 396

x in [0.3531891724268996 , 0.3647858013680043] y in [1.450364431242905 , 1.472027391560622]

precision: 0.0217, elapsed time: 10 ms

## OUTER BOX 397

x in [0.32999591454469 , 0.3379750402780998] y in [1.472027391560622 , 1.493690351878338]

precision: 0.0217, elapsed time: 10 ms

x in [0.3379750402780998 , 0.3459541660115096]

y in [1.472027391560622, 1.493690351878338]

precision: 0.0217, elapsed time: 10 ms

## OUTER BOX 399

x in [0.3459541660115096 , 0.3539332917449194]

y in [1.472027391560622, 1.493690351878338]

precision: 0.0217, elapsed time: 10 ms

# INNER BOX 400

x in [0.3647858013680043, 0.3763824303091091]

y in [1.428701470925189 , 1.439791372266748]

precision: 0.0116, elapsed time: 10 ms

# INNER BOX 401

x in [0.3647858013680043 , 0.3763824303091091]

y in [1.439791372266748 , 1.450881273608308]

precision: 0.0116, elapsed time: 10 ms

# OUTER BOX 402

x in [0.3647858013680043 , 0.3763824303091091]

y in [1.450881273608308 , 1.461971174949867]

precision: 0.0116, elapsed time: 10 ms

# INNER BOX 403

x in [0.3763824303091091 , 0.3879790592502139]

y in [1.428701470925189 , 1.436153886898494]

precision: 0.0116, elapsed time: 10 ms

# OUTER BOX 404

x in [0.3763824303091091 , 0.3879790592502139]

y in [1.436153886898494 , 1.443606302871798]

```
precision: 0.0116, elapsed time: 10 ms
OUTER BOX 405
  x in [0.3763824303091091 , 0.3879790592502139]
 y in [1.443606302871798 , 1.451058718845103]
 precision: 0.0116, elapsed time: 10 ms
OUTER BOX 406
 x in [0.3879790592502139 , 0.3918446022305822]
 y in [1.428701470925189 , 1.439970184095106]
 precision: 0.0113, elapsed time: 10 ms
OUTER BOX 407
  x in [0.3918446022305822 , 0.3957101452109504]
 y in [1.428701470925189 , 1.439970184095106]
 precision: 0.0113, elapsed time: 10 ms
OUTER BOX 408
 x in [0.3957101452109504 , 0.3995756881913186]
 y in [1.428701470925189 , 1.439970184095106]
 precision: 0.0113, elapsed time: 10 ms
OUTER BOX 409
  x in [-0.3995756881913184 , -0.3982871738645289]
 y in [-1.432477989553497 , -1.428701470925189]
 precision: 0.00378, elapsed time: 10 ms
OUTER BOX 410
```

x in [-0.3982871738645289 , -0.3969986595377395] y in [-1.432477989553497 , -1.428701470925189]

precision: 0.00378, elapsed time: 10 ms

# OUTER BOX 411

x in [-0.3969986595377395 , -0.3957101452109501]

```
y in [-1.432477989553497 , -1.428701470925189]
```

precision: 0.00378, elapsed time: 10 ms

# OUTER BOX 412

x in [-0.3957101452109501 , -0.3918446022305818]
y in [-1.436234174235384 , -1.433723273131985]

precision: 0.00387, elapsed time: 10 ms

# OUTER BOX 413

x in [-0.3957101452109501 , -0.3918446022305818] y in [-1.433723273131985 , -1.431212372028587]

precision: 0.00387, elapsed time: 10 ms

### INNER BOX 414

x in [-0.3957101452109501 , -0.3918446022305818]
y in [-1.431212372028587 , -1.428701470925189]

precision: 0.00387, elapsed time: 10 ms

# OUTER BOX 415

x in [-0.3918446022305818 , -0.3879790592502136]
y in [-1.439970184095106 , -1.4362139463718]

precision: 0.00387, elapsed time: 10 ms

### INNER BOX 416

x in [-0.3918446022305818 , -0.3879790592502136]
y in [-1.4362139463718 , -1.432457708648494]

precision: 0.00387, elapsed time: 10 ms

## INNER BOX 417

x in [-0.3918446022305818 , -0.3879790592502136]
y in [-1.432457708648494 , -1.428701470925189]

precision: 0.00387, elapsed time: 10 ms

```
OUTER BOX 418
```

x in [-0.3841968220989451 , -0.3815920248356663]

y in [-1.451058718845103 , -1.443606302871798]

precision: 0.00745, elapsed time: 10 ms

## OUTER BOX 419

x in [-0.3815920248356663 , -0.3789872275723876]

y in [-1.451058718845103 , -1.443606302871798]

precision: 0.00745, elapsed time: 10 ms

# OUTER BOX 420

x in [-0.3789872275723876 , -0.3763824303091088]

y in [-1.451058718845103 , -1.443606302871798]

precision: 0.00745, elapsed time: 10 ms

# OUTER BOX 421

x in [-0.3879790592502136 , -0.3841135162698453]

y in [-1.443606302871798 , -1.436153886898494]

precision: 0.00745, elapsed time: 10 ms

#### TNNER BOX 422

x in [-0.3841135162698453 , -0.3802479732894771]

y in [-1.443606302871798 , -1.436153886898494]

precision: 0.00745, elapsed time: 10 ms

# INNER BOX 423

x in [-0.3802479732894771 , -0.3763824303091088]

y in [-1.443606302871798 , -1.436153886898494]

precision: 0.00745, elapsed time: 10 ms

# OUTER BOX 424

x in [-0.3763824303091088 , -0.3725168873287406]

y in [-1.461971174949867 , -1.450881273608308]

```
precision: 0.0111, elapsed time: 10 ms
OUTER BOX 425
  x in [-0.3725168873287406 , -0.3686513443483723]
 y in [-1.461971174949867 , -1.450881273608308]
 precision: 0.0111, elapsed time: 10 ms
OUTER BOX 426
 x in [-0.3686513443483723 , -0.3647858013680041]
 y in [-1.461971174949867 , -1.450881273608308]
 precision: 0.0111, elapsed time: 10 ms
OUTER BOX 427
  x in [-0.3539332917449189 , -0.3512735831671157]
 y in [-1.479326665411079 , -1.472027391560622]
 precision: 0.0073, elapsed time: 10 ms
OUTER BOX 428
 x in [-0.3512735831671157 , -0.3486138745893125]
 y in [-1.479326665411079 , -1.472027391560622]
 precision: 0.0073, elapsed time: 10 ms
OUTER BOX 429
  x in [-0.3486138745893125 , -0.3459541660115092]
 y in [-1.479326665411079 , -1.472027391560622]
 precision: 0.0073, elapsed time: 10 ms
OUTER BOX 430
  x in [-0.3459541660115092 , -0.3379750402780995]
```

y in [-1.486547271899827 , -1.481707311786759]

precision: 0.00798, elapsed time: 10 ms

# OUTER BOX 431

x in [-0.3459541660115092 , -0.3379750402780995]

```
y in [-1.481707311786759 , -1.47686735167369]
```

precision: 0.00798, elapsed time: 10 ms

# INNER BOX 432

x in [-0.3459541660115092 , -0.3379750402780995]
y in [-1.47686735167369 , -1.472027391560622]

precision: 0.00798, elapsed time: 10 ms

#### OUTER BOX 433

x in [-0.3379750402780995 , -0.3299959145446899]
y in [-1.493690351878339 , -1.486469365105766]

precision: 0.00798, elapsed time: 10 ms

#### INNER BOX 434

x in [-0.3379750402780995 , -0.3299959145446899]
y in [-1.486469365105766 , -1.479248378333194]

precision: 0.00798, elapsed time: 10 ms

# INNER BOX 435

x in [-0.3379750402780995 , -0.3299959145446899]
y in [-1.479248378333194 , -1.472027391560622]

precision: 0.00798, elapsed time: 10 ms

### OUTER BOX 436

x in [-0.3647858013680041 , -0.3531891724268993]
y in [-1.472027391560622 , -1.46480640478805]

precision: 0.0116, elapsed time: 10 ms

# OUTER BOX 437

x in [-0.3647858013680041 , -0.3531891724268993] y in [-1.46480640478805 , -1.457585418015477]

precision: 0.0116, elapsed time: 10 ms

```
INNER BOX 438
```

x in [-0.3647858013680041 , -0.3531891724268993]

y in [-1.457585418015477 , -1.450364431242905]

precision: 0.0116, elapsed time: 10 ms

#### OUTER BOX 439

x in [-0.3299959145446899 , -0.3183992856035851]

y in [-1.503935944021539, -1.500025419774381]

precision: 0.0116, elapsed time: 10 ms

# OUTER BOX 440

x in [-0.3299959145446899 , -0.3183992856035851]

y in [-1.500025419774381 , -1.496114895527223]

precision: 0.0116, elapsed time: 10 ms

# OUTER BOX 441

x in [-0.3299959145446899 , -0.3183992856035851]

y in [-1.496114895527223 , -1.492204371280066]

precision: 0.0116, elapsed time: 10 ms

# OUTER BOX 442

x in [-0.3183992856035851 , -0.3068026566624804]

y in [-1.514023387051826 , -1.506750381794573]

precision: 0.0116, elapsed time: 10 ms

# OUTER BOX 443

x in [-0.3183992856035851 , -0.3068026566624804]

y in [-1.506750381794573 , -1.499477376537319]

precision: 0.0116, elapsed time: 10 ms

# INNER BOX 444

x in [-0.3183992856035851 , -0.3068026566624804]

y in [-1.499477376537319 , -1.492204371280066]

```
precision: 0.0116, elapsed time: 10 ms
```

x in [-0.3068026566624804 , -0.2952060277213756]
y in [-1.523955821457504 , -1.513372004731691]

precision: 0.0116, elapsed time: 10 ms

#### INNER BOX 446

x in [-0.3068026566624804 , -0.2952060277213756]
y in [-1.513372004731691 , -1.502788188005878]

precision: 0.0116, elapsed time: 10 ms

# INNER BOX 447

x in [-0.3068026566624804 , -0.2952060277213756]
y in [-1.502788188005878 , -1.492204371280066]

precision: 0.0116, elapsed time: 10 ms

# OUTER BOX 448

x in [-0.4330249448248893 , -0.4254754778687188] y in [-1.402861241176385 , -1.400290347814033]

precision: 0.00755, elapsed time: 10 ms

#### OUTER BOX 449

x in [-0.4330249448248893 , -0.4254754778687188] y in [-1.400290347814033 , -1.397719454451681]

precision: 0.00755, elapsed time: 10 ms

# OUTER BOX 450

x in [-0.4330249448248893 , -0.4254754778687188]
y in [-1.397719454451681 , -1.395148561089328]

precision: 0.00755, elapsed time: 10 ms

# OUTER BOX 451

x in [-0.4404935529558789 , -0.4354875279268255]

```
y in [-1.395148561089328 , -1.387435881002272]
 precision: 0.00771, elapsed time: 10 ms
OUTER BOX 452
 x in [-0.4354875279268255 , -0.4304815028977722]
 y in [-1.395148561089328 , -1.387435881002272]
 precision: 0.00771, elapsed time: 10 ms
INNER BOX 453
  x in [-0.4304815028977722 , -0.4254754778687188]
 y in [-1.395148561089328 , -1.387435881002272]
 precision: 0.00771, elapsed time: 10 ms
OUTER BOX 454
  x in [-0.447882553543717 , -0.4404135283187176]
 y in [-1.387435881002272 , -1.379723200915215]
 precision: 0.00771, elapsed time: 10 ms
INNER BOX 455
  x in [-0.4404135283187176 , -0.4329445030937182]
```

y in [-1.387435881002272 , -1.379723200915215]

precision: 0.00771, elapsed time: 10 ms

### INNER BOX 456

x in [-0.4329445030937182 , -0.4254754778687188] y in [-1.387435881002272 , -1.379723200915215]

precision: 0.00771, elapsed time: 10 ms

# OUTER BOX 457

x in [-0.4695838533044796 , -0.4548810614925593]y in [-1.372341465128226 , -1.367089363636832]

precision: 0.0147, elapsed time: 10 ms

```
OUTER BOX 458
```

x in [-0.4695838533044796 , -0.4548810614925593]

y in [-1.367089363636332 , -1.361837262145438]

precision: 0.0147, elapsed time: 10 ms

#### OUTER BOX 459

x in [-0.4695838533044796 , -0.4548810614925593]

y in [-1.361837262145438 , -1.356585160654044]

precision: 0.0147, elapsed time: 10 ms

# OUTER BOX 460

x in [-0.4548810614925593, -0.4401782696806391]

y in [-1.379723200915215 , -1.372010520828158]

precision: 0.0147, elapsed time: 10 ms

# INNER BOX 461

x in [-0.4548810614925593 , -0.4401782696806391]

y in [-1.372010520828158 , -1.364297840741101]

precision: 0.0147, elapsed time: 10 ms

#### TNNER BOX 462

x in [-0.4548810614925593 , -0.4401782696806391]

y in [-1.364297840741101 , -1.356585160654044]

precision: 0.0147, elapsed time: 10 ms

# OUTER BOX 463

x in [-0.4906102029423904 , -0.4688986279178332]

y in [-1.356585160654044 , -1.348872480566987]

precision: 0.0217, elapsed time: 10 ms

# OUTER BOX 464

x in [-0.4906102029423904 , -0.4688986279178332]

y in [-1.348872480566987 , -1.34115980047993]

precision: 0.0217, elapsed time: 10 ms

#### OUTER BOX 465

x in [-0.4906102029423904 , -0.4688986279178332] y in [-1.34115980047993 , -1.333447120392873]

precision: 0.0217, elapsed time: 10 ms

#### OUTER BOX 466

x in [-0.4254754778687188 , -0.4037639028441616] y in [-1.424586573386022 , -1.415374389173265]

precision: 0.0217, elapsed time: 10 ms

# OUTER BOX 467

x in [-0.4254754778687188 , -0.4037639028441616]
y in [-1.415374389173265 , -1.406162204960508]

precision: 0.0217, elapsed time: 10 ms

# OUTER BOX 468

x in [-0.4254754778687188 , -0.4037639028441616] y in [-1.406162204960508 , -1.39695002074775]

precision: 0.0217, elapsed time: 10 ms

#### OUTER BOX 469

x in [-0.4037639028441616 , -0.3820523278196044]
y in [-1.428701470925189 , -1.418117654199376]

precision: 0.0217, elapsed time: 10 ms

# INNER BOX 470

x in [-0.4037639028441616 , -0.3820523278196044]
y in [-1.418117654199376 , -1.407533837473563]

precision: 0.0217, elapsed time: 10 ms

# INNER BOX 471

x in [-0.4037639028441616 , -0.3820523278196044]

```
y in [-1.407533837473563 , -1.39695002074775] precision: 0.0217, elapsed time: 10 ms
```

x in [-0.5184164060436092 , -0.5052182785697957]
y in [-1.316935053014909 , -1.311855258748418]

precision: 0.0132, elapsed time: 10 ms

# OUTER BOX 473

x in [-0.5184164060436092 , -0.5052182785697957] y in [-1.311855258748418 , -1.306775464481926]

precision: 0.0132, elapsed time: 10 ms

# OUTER BOX 474

x in [-0.5184164060436092 , -0.5052182785697957] y in [-1.306775464481926 , -1.301695670215435]

precision: 0.0132, elapsed time: 10 ms

# OUTER BOX 475

x in [-0.5052182785697957 , -0.4920201510959825]
y in [-1.331869313680409 , -1.321811432525417]

precision: 0.0132, elapsed time: 10 ms

### OUTER BOX 476

x in [-0.5052182785697957 , -0.4920201510959825]
y in [-1.321811432525417 , -1.311753551370426]

precision: 0.0132, elapsed time: 10 ms

# INNER BOX 477

x in [-0.5052182785697957 , -0.4920201510959825]
y in [-1.311753551370426 , -1.301695670215435]

precision: 0.0132, elapsed time: 10 ms

x in [-0.4920201510959825 , -0.4788220236221691]

y in [-1.333447120392873 , -1.322863303667061]

precision: 0.0132, elapsed time: 10 ms

#### INNER BOX 479

x in [-0.4920201510959825 , -0.4788220236221691]

y in [-1.322863303667061 , -1.312279486941248]

precision: 0.0132, elapsed time: 10 ms

# INNER BOX 480

x in [-0.4920201510959825 , -0.4788220236221691]

y in [-1.312279486941248 , -1.301695670215435]

precision: 0.0132, elapsed time: 10 ms

# OUTER BOX 481

x in [-0.5450701207363 , -0.5229874216982563]

y in [-1.29634459668288 , -1.287544471134585]

precision: 0.0221, elapsed time: 10 ms

# OUTER BOX 482

x in [-0.5450701207363, -0.5229874216982563]

y in [-1.287544471134585 , -1.278744345586291]

precision: 0.0221, elapsed time: 10 ms

# OUTER BOX 483

x in [-0.5450701207363 , -0.5229874216982563]

y in [-1.278744345586291 , -1.269944220037997]

precision: 0.0221, elapsed time: 10 ms

# OUTER BOX 484

x in [-0.5229874216982563 , -0.5009047226602127]

y in [-1.301695670215435 , -1.291111853489622]

```
precision: 0.0221, elapsed time: 10 ms
INNER BOX 485
  x in [-0.5229874216982563 , -0.5009047226602127]
 y in [-1.291111853489622 , -1.280528036763809]
 precision: 0.0221, elapsed time: 10 ms
INNER BOX 486
 x in [-0.5229874216982563 , -0.5009047226602127]
 y in [-1.280528036763809 , -1.269944220037997]
 precision: 0.0221, elapsed time: 10 ms
OUTER BOX 487
  x in [-0.5706300215725659 , -0.5400273555891003]
 y in [-1.269944220037997 , -1.259360403312184]
 precision: 0.0306, elapsed time: 10 ms
OUTER BOX 488
 x in [-0.5706300215725659 , -0.5400273555891003]
 y in [-1.259360403312184 , -1.248776586586371]
 precision: 0.0306, elapsed time: 10 ms
OUTER BOX 489
  x in [-0.5706300215725659 , -0.5400273555891003]
 y in [-1.248776586586371 , -1.238192769860558]
 precision: 0.0306, elapsed time: 10 ms
OUTER BOX 490
  x in [-0.6108082953461385 , -0.6041739468452093]
 y in [-1.194414479258797 , -1.191427013073671]
```

precision: 0.00663, elapsed time: 10 ms

x in [-0.6108082953461385 , -0.6041739468452093]

OUTER BOX 491

```
y in [-1.191427013073671 , -1.188439546888546]
 precision: 0.00663, elapsed time: 10 ms
OUTER BOX 492
  x in [-0.6108082953461385 , -0.6041739468452093]
 y in [-1.188439546888546 , -1.18545208070342]
 precision: 0.00663, elapsed time: 10 ms
OUTER BOX 493
  x in [-0.6173657680930424 , -0.6129684943437647]
 y in [-1.18545208070342 , -1.176489682148043]
 precision: 0.00896, elapsed time: 10 ms
OUTER BOX 494
  x in [-0.6129684943437647 , -0.608571220594487]
  y in [-1.18545208070342 , -1.176489682148043]
 precision: 0.00896, elapsed time: 10 ms
INNER BOX 495
  x in [-0.608571220594487 , -0.6041739468452093]
 y in [-1.18545208070342 , -1.176489682148043]
 precision: 0.00896, elapsed time: 10 ms
OUTER BOX 496
  x in [-0.6238472964126682 , -0.6172895132235152]
 y in [-1.176489682148043 , -1.167527283592666]
 precision: 0.00896, elapsed time: 10 ms
INNER BOX 497
 x in [-0.6172895132235152 , -0.6107317300343622]
 y in [-1.176489682148043 , -1.167527283592666]
```

precision: 0.00896, elapsed time: 10 ms

#### INNER BOX 498

x in [-0.6107317300343622 , -0.6041739468452093]

y in [-1.176489682148043 , -1.167527283592666]

precision: 0.00896, elapsed time: 10 ms

#### OUTER BOX 499

x in [-0.6428451508937016 , -0.6299547495442042]

y in [-1.158985554024851 , -1.152870398658745]

precision: 0.0129, elapsed time: 10 ms

# OUTER BOX 500

x in [-0.6428451508937016 , -0.6299547495442042]

y in [-1.152870398658745 , -1.14675524329264]

precision: 0.0129, elapsed time: 10 ms

# OUTER BOX 501

x in [-0.6428451508937016 , -0.6299547495442042]

y in [-1.14675524329264 , -1.140640087926534]

precision: 0.0129, elapsed time: 10 ms

# OUTER BOX 502

x in [-0.6299547495442042 , -0.6170643481947067]

y in [-1.167527283592666 , -1.158564885037288]

precision: 0.0129, elapsed time: 10 ms

# INNER BOX 503

x in [-0.6299547495442042 , -0.6170643481947067]

y in [-1.158564885037288 , -1.149602486481911]

precision: 0.0129, elapsed time: 10 ms

# INNER BOX 504

x in [-0.6299547495442042 , -0.6170643481947067]

y in [-1.149602486481911 , -1.140640087926534]

```
precision: 0.0129, elapsed time: 10 ms
OUTER BOX 505
  x in [-0.661190685918263 , -0.6421851062272451]
 y in [-1.140640087926534 , -1.131677689371157]
 precision: 0.019, elapsed time: 10 ms
OUTER BOX 506
 x in [-0.661190685918263 , -0.6421851062272451]
 y in [-1.131677689371157 , -1.122715290815779]
 precision: 0.019, elapsed time: 10 ms
OUTER BOX 507
  x in [-0.661190685918263 , -0.6421851062272451]
 y in [-1.122715290815779 , -1.113752892260402]
 precision: 0.019, elapsed time: 10 ms
OUTER BOX 508
 x in [-0.6887469050536617 , -0.6764041826942967]
 y in [-1.090719494757964 , -1.084316362591746]
 precision: 0.0123, elapsed time: 10 ms
OUTER BOX 509
  x in [-0.6887469050536617 , -0.6764041826942967]
 y in [-1.084316362591746 , -1.077913230425529]
 precision: 0.0123, elapsed time: 10 ms
OUTER BOX 510
  x in [-0.6887469050536617, -0.6764041826942967]
 y in [-1.077913230425529 , -1.071510098259312]
 precision: 0.0123, elapsed time: 10 ms
OUTER BOX 511
  x in [-0.7007831234681345 , -0.6926568098768552]
```

```
y in [-1.071510098259312 , -1.05230070176066]
```

precision: 0.0192, elapsed time: 10 ms

# OUTER BOX 512

x in [-0.6926568098768552 , -0.6845304962855759] y in [-1.071510098259312 , -1.05230070176066]

precision: 0.0192, elapsed time: 10 ms

# INNER BOX 513

x in [-0.6845304962855759, -0.6764041826942967] y in [-1.071510098259312, -1.05230070176066]

precision: 0.0192, elapsed time: 10 ms

### OUTER BOX 514

x in [-0.7125193006188404 , -0.7004809279773258]
y in [-1.05230070176066 , -1.033091305262007]

precision: 0.0192, elapsed time: 10 ms

# INNER BOX 515

x in [-0.7004809279773258 , -0.6884425553358112]
y in [-1.05230070176066 , -1.033091305262007]

precision: 0.0192, elapsed time: 10 ms

### INNER BOX 516

x in [-0.6884425553358112 , -0.6764041826942967]
y in [-1.05230070176066 , -1.033091305262007]

precision: 0.0192, elapsed time: 10 ms

# OUTER BOX 517

x in [-0.6764041826942967 , -0.6643658100527821]
y in [-1.113752892260402 , -1.086865696594271]

precision: 0.0269, elapsed time: 10 ms

```
OUTER BOX 518
```

x in [-0.6643658100527821 , -0.6523274374112675]

y in [-1.113752892260402 , -1.086865696594271]

precision: 0.0269, elapsed time: 10 ms

#### INNER BOX 519

x in [-0.6523274374112675 , -0.640289064769753]

y in [-1.113752892260402 , -1.086865696594271]

precision: 0.0269, elapsed time: 10 ms

# OUTER BOX 520

x in [-0.728454017274504 , -0.7071632532198205]

y in [-1.033091305262007, -1.02412890670663]

precision: 0.0213, elapsed time: 10 ms

# OUTER BOX 521

x in [-0.728454017274504 , -0.7071632532198205]

y in [-1.02412890670663 , -1.015166508151253]

precision: 0.0213, elapsed time: 10 ms

# OUTER BOX 522

x in [-0.728454017274504, -0.7071632532198205]

y in [-1.015166508151253 , -1.006204109595876]

precision: 0.0213, elapsed time: 10 ms

# OUTER BOX 523

x in [-0.7438286561732843 , -0.7316068551887963]

y in [-1.006204109595876 , -0.9793169139297442]

precision: 0.0269, elapsed time: 10 ms

# OUTER BOX 524

x in [-0.7316068551887963 , -0.7193850542043084]

y in [-1.006204109595876 , -0.9793169139297442]

```
precision: 0.0269, elapsed time: 10 ms
```

#### INNER BOX 525

x in [-0.7193850542043084 , -0.7071632532198205]
y in [-1.006204109595876 , -0.9793169139297442]

precision: 0.0269, elapsed time: 10 ms

#### OUTER BOX 526

x in [-0.7586579064071262 , -0.7414930220113576] y in [-0.9793169139297442 , -0.9524297182636126]

precision: 0.0269, elapsed time: 10 ms

#### INNER BOX 527

x in [-0.7414930220113576 , -0.724328137615589] y in [-0.9793169139297442 , -0.9524297182636126]

precision: 0.0269, elapsed time: 10 ms

#### INNER BOX 528

x in [-0.724328137615589 , -0.7071632532198205]
y in [-0.9793169139297442 , -0.9524297182636126]

precision: 0.0269, elapsed time: 10 ms

#### OUTER BOX 529

x in [-0.5951486896716722 , -0.5809922243337493]
y in [-1.238192769860558 , -1.20644131968312]

precision: 0.0318, elapsed time: 10 ms

# OUTER BOX 530

x in [-0.5809922243337493 , -0.5668357589958265]
y in [-1.238192769860558 , -1.20644131968312]

precision: 0.0318, elapsed time: 10 ms

# INNER BOX 531

x in [-0.5668357589958265 , -0.5526792936579037]

```
y in [-1.238192769860558 , -1.20644131968312]
 precision: 0.0318, elapsed time: 10 ms
OUTER BOX 532
 x in [-0.6041739468452093 , -0.5870090624494407]
 y in [-1.20644131968312 , -1.174689869505681]
 precision: 0.0318, elapsed time: 10 ms
INNER BOX 533
  x in [-0.5870090624494407 , -0.5698441780536722]
 y in [-1.20644131968312 , -1.174689869505681]
 precision: 0.0318, elapsed time: 10 ms
TNNER BOX 534
  x in [-0.5698441780536722 , -0.5526792936579037]
 y in [-1.20644131968312 , -1.174689869505681]
 precision: 0.0318, elapsed time: 10 ms
OUTER BOX 535
  x in [-0.7812184738572598 , -0.7676049444451444]
 y in [-0.9357204499064231 , -0.9269932185536313]
 precision: 0.0136, elapsed time: 10 ms
OUTER BOX 536
  x in [-0.7812184738572598 , -0.7676049444451444]
 y in [-0.9269932185536313 , -0.9182659872008395]
 precision: 0.0136, elapsed time: 10 ms
```

x in [-0.7812184738572598 , -0.7676049444451444] y in [-0.9182659872008395 , -0.9095387558480478]

precision: 0.0136, elapsed time: 10 ms

```
OUTER BOX 538
```

x in [-0.7943467617454318 , -0.785432822645336]

y in [-0.9095387558480478 , -0.8833570617896724]

precision: 0.0262, elapsed time: 10 ms

#### OUTER BOX 539

x in [-0.785432822645336 , -0.7765188835452401]
y in [-0.9095387558480478 , -0.8833570617896724]

precision: 0.0262, elapsed time: 10 ms

# INNER BOX 540

x in [-0.7765188835452401 , -0.7676049444451444] y in [-0.9095387558480478 , -0.8833570617896724]

precision: 0.0262, elapsed time: 10 ms

# OUTER BOX 541

x in [-0.8070003843261118 , -0.7938685710324559] y in [-0.8833570617896724 , -0.8571753677312972]

precision: 0.0262, elapsed time: 10 ms

# INNER BOX 542

x in [-0.7938685710324559 , -0.7807367577388001]
y in [-0.8833570617896724 , -0.8571753677312972]

precision: 0.0262, elapsed time: 10 ms

# INNER BOX 543

x in [-0.7807367577388001 , -0.7676049444451444]
y in [-0.8833570617896724 , -0.8571753677312972]

precision: 0.0262, elapsed time: 10 ms

# OUTER BOX 544

x in [-0.7676049444451444 , -0.7544731311514886] y in [-0.9524297182636126 , -0.920678268086174]

```
precision: 0.0318, elapsed time: 10 ms
INNER BOX 545
  x in [-0.7544731311514886 , -0.7413413178578329]
 y in [-0.9524297182636126 , -0.920678268086174]
 precision: 0.0318, elapsed time: 10 ms
INNER BOX 546
 x in [-0.7413413178578329 , -0.7282095045641771]
 y in [-0.9524297182636126 , -0.920678268086174]
 precision: 0.0318, elapsed time: 10 ms
OUTER BOX 547
  x in [-0.8217231832334027 , -0.7957264351540503]
 y in [-0.8571753677312972 , -0.8465915510054843]
 precision: 0.026, elapsed time: 10 ms
OUTER BOX 548
 x in [-0.8217231832334027, -0.7957264351540503]
 y in [-0.8465915510054843 , -0.8360077342796716]
 precision: 0.026, elapsed time: 10 ms
OUTER BOX 549
  x in [-0.8217231832334027 , -0.7957264351540503]
 y in [-0.8360077342796716 , -0.8254239175538588]
 precision: 0.026, elapsed time: 10 ms
OUTER BOX 550
  x in [-0.8357788577409386 , -0.8224280502119758]
 y in [-0.8254239175538588 , -0.7936724673764204]
 precision: 0.0318, elapsed time: 10 ms
OUTER BOX 551
  x in [-0.8224280502119758 , -0.8090772426830131]
```

```
y in [-0.8254239175538588 , -0.7936724673764204]
```

precision: 0.0318, elapsed time: 10 ms

# INNER BOX 552

x in [-0.8090772426830131 , -0.7957264351540503] y in [-0.8254239175538588 , -0.7936724673764204]

precision: 0.0318, elapsed time: 10 ms

# OUTER BOX 553

x in [-0.8491826203894706 , -0.8313638919776638] y in [-0.7936724673764204 , -0.761921017198982]

precision: 0.0318, elapsed time: 10 ms

### INNER BOX 554

x in [-0.8313638919776638 , -0.813545163565857] y in [-0.7936724673764204 , -0.761921017198982]

precision: 0.0318, elapsed time: 10 ms

# INNER BOX 555

x in [-0.813545163565857, -0.7957264351540503] y in [-0.7936724673764204, -0.761921017198982]

precision: 0.0318, elapsed time: 10 ms

### OUTER BOX 556

x in [-0.8619485501472839 , -0.8479712813216852] y in [-0.761921017198982 , -0.7301695670215436]

precision: 0.0318, elapsed time: 10 ms

# INNER BOX 557

x in [-0.8479712813216852 , -0.8339940124960865] y in [-0.761921017198982 , -0.7301695670215436]

precision: 0.0318, elapsed time: 10 ms

```
INNER BOX 558
```

x in [-0.8339940124960865 , -0.8200167436704878]

y in [-0.761921017198982 , -0.7301695670215436]

precision: 0.0318, elapsed time: 10 ms

#### OUTER BOX 559

x in [-0.8740896814357457 , -0.8560653688473264]

y in [-0.7301695670215436 , -0.6984181168441052]

precision: 0.0318, elapsed time: 10 ms

# INNER BOX 560

x in [-0.8560653688473264 , -0.8380410562589071]

y in [-0.7301695670215436 , -0.6984181168441052]

precision: 0.0318, elapsed time: 10 ms

# INNER BOX 561

x in [-0.8380410562589071 , -0.8200167436704878]

y in [-0.7301695670215436 , -0.6984181168441052]

precision: 0.0318, elapsed time: 10 ms

# OUTER BOX 562

x in [-0.8856180831641269 , -0.8637509699995806]

y in [-0.6984181168441052 , -0.666666666666667]

precision: 0.0318, elapsed time: 10 ms

# INNER BOX 563

x in [-0.8637509699995806 , -0.8418838568350342]

y in [-0.6984181168441052 , -0.666666666666667]

precision: 0.0318, elapsed time: 10 ms

# INNER BOX 564

x in [-0.8418838568350342 , -0.8200167436704878]

y in [-0.6984181168441052 , -0.666666666666667]

```
precision: 0.0318, elapsed time: 10 ms
OUTER BOX 565
  x in [-0.1942970217778996 , -0.1907453546468833]
  y in [-1.612138817713682 , -1.604261395088855]
 precision: 0.00788, elapsed time: 10 ms
OUTER BOX 566
 x in [-0.1907453546468833 , -0.187193687515867]
 y in [-1.612138817713682 , -1.604261395088855]
 precision: 0.00788, elapsed time: 10 ms
OUTER BOX 567
  x in [-0.187193687515867 , -0.1836420203848506]
 y in [-1.612138817713682 , -1.604261395088855]
 precision: 0.00788, elapsed time: 10 ms
OUTER BOX 568
 x in [-0.1836420203848506 , -0.1729870189918016]
 y in [-1.619907853328926 , -1.614692367248902]
 precision: 0.0107, elapsed time: 10 ms
OUTER BOX 569
  x in [-0.1836420203848506 , -0.1729870189918016]
 y in [-1.614692367248902 , -1.609476881168878]
 precision: 0.0107, elapsed time: 10 ms
INNER BOX 570
  x in [-0.1836420203848506 , -0.1729870189918016]
 y in [-1.609476881168878 , -1.604261395088855]
 precision: 0.0107, elapsed time: 10 ms
```

x in [-0.1729870189918016 , -0.1623320175987526]

```
y in [-1.627570054057525 , -1.619800501067968]
 precision: 0.0107, elapsed time: 10 ms
INNER BOX 572
 x in [-0.1729870189918016 , -0.1623320175987526]
 y in [-1.619800501067968 , -1.612030948078412]
 precision: 0.0107, elapsed time: 10 ms
INNER BOX 573
  x in [-0.1729870189918016 , -0.1623320175987526]
 y in [-1.612030948078412 , -1.604261395088855]
 precision: 0.0107, elapsed time: 10 ms
OUTER BOX 574
  x in [-0.1522723906290653 , -0.144970598225912]
  y in [-1.649930427312874 , -1.634707416571534]
 precision: 0.0152, elapsed time: 10 ms
OUTER BOX 575
  x in [-0.144970598225912 , -0.1376688058227588]
 y in [-1.649930427312874 , -1.634707416571534]
 precision: 0.0152, elapsed time: 10 ms
OUTER BOX 576
  x in [-0.1376688058227588 , -0.1303670134196055]
 y in [-1.649930427312874 , -1.634707416571534]
 precision: 0.0152, elapsed time: 10 ms
```

x in [-0.1623320175987526 , -0.1516770162057036] y in [-1.634707416571534 , -1.619484405830194]

precision: 0.0152, elapsed time: 10 ms

### INNER BOX 578

x in [-0.1516770162057036 , -0.1410220148126546]

y in [-1.634707416571534 , -1.619484405830194]

precision: 0.0152, elapsed time: 10 ms

#### INNER BOX 579

x in [-0.1410220148126546 , -0.1303670134196055]

y in [-1.634707416571534, -1.619484405830194]

precision: 0.0152, elapsed time: 10 ms

# OUTER BOX 580

x in [-0.1303670134196055 , -0.1197120120265565]

y in [-1.671380574883089 , -1.649007514951677]

precision: 0.0224, elapsed time: 10 ms

# OUTER BOX 581

x in [-0.1197120120265565 , -0.1090570106335075]

y in [-1.671380574883089 , -1.649007514951677]

precision: 0.0224, elapsed time: 10 ms

# OUTER BOX 582

x in [-0.1090570106335075 , -0.0984020092404585]

y in [-1.671380574883089 , -1.649007514951677]

precision: 0.0224, elapsed time: 10 ms

# OUTER BOX 583

x in [-0.2795287452648898 , -0.2728203476343553]

y in [-1.553673933703448 , -1.537142215294622]

precision: 0.0165, elapsed time: 10 ms

# OUTER BOX 584

x in [-0.2728203476343553 , -0.2661119500038208]

y in [-1.553673933703448 , -1.537142215294622]

precision: 0.0165, elapsed time: 10 ms

#### OUTER BOX 585

x in [-0.2661119500038208 , -0.2594035523732863] y in [-1.553673933703448 , -1.537142215294622]

precision: 0.0165, elapsed time: 10 ms

#### OUTER BOX 586

x in [-0.2594035523732863 , -0.2392783594816828]
y in [-1.569773597599472 , -1.558896470164522]

precision: 0.0201, elapsed time: 10 ms

#### OUTER BOX 587

x in [-0.2594035523732863 , -0.2392783594816828]
y in [-1.558896470164522 , -1.548019342729572]

precision: 0.0201, elapsed time: 10 ms

# INNER BOX 588

x in [-0.2594035523732863 , -0.2392783594816828]
y in [-1.548019342729572 , -1.537142215294622]

precision: 0.0201, elapsed time: 10 ms

#### OUTER BOX 589

x in [-0.2392783594816828 , -0.2191531665900794]
y in [-1.585454369066919 , -1.569350317809487]

precision: 0.0201, elapsed time: 10 ms

# INNER BOX 590

x in [-0.2392783594816828 , -0.2191531665900794]
y in [-1.569350317809487 , -1.553246266552054]

precision: 0.0201, elapsed time: 10 ms

# INNER BOX 591

x in [-0.2392783594816828 , -0.2191531665900794]

```
y in [-1.553246266552054 , -1.537142215294622]
 precision: 0.0201, elapsed time: 10 ms
OUTER BOX 592
 x in [-0.2191531665900794 , -0.1990279736984759]
 y in [-1.604261395088855 , -1.581888335157444]
 precision: 0.0224, elapsed time: 10 ms
OUTER BOX 593
  x in [-0.1990279736984759 , -0.1789027808068724]
 y in [-1.604261395088855 , -1.581888335157444]
 precision: 0.0224, elapsed time: 10 ms
TNNER BOX 594
  x in [-0.1789027808068724 , -0.1587775879152689]
 y in [-1.604261395088855 , -1.581888335157444]
 precision: 0.0224, elapsed time: 10 ms
OUTER BOX 595
  x in [-0.2952060277213756 , -0.2733389145568292]
 y in [-1.537142215294622 , -1.514769155363211]
```

precision: 0.0224, elapsed time: 10 ms

### INNER BOX 596

x in [-0.2733389145568292 , -0.2514718013922829] y in [-1.537142215294622 , -1.514769155363211]

precision: 0.0224, elapsed time: 10 ms

# INNER BOX 597

x in [-0.2514718013922829 , -0.2296046882277366] y in [-1.537142215294622 , -1.514769155363211]

precision: 0.0224, elapsed time: 10 ms

```
OUTER BOX 598
x in [-0.08-
y in [-1.69
```

x in [-0.08490182666193569 , -0.07861280246475526]

y in [-1.692208587353839 , -1.680174998774115]

precision: 0.012, elapsed time: 10 ms

## OUTER BOX 599

x in [-0.07861280246475526 , -0.07232377826757483]

y in [-1.692208587353839 , -1.680174998774115]

precision: 0.012, elapsed time: 10 ms

# OUTER BOX 600

x in [-0.07232377826757483 , <math>-0.06603475407039441]

y in [-1.692208587353839 , -1.680174998774115]

precision: 0.012, elapsed time: 10 ms

# OUTER BOX 601

x in [-0.06603475407039441 , -0.04716768147885315]

y in [-1.703948311089924 , -1.696023873651321]

precision: 0.0189, elapsed time: 10 ms

# OUTER BOX 602

x in [-0.06603475407039441 , -0.04716768147885315]

y in [-1.696023873651321 , -1.688099436212718]

precision: 0.0189, elapsed time: 10 ms

# INNER BOX 603

x in [-0.06603475407039441 , -0.04716768147885315]

y in [-1.688099436212718 , -1.680174998774115]

precision: 0.0189, elapsed time: 10 ms

# OUTER BOX 604

x in [-0.04716768147885315 , -0.0283006088873119]

y in [-1.715400203381702 , -1.703658468512506]

```
precision: 0.0189, elapsed time: 10 ms
INNER BOX 605
  x in [-0.04716768147885315 , -0.0283006088873119]
 y in [-1.703658468512506 , -1.69191673364331]
 precision: 0.0189, elapsed time: 10 ms
INNER BOX 606
 x in [-0.04716768147885315 , -0.0283006088873119]
 y in [-1.69191673364331 , -1.680174998774115]
 precision: 0.0189, elapsed time: 10 ms
OUTER BOX 607
  x in [-0.01134990259163304 , -0.003783300863877681]
 y in [-1.738554280111618 , -1.725448166282573]
 precision: 0.0131, elapsed time: 10 ms
OUTER BOX 608
 x in [-0.003783300863877681 , +0.003783300863877681]
 y in [-1.738554280111618 , -1.725448166282573]
 precision: 0.0131, elapsed time: 10 ms
OUTER BOX 609
  x in [0.003783300863877681 , 0.01134990259163304]
 y in [-1.738554280111618 , -1.725448166282573]
 precision: 0.0131, elapsed time: 10 ms
OUTER BOX 610
  x in [-0.0283006088873119 , -0.00943353629577063]
 y in [-1.725448166282573 , -1.702811582528344]
 precision: 0.0226, elapsed time: 10 ms
INNER BOX 611
  x in [-0.00943353629577063 , +0.009433536295770636]
```

```
y in [-1.725448166282573 , -1.702811582528344]
 precision: 0.0226, elapsed time: 10 ms
OUTER BOX 612
 x in [0.009433536295770636, 0.0283006088873119]
 y in [-1.725448166282573 , -1.702811582528344]
 precision: 0.0226, elapsed time: 10 ms
OUTER BOX 613
  x in [0.0283006088873119, 0.04716768147885316]
 y in [-1.715400203381702 , -1.703658468512506]
 precision: 0.0189, elapsed time: 10 ms
INNER BOX 614
  x in [0.0283006088873119 , 0.04716768147885316]
 y in [-1.703658468512506 , -1.69191673364331]
 precision: 0.0189, elapsed time: 10 ms
INNER BOX 615
  x in [0.0283006088873119 , 0.04716768147885316]
 y in [-1.69191673364331 , -1.680174998774115]
 precision: 0.0189, elapsed time: 10 ms
OUTER BOX 616
  x in [0.04716768147885316 , 0.06603475407039443]
```

y in [-1.703948311089924 , -1.696023873651321]

precision: 0.0189, elapsed time: 10 ms

# OUTER BOX 617

x in [0.04716768147885316 , 0.06603475407039443] y in [-1.696023873651321 , -1.688099436212718]

precision: 0.0189, elapsed time: 10 ms

```
INNER BOX 618
```

x in [0.04716768147885316 , 0.06603475407039443]

y in [-1.688099436212718 , -1.680174998774115]

precision: 0.0189, elapsed time: 10 ms

#### OUTER BOX 619

x in [0.06603475407039443 , 0.07232377826757486]

y in [-1.692208587353839 , -1.680174998774115]

precision: 0.012, elapsed time: 10 ms

# OUTER BOX 620

x in [0.07232377826757486 , 0.07861280246475527]

y in [-1.692208587353839 , -1.680174998774115]

precision: 0.012, elapsed time: 10 ms

# OUTER BOX 621

x in [0.07861280246475527, 0.08490182666193569]

y in [-1.692208587353839 , -1.680174998774115]

precision: 0.012, elapsed time: 10 ms

# OUTER BOX 622

x in [-0.0984020092404585 , -0.07653489607591214]

y in [-1.680174998774115 , -1.645149671561827]

precision: 0.035, elapsed time: 10 ms

# INNER BOX 623

x in [-0.07653489607591214 , -0.05466778291136581]

y in [-1.680174998774115 , -1.645149671561827]

precision: 0.035, elapsed time: 10 ms

# INNER BOX 624

x in [-0.05466778291136581 , -0.03280066974681946]

y in [-1.680174998774115 , -1.645149671561827]

```
precision: 0.035, elapsed time: 10 ms
INNER BOX 625
  x in [0.03280066974681958 , 0.05466778291136593]
 y in [-1.680174998774115 , -1.645149671561827]
 precision: 0.035, elapsed time: 10 ms
INNER BOX 626
 x in [0.05466778291136593 , 0.07653489607591227]
 y in [-1.680174998774115 , -1.645149671561827]
 precision: 0.035, elapsed time: 10 ms
OUTER BOX 627
  x in [0.07653489607591227 , 0.09840200924045861]
 y in [-1.680174998774115 , -1.645149671561827]
 precision: 0.035, elapsed time: 10 ms
OUTER BOX 628
 x in [0.09840200924045861 , 0.1090570106335076]
 y in [-1.671380574883089 , -1.649007514951677]
 precision: 0.0224, elapsed time: 10 ms
OUTER BOX 629
  x in [0.1090570106335076 , 0.1197120120265566]
 y in [-1.671380574883089 , -1.649007514951677]
 precision: 0.0224, elapsed time: 10 ms
OUTER BOX 630
  x in [0.1197120120265566 , 0.1303670134196056]
 y in [-1.671380574883089 , -1.649007514951677]
 precision: 0.0224, elapsed time: 10 ms
```

x in [0.1303670134196056 , 0.1376688058227589]

```
y in [-1.649930427312874 , -1.634707416571534]
```

precision: 0.0152, elapsed time: 10 ms

# OUTER BOX 632

x in [0.1376688058227589 , 0.1449705982259121] y in [-1.649930427312874 , -1.634707416571534]

precision: 0.0152, elapsed time: 10 ms

# OUTER BOX 633

x in [0.1449705982259121 , 0.1522723906290653] y in [-1.649930427312874 , -1.634707416571534]

precision: 0.0152, elapsed time: 10 ms

#### INNER BOX 634

x in [0.1303670134196056 , 0.1410220148126546] y in [-1.634707416571534 , -1.619484405830194]

precision: 0.0152, elapsed time: 10 ms

# INNER BOX 635

x in [0.1410220148126546 , 0.1516770162057036] y in [-1.634707416571534 , -1.619484405830194]

precision: 0.0152, elapsed time: 10 ms

### OUTER BOX 636

x in [0.1516770162057036 , 0.1623320175987527] y in [-1.634707416571534 , -1.619484405830194]

precision: 0.0152, elapsed time: 10 ms

# OUTER BOX 637

x in [0.1623320175987527 , 0.1729870189918017] y in [-1.627570054057525 , -1.619800501067968]

precision: 0.0107, elapsed time: 10 ms

```
INNER BOX 638
```

x in [0.1623320175987527 , 0.1729870189918017]

y in [-1.619800501067968 , -1.612030948078412]

precision: 0.0107, elapsed time: 10 ms

#### INNER BOX 639

x in [0.1623320175987527 , 0.1729870189918017]

y in [-1.612030948078412 , -1.604261395088855]

precision: 0.0107, elapsed time: 10 ms

## OUTER BOX 640

x in [0.1729870189918017, 0.1836420203848507]

y in [-1.619907853328926 , -1.614692367248902]

precision: 0.0107, elapsed time: 10 ms

## OUTER BOX 641

x in [0.1729870189918017 , 0.1836420203848507]

y in [-1.614692367248902 , -1.609476881168878]

precision: 0.0107, elapsed time: 10 ms

## INNER BOX 642

x in [0.1729870189918017 , 0.1836420203848507]

y in [-1.609476881168878 , -1.604261395088855]

precision: 0.0107, elapsed time: 10 ms

## OUTER BOX 643

x in [0.1836420203848507, 0.187193687515867]

y in [-1.612138817713682 , -1.604261395088855]

precision: 0.00788, elapsed time: 10 ms

## OUTER BOX 644

x in [0.187193687515867, 0.1907453546468833]

y in [-1.612138817713682 , -1.604261395088855]

precision: 0.00788, elapsed time: 10 ms

#### OUTER BOX 645

x in [0.1907453546468833 , 0.1942970217778996] y in [-1.612138817713682 , -1.604261395088855]

precision: 0.00788, elapsed time: 10 ms

#### INNER BOX 646

x in [0.158777587915269 , 0.1789027808068725] y in [-1.604261395088855 , -1.581888335157444]

precision: 0.0224, elapsed time: 10 ms

## OUTER BOX 647

x in [0.1789027808068725 , 0.199027973698476]
y in [-1.604261395088855 , -1.581888335157444]

precision: 0.0224, elapsed time: 10 ms

## OUTER BOX 648

x in [0.199027973698476, 0.2191531665900794] y in [-1.604261395088855, -1.581888335157444]

precision: 0.0224, elapsed time: 10 ms

#### OUTER BOX 649

x in [0.2191531665900794 , 0.2392783594816829]
y in [-1.585454369066919 , -1.569350317809487]

precision: 0.0201, elapsed time: 10 ms

## INNER BOX 650

x in [0.2191531665900794 , 0.2392783594816829]
y in [-1.569350317809487 , -1.553246266552054]

precision: 0.0201, elapsed time: 10 ms

## INNER BOX 651

x in [0.2191531665900794 , 0.2392783594816829]

```
y in [-1.553246266552054 , -1.537142215294622]
```

precision: 0.0201, elapsed time: 10 ms

## OUTER BOX 652

x in [0.2392783594816829 , 0.2594035523732864]
y in [-1.569773597599472 , -1.558896470164522]

precision: 0.0201, elapsed time: 10 ms

## OUTER BOX 653

x in [0.2392783594816829 , 0.2594035523732864] y in [-1.558896470164522 , -1.548019342729572]

precision: 0.0201, elapsed time: 10 ms

#### INNER BOX 654

x in [0.2392783594816829 , 0.2594035523732864] y in [-1.548019342729572 , -1.537142215294622]

precision: 0.0201, elapsed time: 10 ms

## OUTER BOX 655

x in [0.2594035523732864 , 0.2661119500038209] y in [-1.553673933703448 , -1.537142215294622]

precision: 0.0165, elapsed time: 10 ms

#### OUTER BOX 656

x in [0.2661119500038209 , 0.2728203476343554] y in [-1.553673933703448 , -1.537142215294622]

precision: 0.0165, elapsed time: 10 ms

## OUTER BOX 657

x in [0.2728203476343554 , 0.2795287452648898] y in [-1.553673933703448 , -1.537142215294622]

precision: 0.0165, elapsed time: 10 ms

```
INNER BOX 658
```

x in [0.2296046882277367 , 0.251471801392283]

y in [-1.537142215294622 , -1.514769155363211]

precision: 0.0224, elapsed time: 10 ms

#### INNER BOX 659

x in [0.251471801392283 , 0.2733389145568294]

y in [-1.537142215294622 , -1.514769155363211]

precision: 0.0224, elapsed time: 10 ms

## OUTER BOX 660

x in [0.2733389145568294 , 0.2952060277213757]

y in [-1.537142215294622 , -1.514769155363211]

precision: 0.0224, elapsed time: 10 ms

## OUTER BOX 661

x in [0.2952060277213757, 0.3068026566624805]

y in [-1.523955821457504 , -1.513372004731691]

precision: 0.0116, elapsed time: 10 ms

## INNER BOX 662

x in [0.2952060277213757 , 0.3068026566624805]

y in [-1.513372004731691 , -1.502788188005878]

precision: 0.0116, elapsed time: 10 ms

## INNER BOX 663

x in [0.2952060277213757 , 0.3068026566624805]

y in [-1.502788188005878 , -1.492204371280065]

precision: 0.0116, elapsed time: 10 ms

## OUTER BOX 664

x in [0.3068026566624805, 0.3183992856035853]

y in [-1.514023387051826 , -1.506750381794572]

```
precision: 0.0116, elapsed time: 10 ms
OUTER BOX 665
  x in [0.3068026566624805 , 0.3183992856035853]
 y in [-1.506750381794572 , -1.499477376537319]
 precision: 0.0116, elapsed time: 10 ms
INNER BOX 666
 x in [0.3068026566624805 , 0.3183992856035853]
 y in [-1.499477376537319 , -1.492204371280065]
 precision: 0.0116, elapsed time: 10 ms
OUTER BOX 667
  x in [0.3183992856035853 , 0.3299959145446901]
 y in [-1.503935944021539 , -1.500025419774381]
 precision: 0.0116, elapsed time: 10 ms
OUTER BOX 668
 x in [0.3183992856035853 , 0.3299959145446901]
 y in [-1.500025419774381 , -1.496114895527223]
 precision: 0.0116, elapsed time: 10 ms
OUTER BOX 669
  x in [0.3183992856035853, 0.3299959145446901]
 y in [-1.496114895527223 , -1.492204371280065]
 precision: 0.0116, elapsed time: 10 ms
OUTER BOX 670
  x in [0.3299959145446901 , 0.3379750402781]
 y in [-1.493690351878338 , -1.486469365105766]
 precision: 0.00798, elapsed time: 10 ms
```

x in [0.3299959145446901, 0.3379750402781]

INNER BOX 671

y in [-1.486469365105766 , -1.479248378333194]

precision: 0.00798, elapsed time: 10 ms

## INNER BOX 672

x in [0.3299959145446901 , 0.3379750402781]
y in [-1.479248378333194 , -1.472027391560621]

precision: 0.00798, elapsed time: 10 ms

## OUTER BOX 673

x in [0.3379750402781 , 0.3459541660115098]
y in [-1.486547271899827 , -1.481707311786758]

precision: 0.00798, elapsed time: 10 ms

#### OUTER BOX 674

x in [0.3379750402781 , 0.3459541660115098] y in [-1.481707311786758 , -1.47686735167369]

precision: 0.00798, elapsed time: 10 ms

## INNER BOX 675

x in [0.3379750402781 , 0.3459541660115098] y in [-1.47686735167369 , -1.472027391560621]

precision: 0.00798, elapsed time: 10 ms

#### OUTER BOX 676

x in [0.3459541660115098 , 0.3486138745893131] y in [-1.479326665411079 , -1.472027391560621]

precision: 0.0073, elapsed time: 10 ms

## OUTER BOX 677

x in [0.3486138745893131 , 0.3512735831671164] y in [-1.479326665411079 , -1.472027391560621]

precision: 0.0073, elapsed time: 10 ms

x in [0.3512735831671164 , 0.3539332917449196]

y in [-1.479326665411079 , -1.472027391560621]

precision: 0.0073, elapsed time: 10 ms

#### OUTER BOX 679

x in [0.3531891724268997, 0.3647858013680045]

y in [-1.472027391560621 , -1.464806404788049]

precision: 0.0116, elapsed time: 10 ms

## OUTER BOX 680

x in [0.3531891724268997, 0.3647858013680045]

y in [-1.464806404788049 , -1.457585418015477]

precision: 0.0116, elapsed time: 10 ms

## INNER BOX 681

x in [0.3531891724268997, 0.3647858013680045]

y in [-1.457585418015477 , -1.450364431242905]

precision: 0.0116, elapsed time: 10 ms

## OUTER BOX 682

x in [0.3647858013680045 , 0.3686513443483728]

y in [-1.461971174949867 , -1.450881273608307]

precision: 0.0111, elapsed time: 10 ms

## OUTER BOX 683

x in [0.3686513443483728 , 0.3725168873287411]

y in [-1.461971174949867 , -1.450881273608307]

precision: 0.0111, elapsed time: 10 ms

## OUTER BOX 684

x in [0.3725168873287411 , 0.3763824303091093]

y in [-1.461971174949867 , -1.450881273608307]

precision: 0.0111, elapsed time: 10 ms

#### OUTER BOX 685

x in [0.3763824303091093 , 0.3789872275723881] y in [-1.451058718845103 , -1.443606302871798]

precision: 0.00745, elapsed time: 10 ms

#### OUTER BOX 686

x in [0.3789872275723881 , 0.3815920248356668] y in [-1.451058718845103 , -1.443606302871798]

precision: 0.00745, elapsed time: 10 ms

#### OUTER BOX 687

x in [0.3815920248356668 , 0.3841968220989456] y in [-1.451058718845103 , -1.443606302871798]

precision: 0.00745, elapsed time: 10 ms

## INNER BOX 688

x in [0.3763824303091093 , 0.3802479732894776]
y in [-1.443606302871798 , -1.436153886898493]

precision: 0.00745, elapsed time: 10 ms

#### INNER BOX 689

x in [0.3802479732894776 , 0.3841135162698459]
y in [-1.443606302871798 , -1.436153886898493]

precision: 0.00745, elapsed time: 10 ms

## OUTER BOX 690

x in [0.3841135162698459 , 0.3879790592502141]
y in [-1.443606302871798 , -1.436153886898493]

precision: 0.00745, elapsed time: 10 ms

## OUTER BOX 691

x in [0.3879790592502141 , 0.3918446022305824]

```
y in [-1.439970184095105 , -1.4362139463718]
```

precision: 0.00387, elapsed time: 10 ms

## INNER BOX 692

x in [0.3879790592502141 , 0.3918446022305824]
y in [-1.4362139463718 , -1.432457708648494]

precision: 0.00387, elapsed time: 10 ms

## INNER BOX 693

x in [0.3879790592502141 , 0.3918446022305824] y in [-1.432457708648494 , -1.428701470925188]

precision: 0.00387, elapsed time: 10 ms

#### OUTER BOX 694

x in [0.3918446022305824 , 0.3957101452109506] y in [-1.436234174235383 , -1.433723273131985]

precision: 0.00387, elapsed time: 10 ms

## OUTER BOX 695

x in [0.3918446022305824 , 0.3957101452109506] y in [-1.433723273131985 , -1.431212372028587]

precision: 0.00387, elapsed time: 10 ms

#### INNER BOX 696

x in [0.3918446022305824 , 0.3957101452109506] y in [-1.431212372028587 , -1.428701470925188]

precision: 0.00387, elapsed time: 10 ms

#### OUTER BOX 697

x in [0.3957101452109506 , 0.3969986595377401] y in [-1.432477989553497 , -1.428701470925188]

precision: 0.00378, elapsed time: 10 ms

x in [0.3969986595377401 , 0.3982871738645294]

y in [-1.432477989553497 , -1.428701470925188]

precision: 0.00378, elapsed time: 10 ms

#### OUTER BOX 699

x in [0.3982871738645294 , 0.3995756881913188]

y in [-1.432477989553497 , -1.428701470925188]

precision: 0.00378, elapsed time: 10 ms

## OUTER BOX 700

x in [0.3820523278196046 , 0.4037639028441619]

y in [-1.428701470925188 , -1.418117654199375]

precision: 0.0217, elapsed time: 10 ms

## INNER BOX 701

x in [0.3820523278196046 , 0.4037639028441619]

y in [-1.418117654199375 , -1.407533837473563]

precision: 0.0217, elapsed time: 10 ms

# INNER BOX 702

x in [0.3820523278196046 , 0.4037639028441619]

y in [-1.407533837473563 , -1.39695002074775]

precision: 0.0217, elapsed time: 10 ms

## OUTER BOX 703

x in [0.4037639028441619 , 0.425475477868719]

y in [-1.424586573386022 , -1.415374389173264]

precision: 0.0217, elapsed time: 10 ms

## OUTER BOX 704

x in [0.4037639028441619 , 0.425475477868719]

y in [-1.415374389173264 , -1.406162204960507]

precision: 0.0217, elapsed time: 10 ms

#### OUTER BOX 705

x in [0.4037639028441619 , 0.425475477868719]

y in [-1.406162204960507, -1.39695002074775]

precision: 0.0217, elapsed time: 10 ms

#### OUTER BOX 706

x in [0.425475477868719 , 0.4330249448248895]

y in [-1.402861241176385 , -1.400290347814033]

precision: 0.00755, elapsed time: 10 ms

## OUTER BOX 707

x in [0.425475477868719, 0.4330249448248895]

y in [-1.400290347814033 , -1.39771945445168]

precision: 0.00755, elapsed time: 10 ms

## OUTER BOX 708

x in [0.425475477868719, 0.4330249448248895]

y in [-1.39771945445168 , -1.395148561089328]

precision: 0.00755, elapsed time: 10 ms

#### INNER BOX 709

x in [0.425475477868719, 0.4304815028977723]

y in [-1.395148561089328 , -1.387435881002271]

precision: 0.00771, elapsed time: 10 ms

## OUTER BOX 710

x in [0.4304815028977723 , 0.4354875279268256]

y in [-1.395148561089328 , -1.387435881002271]

precision: 0.00771, elapsed time: 10 ms

## OUTER BOX 711

x in [0.4354875279268256 , 0.4404935529558789]

```
y in [-1.395148561089328 , -1.387435881002271]
```

precision: 0.00771, elapsed time: 10 ms

## INNER BOX 712

x in [0.425475477868719 , 0.4329445030937185]
y in [-1.387435881002271 , -1.379723200915214]

precision: 0.00771, elapsed time: 10 ms

#### INNER BOX 713

x in [0.4329445030937185 , 0.4404135283187178] y in [-1.387435881002271 , -1.379723200915214]

precision: 0.00771, elapsed time: 10 ms

#### OUTER BOX 714

x in [0.4404135283187178 , 0.4478825535437172] y in [-1.387435881002271 , -1.379723200915214]

precision: 0.00771, elapsed time: 10 ms

## OUTER BOX 715

x in [0.4401782696806393 , 0.4548810614925596]
y in [-1.379723200915214 , -1.372010520828157]

precision: 0.0147, elapsed time: 10 ms

#### INNER BOX 716

x in [0.4401782696806393 , 0.4548810614925596] y in [-1.372010520828157 , -1.364297840741101]

precision: 0.0147, elapsed time: 10 ms

#### INNER BOX 717

x in [0.4401782696806393 , 0.4548810614925596] y in [-1.364297840741101 , -1.356585160654044]

precision: 0.0147, elapsed time: 10 ms

x in [0.4548810614925596 , 0.4695838533044798]

y in [-1.372341465128225 , -1.367089363636831]

precision: 0.0147, elapsed time: 10 ms

#### OUTER BOX 719

x in [0.4548810614925596 , 0.4695838533044798]

y in [-1.367089363636831, -1.361837262145438]

precision: 0.0147, elapsed time: 10 ms

## OUTER BOX 720

x in [0.4548810614925596 , 0.4695838533044798]

y in [-1.361837262145438 , -1.356585160654044]

precision: 0.0147, elapsed time: 10 ms

## OUTER BOX 721

x in [0.4688986279178335 , 0.4906102029423907]

y in [-1.356585160654044 , -1.348872480566987]

precision: 0.0217, elapsed time: 10 ms

## OUTER BOX 722

x in [0.4688986279178335 , 0.4906102029423907]

y in [-1.348872480566987 , -1.34115980047993]

precision: 0.0217, elapsed time: 10 ms

## OUTER BOX 723

x in [0.4688986279178335 , 0.4906102029423907]

y in [-1.34115980047993 , -1.333447120392873]

precision: 0.0217, elapsed time: 10 ms

## OUTER BOX 724

x in [0.4788220236221695, 0.4920201510959828]

y in [-1.333447120392873 , -1.32286330366706]

precision: 0.0132, elapsed time: 10 ms

#### INNER BOX 725

x in [0.4788220236221695 , 0.4920201510959828] y in [-1.32286330366706 , -1.312279486941247]

precision: 0.0132, elapsed time: 10 ms

#### INNER BOX 726

x in [0.4788220236221695 , 0.4920201510959828] y in [-1.312279486941247 , -1.301695670215435]

precision: 0.0132, elapsed time: 10 ms

#### OUTER BOX 727

x in [0.4920201510959828 , 0.5052182785697962] y in [-1.331869313680408 , -1.321811432525417]

precision: 0.0132, elapsed time: 10 ms

#### OUTER BOX 728

x in [0.4920201510959828 , 0.5052182785697962] y in [-1.321811432525417 , -1.311753551370426]

precision: 0.0132, elapsed time: 10 ms

#### INNER BOX 729

x in [0.4920201510959828 , 0.5052182785697962]
y in [-1.311753551370426 , -1.301695670215435]

precision: 0.0132, elapsed time: 10 ms

## OUTER BOX 730

x in [0.5052182785697962 , 0.5184164060436094]
y in [-1.316935053014909 , -1.311855258748417]

precision: 0.0132, elapsed time: 10 ms

## OUTER BOX 731

x in [0.5052182785697962 , 0.5184164060436094]

```
y in [-1.311855258748417 , -1.306775464481926]
```

precision: 0.0132, elapsed time: 10 ms

# OUTER BOX 732

x in [0.5052182785697962 , 0.5184164060436094]
y in [-1.306775464481926 , -1.301695670215435]

precision: 0.0132, elapsed time: 10 ms

## OUTER BOX 733

x in [0.5009047226602132 , 0.5229874216982568] y in [-1.301695670215435 , -1.291111853489622]

precision: 0.0221, elapsed time: 10 ms

#### INNER BOX 734

x in [0.5009047226602132 , 0.5229874216982568] y in [-1.291111853489622 , -1.280528036763809]

precision: 0.0221, elapsed time: 10 ms

## INNER BOX 735

x in [0.5009047226602132 , 0.5229874216982568] y in [-1.280528036763809 , -1.269944220037996]

precision: 0.0221, elapsed time: 10 ms

#### OUTER BOX 736

x in [0.5229874216982568 , 0.5450701207363005] y in [-1.296344596682879 , -1.287544471134585]

precision: 0.0221, elapsed time: 10 ms

## OUTER BOX 737

x in [0.5229874216982568 , 0.5450701207363005] y in [-1.287544471134585 , -1.27874434558629]

precision: 0.0221, elapsed time: 10 ms

x in [0.5229874216982568 , 0.5450701207363005]

y in [-1.27874434558629 , -1.269944220037996]

precision: 0.0221, elapsed time: 10 ms

#### OUTER BOX 739

x in [0.5400273555891008 , 0.5706300215725664]

y in [-1.269944220037996 , -1.259360403312183]

precision: 0.0306, elapsed time: 10 ms

## OUTER BOX 740

x in [0.5400273555891008 , 0.5706300215725664]

y in [-1.259360403312183 , -1.248776586586371]

precision: 0.0306, elapsed time: 10 ms

## OUTER BOX 741

x in [0.5400273555891008, 0.5706300215725664]

y in [-1.248776586586371 , -1.238192769860558]

precision: 0.0306, elapsed time: 10 ms

## INNER BOX 742

x in [0.5526792936579039 , 0.5668357589958268]

y in [-1.238192769860558 , -1.206441319683119]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 743

x in [0.5668357589958268 , 0.5809922243337498]

y in [-1.238192769860558 , -1.206441319683119]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 744

x in [0.5809922243337498 , 0.5951486896716727]

y in [-1.238192769860558 , -1.206441319683119]

```
precision: 0.0318, elapsed time: 10 ms
INNER BOX 745
  x in [0.5526792936579039 , 0.5698441780536725]
 y in [-1.206441319683119 , -1.174689869505681]
 precision: 0.0318, elapsed time: 10 ms
INNER BOX 746
 x in [0.5698441780536725 , 0.5870090624494411]
 y in [-1.206441319683119 , -1.174689869505681]
 precision: 0.0318, elapsed time: 10 ms
OUTER BOX 747
  x in [0.5870090624494411 , 0.6041739468452095]
 y in [-1.206441319683119 , -1.174689869505681]
 precision: 0.0318, elapsed time: 10 ms
OUTER BOX 748
 x in [0.6041739468452095 , 0.6108082953461385]
 y in [-1.194414479258797 , -1.191427013073671]
 precision: 0.00663, elapsed time: 10 ms
OUTER BOX 749
  x in [0.6041739468452095 , 0.6108082953461385]
 y in [-1.191427013073671 , -1.188439546888546]
 precision: 0.00663, elapsed time: 10 ms
OUTER BOX 750
  x in [0.6041739468452095 , 0.6108082953461385]
 y in [-1.188439546888546 , -1.18545208070342]
```

INNER BOX 751

x in [0.6041739468452095 , 0.6085712205944872]

precision: 0.00663, elapsed time: 10 ms

```
y in [-1.18545208070342 , -1.176489682148043]
```

precision: 0.00896, elapsed time: 10 ms

# OUTER BOX 752

x in [0.6085712205944872 , 0.6129684943437649] y in [-1.18545208070342 , -1.176489682148043]

precision: 0.00896, elapsed time: 10 ms

## OUTER BOX 753

x in [0.6129684943437649 , 0.6173657680930424] y in [-1.18545208070342 , -1.176489682148043]

precision: 0.00896, elapsed time: 10 ms

#### INNER BOX 754

x in [0.6041739468452095 , 0.6107317300343624] y in [-1.176489682148043 , -1.167527283592666]

precision: 0.00896, elapsed time: 10 ms

## INNER BOX 755

x in [0.6107317300343624 , 0.6172895132235153] y in [-1.176489682148043 , -1.167527283592666]

precision: 0.00896, elapsed time: 10 ms

#### OUTER BOX 756

x in [0.6172895132235153 , 0.6238472964126682] y in [-1.176489682148043 , -1.167527283592666]

precision: 0.00896, elapsed time: 10 ms

#### OUTER BOX 757

x in [0.6170643481947069 , 0.6299547495442043] y in [-1.167527283592666 , -1.158564885037288]

precision: 0.0129, elapsed time: 10 ms

#### INNER BOX 758

x in [0.6170643481947069 , 0.6299547495442043]

y in [-1.158564885037288 , -1.149602486481911]

precision: 0.0129, elapsed time: 10 ms

#### INNER BOX 759

x in [0.6170643481947069 , 0.6299547495442043]

y in [-1.149602486481911 , -1.140640087926534]

precision: 0.0129, elapsed time: 10 ms

## OUTER BOX 760

x in [0.6299547495442043 , 0.6428451508937016]

y in [-1.158985554024851 , -1.152870398658745]

precision: 0.0129, elapsed time: 10 ms

## OUTER BOX 761

x in [0.6299547495442043, 0.6428451508937016]

y in [-1.152870398658745 , -1.14675524329264]

precision: 0.0129, elapsed time: 10 ms

## OUTER BOX 762

x in [0.6299547495442043 , 0.6428451508937016]

y in [-1.14675524329264 , -1.140640087926534]

precision: 0.0129, elapsed time: 10 ms

## OUTER BOX 763

x in [0.6421851062272452 , 0.661190685918263]

y in [-1.140640087926534 , -1.131677689371157]

precision: 0.019, elapsed time: 10 ms

## OUTER BOX 764

x in [0.6421851062272452 , 0.661190685918263]

y in [-1.131677689371157 , -1.122715290815779]

```
precision: 0.019, elapsed time: 10 ms
OUTER BOX 765
  x in [0.6421851062272452 , 0.661190685918263]
 y in [-1.122715290815779 , -1.113752892260402]
 precision: 0.019, elapsed time: 10 ms
INNER BOX 766
 x in [0.6402890647697532 , 0.6523274374112679]
 y in [-1.113752892260402 , -1.08686569659427]
 precision: 0.0269, elapsed time: 10 ms
OUTER BOX 767
  x in [0.6523274374112679 , 0.6643658100527824]
 y in [-1.113752892260402 , -1.08686569659427]
 precision: 0.0269, elapsed time: 10 ms
OUTER BOX 768
 x in [0.6643658100527824 , 0.6764041826942969]
 y in [-1.113752892260402 , -1.08686569659427]
 precision: 0.0269, elapsed time: 10 ms
OUTER BOX 769
  x in [0.6764041826942969, 0.6887469050536619]
 y in [-1.090719494757963 , -1.084316362591746]
 precision: 0.0123, elapsed time: 10 ms
OUTER BOX 770
  x in [0.6764041826942969, 0.6887469050536619]
 y in [-1.084316362591746 , -1.077913230425529]
 precision: 0.0123, elapsed time: 10 ms
```

x in [0.6764041826942969, 0.6887469050536619]

```
y in [-1.077913230425529 , -1.071510098259311]

precision: 0.0123, elapsed time: 10 ms

INNER BOX 772

x in [0.6764041826942969 , 0.6845304962855763]
y in [-1.071510098259311 , -1.052300701760659]
```

precision: 0.0192, elapsed time: 10 ms

## OUTER BOX 773

x in [0.6845304962855763 , 0.6926568098768555]
y in [-1.071510098259311 , -1.052300701760659]

precision: 0.0192, elapsed time: 10 ms

#### OUTER BOX 774

x in [0.6926568098768555 , 0.7007831234681348] y in [-1.071510098259311 , -1.052300701760659]

precision: 0.0192, elapsed time: 10 ms

## INNER BOX 775

x in [0.6764041826942969 , 0.6884425553358116]
y in [-1.052300701760659 , -1.033091305262007]

precision: 0.0192, elapsed time: 10 ms

#### INNER BOX 776

x in [0.6884425553358116 , 0.7004809279773261] y in [-1.052300701760659 , -1.033091305262007]

precision: 0.0192, elapsed time: 10 ms

## OUTER BOX 777

x in [0.7004809279773261 , 0.7125193006188406] y in [-1.052300701760659 , -1.033091305262007]

precision: 0.0192, elapsed time: 10 ms

x in [0.7071632532198208 , 0.7284540172745042]

y in [-1.033091305262007 , -1.02412890670663]

precision: 0.0213, elapsed time: 10 ms

#### OUTER BOX 779

x in [0.7071632532198208 , 0.7284540172745042]

y in [-1.02412890670663, -1.015166508151253]

precision: 0.0213, elapsed time: 10 ms

## OUTER BOX 780

x in [0.7071632532198208 , 0.7284540172745042]

y in [-1.015166508151253 , -1.006204109595876]

precision: 0.0213, elapsed time: 10 ms

#### INNER BOX 781

x in [0.7071632532198208, 0.7193850542043088]

y in [-1.006204109595876 , -0.979316913929744]

precision: 0.0269, elapsed time: 10 ms

## OUTER BOX 782

x in [0.7193850542043088 , 0.7316068551887966]

y in [-1.006204109595876 , -0.979316913929744]

precision: 0.0269, elapsed time: 10 ms

## OUTER BOX 783

x in [0.7316068551887966 , 0.7438286561732845]

y in [-1.006204109595876 , -0.979316913929744]

precision: 0.0269, elapsed time: 10 ms

## INNER BOX 784

x in [0.7071632532198208 , 0.7243281376155893]

y in [-0.979316913929744 , -0.9524297182636123]

precision: 0.0269, elapsed time: 10 ms

#### INNER BOX 785

x in [0.7243281376155893 , 0.7414930220113579] y in [-0.979316913929744 , -0.9524297182636123]

precision: 0.0269, elapsed time: 10 ms

#### OUTER BOX 786

x in [0.7414930220113579 , 0.7586579064071264] y in [-0.979316913929744 , -0.9524297182636123]

precision: 0.0269, elapsed time: 10 ms

#### INNER BOX 787

x in [0.7282095045641773 , 0.7413413178578332]
y in [-0.9524297182636123 , -0.9206782680861739]

precision: 0.0318, elapsed time: 10 ms

## INNER BOX 788

x in [0.7413413178578332 , 0.754473131151489] y in [-0.9524297182636123 , -0.9206782680861739]

precision: 0.0318, elapsed time: 10 ms

#### OUTER BOX 789

x in [0.754473131151489 , 0.7676049444451447]
y in [-0.9524297182636123 , -0.9206782680861739]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 790

x in [0.7676049444451447 , 0.7812184738572603]
y in [-0.9357204499064221 , -0.9269932185536304]

precision: 0.0136, elapsed time: 10 ms

## OUTER BOX 791

x in [0.7676049444451447 , 0.7812184738572603]

y in [-0.9269932185536304 , -0.9182659872008387]

precision: 0.0136, elapsed time: 10 ms

# OUTER BOX 792

x in [0.7676049444451447, 0.7812184738572603] y in [-0.9182659872008387, -0.9095387558480471]

precision: 0.0136, elapsed time: 10 ms

## INNER BOX 793

x in [0.7676049444451447 , 0.7765188835452406]
y in [-0.9095387558480471 , -0.8833570617896721]

precision: 0.0262, elapsed time: 10 ms

#### OUTER BOX 794

x in [0.7765188835452406 , 0.7854328226453363] y in [-0.9095387558480471 , -0.8833570617896721]

precision: 0.0262, elapsed time: 10 ms

## OUTER BOX 795

x in [0.7854328226453363 , 0.7943467617454321] y in [-0.9095387558480471 , -0.8833570617896721]

precision: 0.0262, elapsed time: 10 ms

#### INNER BOX 796

x in [0.7676049444451447 , 0.7807367577388005] y in [-0.8833570617896721 , -0.8571753677312971]

precision: 0.0262, elapsed time: 10 ms

#### INNER BOX 797

x in [0.7807367577388005 , 0.7938685710324562] y in [-0.8833570617896721 , -0.8571753677312971]

precision: 0.0262, elapsed time: 10 ms

x in [0.7938685710324562 , 0.807000384326112]

y in [-0.8833570617896721 , -0.8571753677312971]

precision: 0.0262, elapsed time: 10 ms

#### OUTER BOX 799

x in [0.7957264351540504 , 0.8217231832334027]

y in [-0.8571753677312971 , -0.8465915510054842]

precision: 0.026, elapsed time: 10 ms

## OUTER BOX 800

x in [0.7957264351540504, 0.8217231832334027]

y in [-0.8465915510054842 , -0.8360077342796715]

precision: 0.026, elapsed time: 10 ms

## OUTER BOX 801

x in [0.7957264351540504, 0.8217231832334027]

y in [-0.8360077342796715 , -0.8254239175538587]

precision: 0.026, elapsed time: 10 ms

## INNER BOX 802

x in [0.7957264351540504 , 0.8090772426830132]

y in [-0.8254239175538587, -0.7936724673764203]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 803

x in [0.8090772426830132 , 0.822428050211976]

y in [-0.8254239175538587 , -0.7936724673764203]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 804

x in [0.822428050211976, 0.8357788577409386]

y in [-0.8254239175538587, -0.7936724673764203]

precision: 0.0318, elapsed time: 10 ms

#### INNER BOX 805

x in [0.7957264351540504, 0.8135451635658572] y in [-0.7936724673764203, -0.7619210171989819]

precision: 0.0318, elapsed time: 10 ms

#### INNER BOX 806

x in [0.8135451635658572 , 0.8313638919776639] y in [-0.7936724673764203 , -0.7619210171989819]

precision: 0.0318, elapsed time: 10 ms

#### OUTER BOX 807

x in [0.8313638919776639 , 0.8491826203894706]
y in [-0.7936724673764203 , -0.7619210171989819]

precision: 0.0318, elapsed time: 10 ms

## INNER BOX 808

x in [0.8200167436704879 , 0.8339940124960866]
y in [-0.7619210171989819 , -0.7301695670215435]

precision: 0.0318, elapsed time: 10 ms

#### INNER BOX 809

x in [0.8339940124960866 , 0.8479712813216853]
y in [-0.7619210171989819 , -0.7301695670215435]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 810

x in [0.8479712813216853 , 0.8619485501472839]
y in [-0.7619210171989819 , -0.7301695670215435]

precision: 0.0318, elapsed time: 10 ms

## INNER BOX 811

x in [0.8200167436704879 , 0.8380410562589072]

```
y in [-0.7301695670215435 , -0.698418116844105]
 precision: 0.0318, elapsed time: 10 ms
INNER BOX 812
 x in [0.8380410562589072, 0.8560653688473265]
 y in [-0.7301695670215435 , -0.698418116844105]
 precision: 0.0318, elapsed time: 10 ms
OUTER BOX 813
 x in [0.8560653688473265 , 0.8740896814357457]
 y in [-0.7301695670215435 , -0.698418116844105]
 precision: 0.0318, elapsed time: 10 ms
INNER BOX 814
 x in [0.8200167436704879 , 0.8418838568350343]
 y in [-0.698418116844105 , -0.666666666666667]
 precision: 0.0318, elapsed time: 10 ms
INNER BOX 815
 x in [0.8418838568350343 , 0.8637509699995807]
 y in [-0.698418116844105 , -0.666666666666667]
 precision: 0.0318, elapsed time: 10 ms
OUTER BOX 816
 x in [0.8637509699995807, 0.8856180831641269]
 y in [-0.698418116844105 , -0.666666666666667]
 precision: 0.0318, elapsed time: 10 ms
OUTER BOX 817
 x in [-0.9023565712847628 , -0.8775842731264076]
```

precision: 0.0248, elapsed time: 10 ms

x in [-0.9023565712847628 , -0.8775842731264076]

y in [-0.6502057613168725 , -0.6337448559670782]

precision: 0.0248, elapsed time: 10 ms

## OUTER BOX 819

x in [-0.9023565712847628 , -0.8775842731264076]

y in [-0.6337448559670782 , -0.617283950617284]

precision: 0.0248, elapsed time: 10 ms

## OUTER BOX 820

x in [-0.917677811254084 , -0.8775842731264076]

y in [-0.617283950617284 , -0.6008230452674898]

precision: 0.0401, elapsed time: 10 ms

## OUTER BOX 821

x in [-0.917677811254084 , -0.8775842731264076]

y in [-0.6008230452674898 , -0.5843621399176955]

precision: 0.0401, elapsed time: 10 ms

## OUTER BOX 822

x in [-0.917677811254084, -0.8775842731264076]

y in [-0.5843621399176955 , -0.5679012345679013]

precision: 0.0401, elapsed time: 10 ms

## OUTER BOX 823

x in [-0.9316155274674516 , -0.9136051093537703]

y in [-0.5679012345679013 , -0.5185185185185186]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 824

x in [-0.9136051093537703 , -0.8955946912400889]

y in [-0.5679012345679013 , -0.5185185185185186]

```
precision: 0.0494, elapsed time: 10 ms
INNER BOX 825
  x in [-0.8955946912400889 , -0.8775842731264076]
 y in [-0.5679012345679013 , -0.5185185185185186]
 precision: 0.0494, elapsed time: 10 ms
OUTER BOX 826
 x in [-0.9441994750646447 , -0.9001121102638202]
 y in [-0.5185185185185186 , -0.5020576131687243]
 precision: 0.0441, elapsed time: 10 ms
OUTER BOX 827
  x in [-0.9441994750646447 , -0.9001121102638202]
 y in [-0.5020576131687243 , -0.4855967078189301]
 precision: 0.0441, elapsed time: 10 ms
OUTER BOX 828
 x in [-0.9441994750646447 , -0.9001121102638202]
 y in [-0.4855967078189301 , -0.4691358024691359]
 precision: 0.0441, elapsed time: 10 ms
OUTER BOX 829
  x in [-0.9554557899479834 , -0.937007896719929]
 y in [-0.4691358024691359 , -0.4197530864197532]
 precision: 0.0494, elapsed time: 10 ms
INNER BOX 830
  x in [-0.937007896719929 , -0.9185600034918746]
 y in [-0.4691358024691359 , -0.4197530864197532]
 precision: 0.0494, elapsed time: 10 ms
INNER BOX 831
  x in [-0.9185600034918746 , -0.9001121102638202]
```

```
y in [-0.4691358024691359 , -0.4197530864197532] precision: 0.0494, elapsed time: 10 ms
```

x in [-0.9654072831735705 , -0.9436422255369871]
y in [-0.4197530864197532 , -0.3703703703705]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 833

x in [-0.9436422255369871 , -0.9218771679004036]
y in [-0.4197530864197532 , -0.3703703703703705]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 834

x in [-0.9218771679004036 , -0.9001121102638202]
y in [-0.4197530864197532 , -0.3703703703703705]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 835

x in [-0.97407368803029 , -0.9543550947361873]
y in [-0.3703703703703705 , -0.3209876543209877]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 836

x in [-0.9543550947361873 , -0.9346365014420847] y in [-0.3703703703705 , -0.3209876543209877]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 837

x in [-0.9346365014420847 , -0.914917908147982] y in [-0.3703703703705 , -0.3209876543209877]

precision: 0.0494, elapsed time: 10 ms

x in [-0.9814718664433464 , -0.9592872136782249]

y in [-0.3209876543209877 , -0.271604938271605]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 839

x in [-0.9592872136782249 , -0.9371025609131034]

y in [-0.3209876543209877 , -0.271604938271605]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 840

x in [-0.9371025609131034 , -0.914917908147982]

y in [-0.3209876543209877 , -0.271604938271605]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 841

x in [-0.9876159799998132 , -0.9633832893825361]

y in [-0.271604938271605 , -0.22222222222223]

precision: 0.0494, elapsed time: 10 ms

#### TNNER BOX 842

x in [-0.9633832893825361 , -0.9391505987652591]

y in [-0.271604938271605 , -0.2222222222222223]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 843

x in [-0.9391505987652591 , -0.914917908147982]

y in [-0.271604938271605, -0.2222222222223]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 844

x in [-0.9925176298105696 , -0.9700154589924633]

y in [-0.22222222222222 , -0.1728395061728396]

```
precision: 0.0494, elapsed time: 10 ms
INNER BOX 845
  x in [-0.9700154589924633 , -0.9475132881743572]
 y in [-0.22222222222222 , -0.1728395061728396]
 precision: 0.0494, elapsed time: 10 ms
INNER BOX 846
 x in [-0.9475132881743572 , -0.9250111173562511]
 y in [-0.22222222222222 , -0.1728395061728396]
 precision: 0.0494, elapsed time: 10 ms
OUTER BOX 847
  x in [-0.9961859685340975 , -0.972461018141482]
 y in [-0.1728395061728396 , -0.1234567901234569]
 precision: 0.0494, elapsed time: 10 ms
INNER BOX 848
 x in [-0.972461018141482 , -0.9487360677488665]
 y in [-0.1728395061728396 , -0.1234567901234569]
 precision: 0.0494, elapsed time: 10 ms
INNER BOX 849
  x in [-0.9487360677488665 , -0.9250111173562511]
 y in [-0.1728395061728396 , -0.1234567901234569]
 precision: 0.0494, elapsed time: 10 ms
OUTER BOX 850
  x in [-0.9986277871454878 , -0.9740888972157422]
 y in [-0.1234567901234569 , -0.07407407407407418]
 precision: 0.0494, elapsed time: 10 ms
```

INNER BOX 851

x in [-0.9740888972157422 , -0.9495500072859966]

```
y in [-0.1234567901234569 , -0.07407407407407418]
```

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 852

x in [-0.9495500072859966 , -0.9250111173562511] y in [-0.1234567901234569 , -0.07407407407407418]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 853

x in [-0.9998475784016383, -0.9752070275764008] y in [-0.07407407407407418, -0.02469135802469147]

precision: 0.0494, elapsed time: 10 ms

#### TNNER BOX 854

x in [-0.9752070275764008 , -0.9505664767511633]
y in [-0.07407407407418 , -0.02469135802469147]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 855

x in [-0.9505664767511633 , -0.9259259259259259]
y in [-0.07407407407418 , -0.02469135802469147]

precision: 0.0494, elapsed time: 10 ms

#### OUTER BOX 856

x in [-1 , -0.9753086419753086]

y in [-0.02469135802469147 , +0.02469135802469125]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 857

x in [-0.9753086419753086 , -0.9506172839506173]
y in [-0.02469135802469147 , +0.02469135802469125]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 858

x in [-0.9506172839506173 , -0.9259259259259259]

y in [-0.02469135802469147 , +0.02469135802469125]

precision: 0.0494, elapsed time: 10 ms

#### OUTER BOX 859

x in [-0.9998475784016383 , -0.9752070275764008]

y in [0.02469135802469125 , 0.07407407407407396]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 860

x in [-0.9752070275764008 , -0.9505664767511633]

y in [0.02469135802469125 , 0.07407407407407396]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 861

x in [-0.9505664767511633, -0.9259259259259259]

y in [0.02469135802469125 , 0.07407407407407396]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 862

x in [-0.9986277871454878, -0.9740888972157422]

y in [0.07407407407407396 , 0.1234567901234567]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 863

x in [-0.9740888972157422 , -0.9495500072859966]

y in [0.07407407407407396 , 0.1234567901234567]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 864

x in [-0.9495500072859966 , -0.9250111173562511]

y in [0.07407407407407396 , 0.1234567901234567]

precision: 0.0494, elapsed time: 10 ms

#### OUTER BOX 865

x in [-0.9961859685340977 , -0.9724610181414821] y in [0.1234567901234567 , 0.1728395061728394]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 866

x in [-0.9724610181414821 , -0.9487360677488665] y in [0.1234567901234567 , 0.1728395061728394]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 867

x in [-0.9487360677488665 , -0.9250111173562511]
y in [0.1234567901234567 , 0.1728395061728394]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 868

x in [-0.9925176298105696 , -0.9700154589924633]
y in [0.1728395061728394 , 0.22222222222222]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 869

x in [-0.9700154589924633 , -0.9475132881743572] y in [0.1728395061728394 , 0.22222222222222221]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 870

x in [-0.9475132881743572 , -0.9250111173562511]
y in [0.1728395061728394 , 0.22222222222222]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 871

x in [-0.9876159799998132 , -0.9633832893825361]

y in [0.22222222222221], 0.2716049382716048]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 872

x in [-0.9633832893825361 , -0.9391505987652591]
y in [0.222222222222221 , 0.2716049382716048]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 873

x in [-0.9391505987652591 , -0.914917908147982] y in [0.222222222222221 , 0.2716049382716048]

precision: 0.0494, elapsed time: 10 ms

#### OUTER BOX 874

x in [-0.9814718664433464 , -0.9592872136782249]
y in [0.2716049382716048 , 0.3209876543209875]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 875

x in [-0.9592872136782249 , -0.9371025609131034]
y in [0.2716049382716048 , 0.3209876543209875]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 876

x in [-0.9371025609131034 , -0.914917908147982] y in [0.2716049382716048 , 0.3209876543209875]

precision: 0.0494, elapsed time: 10 ms

#### OUTER BOX 877

x in [-0.97407368803029 , -0.9543550947361873] y in [0.3209876543209875 , 0.3703703703703702]

precision: 0.0494, elapsed time: 10 ms

x in [-0.9543550947361873 , -0.9346365014420847]

y in [0.3209876543209875 , 0.3703703703703702]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 879

x in [-0.9346365014420847 , -0.914917908147982]
y in [0.3209876543209875 , 0.3703703703703702]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 880

x in [-0.9654072831735705, -0.9436422255369871] y in [0.3703703703703702, 0.419753086419753]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 881

x in [-0.9436422255369871 , -0.9218771679004036] y in [0.3703703703703702 , 0.419753086419753]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 882

x in [-0.9218771679004036 , -0.9001121102638202]
y in [0.3703703703703702 , 0.419753086419753]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 883

x in [-0.9554557899479834 , -0.937007896719929]
y in [0.419753086419753 , 0.4691358024691357]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 884

x in [-0.937007896719929 , -0.9185600034918746] y in [0.419753086419753 , 0.4691358024691357]

#### INNER BOX 885

x in [-0.9185600034918746 , -0.9001121102638202] y in [0.419753086419753 , 0.4691358024691357]

precision: 0.0494, elapsed time: 10 ms

#### OUTER BOX 886

x in [-0.944199475064645 , -0.9001121102638202]
y in [0.4691358024691357 , 0.4855967078189299]

precision: 0.0441, elapsed time: 10 ms

#### OUTER BOX 887

x in [-0.944199475064645 , -0.9001121102638202] y in [0.4855967078189299 , 0.5020576131687242]

precision: 0.0441, elapsed time: 10 ms

## OUTER BOX 888

x in [-0.944199475064645 , -0.9001121102638202]
y in [0.5020576131687242 , 0.5185185185185184]

precision: 0.0441, elapsed time: 10 ms

#### OUTER BOX 889

x in [-0.9316155274674518, -0.9136051093537704] y in [0.5185185185185184, 0.5679012345679011]

precision: 0.0494, elapsed time: 10 ms

# INNER BOX 890

x in [-0.9136051093537704 , -0.8955946912400891]
y in [0.5185185185185184 , 0.5679012345679011]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 891

x in [-0.8955946912400891 , -0.8775842731264077]

```
y in [0.5185185185185184 , 0.5679012345679011]
```

# OUTER BOX 892

x in [-0.917677811254084 , -0.8775842731264077] y in [0.5679012345679011 , 0.5843621399176954]

precision: 0.0401, elapsed time: 10 ms

#### OUTER BOX 893

x in [-0.917677811254084 , -0.8775842731264077] y in [0.5843621399176954 , 0.6008230452674896]

precision: 0.0401, elapsed time: 10 ms

## OUTER BOX 894

x in [-0.917677811254084, -0.8775842731264077] y in [0.6008230452674896, 0.6172839506172838]

precision: 0.0401, elapsed time: 10 ms

## OUTER BOX 895

x in [-0.902356571284763 , -0.8775842731264077] y in [0.6172839506172838 , 0.6337448559670781]

precision: 0.0248, elapsed time: 10 ms

#### OUTER BOX 896

x in [-0.902356571284763 , -0.8775842731264077]
y in [0.6337448559670781 , 0.6502057613168724]

precision: 0.0248, elapsed time: 10 ms

# OUTER BOX 897

x in [-0.902356571284763 , -0.8775842731264077]
y in [0.6502057613168724 , 0.666666666666665]

precision: 0.0248, elapsed time: 10 ms

#### OUTER BOX 898

x in [0.8775842731264077 , 0.9023565712847628]

precision: 0.0248, elapsed time: 10 ms

#### OUTER BOX 899

x in [0.8775842731264077 , 0.9023565712847628]

y in [-0.6502057613168725 , -0.6337448559670782]

precision: 0.0248, elapsed time: 10 ms

## OUTER BOX 900

x in [0.8775842731264077 , 0.9023565712847628]

y in [-0.6337448559670782 , -0.617283950617284]

precision: 0.0248, elapsed time: 10 ms

## OUTER BOX 901

x in [0.8775842731264077, 0.917677811254084]

y in [-0.617283950617284 , -0.6008230452674898]

precision: 0.0401, elapsed time: 10 ms

## OUTER BOX 902

x in [0.8775842731264077 , 0.917677811254084]

y in [-0.6008230452674898 , -0.5843621399176955]

precision: 0.0401, elapsed time: 10 ms

## OUTER BOX 903

x in [0.8775842731264077 , 0.917677811254084]

y in [-0.5843621399176955 , -0.5679012345679013]

precision: 0.0401, elapsed time: 10 ms

## INNER BOX 904

x in [0.8775842731264077 , 0.8955946912400891]

y in [-0.5679012345679013 , -0.5185185185185186]

#### INNER BOX 905

x in [0.8955946912400891 , 0.9136051093537704] y in [-0.5679012345679013 , -0.5185185185186]

precision: 0.0494, elapsed time: 10 ms

#### OUTER BOX 906

x in [0.9136051093537704 , 0.9316155274674516] y in [-0.5679012345679013 , -0.5185185185186]

precision: 0.0494, elapsed time: 10 ms

#### OUTER BOX 907

x in [0.9001121102638203 , 0.9441994750646447] y in [-0.5185185185185186 , -0.5020576131687243]

precision: 0.0441, elapsed time: 10 ms

## OUTER BOX 908

x in [0.9001121102638203 , 0.9441994750646447]
y in [-0.5020576131687243 , -0.4855967078189301]

precision: 0.0441, elapsed time: 10 ms

#### OUTER BOX 909

x in [0.9001121102638203 , 0.9441994750646447]
y in [-0.4855967078189301 , -0.4691358024691359]

precision: 0.0441, elapsed time: 10 ms

# INNER BOX 910

x in [0.9001121102638203 , 0.9185600034918747] y in [-0.4691358024691359 , -0.4197530864197532]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 911

x in [0.9185600034918747 , 0.9370078967199291]

y in [-0.4691358024691359 , -0.4197530864197532]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 912

x in [0.9370078967199291 , 0.9554557899479834]
y in [-0.4691358024691359 , -0.4197530864197532]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 913

x in [0.9001121102638203 , 0.9218771679004037]
y in [-0.4197530864197532 , -0.3703703703703705]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 914

x in [0.9218771679004037, 0.9436422255369872] y in [-0.4197530864197532, -0.3703703703705]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 915

x in [0.9436422255369872 , 0.9654072831735705]
y in [-0.4197530864197532 , -0.3703703703703705]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 916

x in [0.9149179081479821 , 0.9346365014420848] y in [-0.3703703703705 , -0.3209876543209877]

precision: 0.0494, elapsed time: 10 ms

# INNER BOX 917

x in [0.9346365014420848 , 0.9543550947361874] y in [-0.3703703703705 , -0.3209876543209877]

precision: 0.0494, elapsed time: 10 ms

#### OUTER BOX 918

x in [0.9543550947361874 , 0.97407368803029]

y in [-0.3703703703703705 , -0.3209876543209877]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 919

x in [0.9149179081479821 , 0.9371025609131036]

y in [-0.3209876543209877 , -0.271604938271605]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 920

x in [0.9371025609131036, 0.959287213678225]

y in [-0.3209876543209877 , -0.271604938271605]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 921

x in [0.959287213678225 , 0.9814718664433464]

y in [-0.3209876543209877 , -0.271604938271605]

precision: 0.0494, elapsed time: 10 ms

# INNER BOX 922

x in [0.9149179081479821 , 0.9391505987652592]

y in [-0.271604938271605 , -0.22222222222223]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 923

x in [0.9391505987652592 , 0.9633832893825363]

y in [-0.271604938271605 , -0.22222222222223]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 924

x in [0.9633832893825363, 0.9876159799998132]

y in [-0.271604938271605 , -0.22222222222223]

#### INNER BOX 925

x in [0.9250111173562512 , 0.9475132881743573] y in [-0.222222222222222 , -0.1728395061728396]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 926

x in [0.9475132881743573 , 0.9700154589924634] y in [-0.22222222222222 , -0.1728395061728396]

precision: 0.0494, elapsed time: 10 ms

#### OUTER BOX 927

x in [0.9700154589924634 , 0.9925176298105696]
y in [-0.222222222222222 , -0.1728395061728396]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 928

x in [0.9250111173562512 , 0.9487360677488667] y in [-0.1728395061728396 , -0.1234567901234569]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 929

x in [0.9487360677488667 , 0.9724610181414821]
y in [-0.1728395061728396 , -0.1234567901234569]

precision: 0.0494, elapsed time: 10 ms

# OUTER BOX 930

x in [0.9724610181414821 , 0.9961859685340975]
y in [-0.1728395061728396 , -0.1234567901234569]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 931

x in [0.9250111173562512 , 0.9495500072859968]

y in [-0.1234567901234569 , -0.07407407407407418]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 932

x in [0.9495500072859968 , 0.9740888972157423]
y in [-0.1234567901234569 , -0.07407407407407418]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 933

x in [0.9740888972157423 , 0.9986277871454878]
y in [-0.1234567901234569 , -0.07407407407418]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 934

x in [0.9259259259259259 , 0.9505664767511635]
y in [-0.07407407407418 , -0.02469135802469147]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 935

x in [0.9505664767511635 , 0.9752070275764009]
y in [-0.07407407407407418 , -0.02469135802469147]

precision: 0.0494, elapsed time: 10 ms

#### OUTER BOX 936

x in [0.9752070275764009 , 0.9998475784016383] y in [-0.07407407407418 , -0.02469135802469147]

precision: 0.0494, elapsed time: 10 ms

# INNER BOX 937

x in [0.9259259259259259 , 0.9506172839506173]
y in [-0.02469135802469147 , +0.02469135802469125]

precision: 0.0494, elapsed time: 10 ms

x in [0.9506172839506173 , 0.9753086419753086]

y in [-0.02469135802469147 , +0.02469135802469125]

precision: 0.0494, elapsed time: 10 ms

#### OUTER BOX 939

x in [0.9753086419753086 , 1]

y in [-0.02469135802469147, +0.02469135802469125]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 940

x in [0.9259259259259259 , 0.9505664767511635]

y in [0.02469135802469125, 0.07407407407407396]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 941

x in [0.9505664767511635, 0.9752070275764009]

y in [0.02469135802469125 , 0.07407407407407396]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 942

x in [0.9752070275764009 , 0.9998475784016383]

y in [0.02469135802469125, 0.07407407407407396]

precision: 0.0494, elapsed time: 10 ms

# INNER BOX 943

x in [0.9250111173562512 , 0.9495500072859968]

y in [0.07407407407407396 , 0.1234567901234567]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 944

x in [0.9495500072859968 , 0.9740888972157423]

y in [0.07407407407407396 , 0.1234567901234567]

#### OUTER BOX 945

x in [0.9740888972157423 , 0.9986277871454878] y in [0.07407407407407396 , 0.1234567901234567]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 946

x in [0.9250111173562512 , 0.9487360677488668] y in [0.1234567901234567 , 0.1728395061728394]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 947

x in [0.9487360677488668 , 0.9724610181414822] y in [0.1234567901234567 , 0.1728395061728394]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 948

x in [0.9724610181414822 , 0.9961859685340977] y in [0.1234567901234567 , 0.1728395061728394]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 949

x in [0.9250111173562512, 0.9475132881743573] y in [0.1728395061728394, 0.22222222222222221]

precision: 0.0494, elapsed time: 10 ms

# INNER BOX 950

x in [0.9475132881743573 , 0.9700154589924634]
y in [0.1728395061728394 , 0.222222222222222]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 951

x in [0.9700154589924634 , 0.9925176298105696]

y in [0.1728395061728394 , 0.22222222222221]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 952

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 953

x in [0.9391505987652592 , 0.9633832893825363] y in [0.222222222222221 , 0.2716049382716048]

precision: 0.0494, elapsed time: 10 ms

#### OUTER BOX 954

x in [0.9633832893825363 , 0.9876159799998132] y in [0.222222222222221 , 0.2716049382716048]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 955

x in [0.9149179081479821 , 0.9371025609131036] y in [0.2716049382716048 , 0.3209876543209875]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 956

x in [0.9371025609131036 , 0.959287213678225] y in [0.2716049382716048 , 0.3209876543209875]

precision: 0.0494, elapsed time: 10 ms

# OUTER BOX 957

x in [0.959287213678225 , 0.9814718664433464] y in [0.2716049382716048 , 0.3209876543209875]

precision: 0.0494, elapsed time: 10 ms

x in [0.9149179081479821 , 0.9346365014420848]

y in [0.3209876543209875 , 0.3703703703703702]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 959

x in [0.9346365014420848 , 0.9543550947361874]

y in [0.3209876543209875, 0.3703703703703702]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 960

x in [0.9543550947361874 , 0.97407368803029]

y in [0.3209876543209875 , 0.3703703703703702]

precision: 0.0494, elapsed time: 10 ms

#### INNER BOX 961

x in [0.9001121102638203, 0.9218771679004037]

y in [0.3703703703703702 , 0.419753086419753]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 962

x in [0.9218771679004037 , 0.9436422255369872]

y in [0.3703703703702, 0.419753086419753]

precision: 0.0494, elapsed time: 10 ms

# OUTER BOX 963

x in [0.9436422255369872 , 0.9654072831735705]

y in [0.3703703703703702 , 0.419753086419753]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 964

x in [0.9001121102638203 , 0.9185600034918747]

y in [0.419753086419753 , 0.4691358024691357]

#### INNER BOX 965

x in [0.9185600034918747 , 0.9370078967199291]
y in [0.419753086419753 , 0.4691358024691357]

precision: 0.0494, elapsed time: 10 ms

## OUTER BOX 966

x in [0.9370078967199291 , 0.9554557899479834] y in [0.419753086419753 , 0.4691358024691357]

precision: 0.0494, elapsed time: 10 ms

#### OUTER BOX 967

x in [0.9001121102638203 , 0.944199475064645]
y in [0.4691358024691357 , 0.4855967078189299]

precision: 0.0441, elapsed time: 10 ms

## OUTER BOX 968

x in [0.9001121102638203 , 0.944199475064645]
y in [0.4855967078189299 , 0.5020576131687242]

precision: 0.0441, elapsed time: 10 ms

#### OUTER BOX 969

x in [0.9001121102638203 , 0.944199475064645]
y in [0.5020576131687242 , 0.5185185185185184]

precision: 0.0441, elapsed time: 10 ms

# INNER BOX 970

x in [0.8775842731264079 , 0.8955946912400892]
y in [0.5185185185185184 , 0.5679012345679011]

precision: 0.0494, elapsed time: 10 ms

## INNER BOX 971

x in [0.8955946912400892 , 0.9136051093537705]

```
y in [0.5185185185185184 , 0.5679012345679011]
```

# OUTER BOX 972

x in [0.9136051093537705 , 0.9316155274674518] y in [0.5185185185185184 , 0.5679012345679011]

precision: 0.0494, elapsed time: 10 ms

#### OUTER BOX 973

x in [0.8775842731264079 , 0.917677811254084] y in [0.5679012345679011 , 0.5843621399176954]

precision: 0.0401, elapsed time: 10 ms

#### OUTER BOX 974

x in [0.8775842731264079 , 0.917677811254084] y in [0.5843621399176954 , 0.6008230452674896]

precision: 0.0401, elapsed time: 10 ms

## OUTER BOX 975

x in [0.8775842731264079 , 0.917677811254084] y in [0.6008230452674896 , 0.6172839506172838]

precision: 0.0401, elapsed time: 10 ms

#### OUTER BOX 976

x in [0.8775842731264079 , 0.902356571284763] y in [0.6172839506172838 , 0.6337448559670781]

precision: 0.0248, elapsed time: 10 ms

# OUTER BOX 977

x in [0.8775842731264079 , 0.902356571284763] y in [0.6337448559670781 , 0.6502057613168724]

precision: 0.0248, elapsed time: 10 ms

#### OUTER BOX 978

x in [0.8775842731264079 , 0.902356571284763]

y in [0.6502057613168724, 0.666666666666665]

precision: 0.0248, elapsed time: 10 ms

#### OUTER BOX 979

x in [-0.8856180831641269 , -0.8637509699995806]

y in [0.666666666666665, 0.698418116844105]

precision: 0.0318, elapsed time: 10 ms

## INNER BOX 980

x in [-0.8637509699995806 , -0.8418838568350342]

y in [0.6666666666666665, 0.698418116844105]

precision: 0.0318, elapsed time: 10 ms

## INNER BOX 981

x in [-0.8418838568350342 , -0.8200167436704878]

y in [0.66666666666666665, 0.698418116844105]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 982

x in [-0.8740896814357457 , -0.8560653688473264]

y in [0.698418116844105 , 0.7301695670215435]

precision: 0.0318, elapsed time: 10 ms

# INNER BOX 983

x in [-0.8560653688473264 , -0.8380410562589071]

y in [0.698418116844105, 0.7301695670215435]

precision: 0.0318, elapsed time: 10 ms

## INNER BOX 984

x in [-0.8380410562589071 , -0.8200167436704878]

y in [0.698418116844105 , 0.7301695670215435]

#### OUTER BOX 985

x in [-0.8619485501472839 , -0.8479712813216852] y in [0.7301695670215435 , 0.7619210171989819]

precision: 0.0318, elapsed time: 10 ms

#### INNER BOX 986

x in [-0.8479712813216852 , -0.8339940124960865]
y in [0.7301695670215435 , 0.7619210171989819]

precision: 0.0318, elapsed time: 10 ms

## INNER BOX 987

x in [-0.8339940124960865 , -0.8200167436704878]
y in [0.7301695670215435 , 0.7619210171989819]

precision: 0.0318, elapsed time: 10 ms

#### OUTER BOX 988

x in [-0.8491826203894706 , -0.8313638919776638]
y in [0.7619210171989819 , 0.7936724673764204]

precision: 0.0318, elapsed time: 10 ms

#### INNER BOX 989

x in [-0.8313638919776638 , -0.813545163565857]
y in [0.7619210171989819 , 0.7936724673764204]

precision: 0.0318, elapsed time: 10 ms

# INNER BOX 990

x in [-0.813545163565857 , -0.7957264351540503]
y in [0.7619210171989819 , 0.7936724673764204]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 991

x in [-0.8357788577409386 , -0.8224280502119758]

y in [0.7936724673764204 , 0.8254239175538588]

precision: 0.0318, elapsed time: 10 ms

# OUTER BOX 992

x in [-0.8224280502119758 , -0.8090772426830131] y in [0.7936724673764204 , 0.8254239175538588]

precision: 0.0318, elapsed time: 10 ms

## INNER BOX 993

x in [-0.8090772426830131 , -0.7957264351540503]
y in [0.7936724673764204 , 0.8254239175538588]

precision: 0.0318, elapsed time: 10 ms

## OUTER BOX 994

x in [-0.8217231832334027, -0.7957264351540503] y in [0.8254239175538588, 0.8360077342796717]

precision: 0.026, elapsed time: 10 ms

## OUTER BOX 995

x in [-0.8217231832334027 , -0.7957264351540503]
y in [0.8360077342796717 , 0.8465915510054844]

precision: 0.026, elapsed time: 10 ms

#### OUTER BOX 996

x in [-0.8217231832334027 , -0.7957264351540503]
y in [0.8465915510054844 , 0.8571753677312972]

precision: 0.026, elapsed time: 10 ms

## OUTER BOX 997

x in [-0.8070003843261118 , -0.7938685710324559]
y in [0.8571753677312972 , 0.8833570617896725]

precision: 0.0262, elapsed time: 10 ms

x in [-0.7938685710324559 , -0.7807367577388001] y in [0.8571753677312972 , 0.8833570617896725]

precision: 0.0262, elapsed time: 10 ms

# INNER BOX 999

x in [-0.7807367577388001 , -0.7676049444451444] y in [0.8571753677312972 , 0.8833570617896725]

precision: 0.0262, elapsed time: 10 ms

# END OF SOLVING

Property: reliable process (no solution is lost)

Elapsed time: 10 ms

# Bibliographie

- [cho99] Librairie CHOCO, 1999.
- [C.J02] C.Jermann. Résolution de contraintes géométriques par rigidification récursive et propagation d'intervalles. PhD thesis, Université de Nice-SOPHIA ANTIPOLIS UFR SCIENCES, Decembre 2002.
- [F.G00] F.Goualard. Langage et environnements en programmation par contraintes d'intervalles. PhD thesis, Université de Nantes, Juillet 2000.
- [GB06] L. Granvilliers and F. Benhamou. Algorithm 852: Realpaver: an Interval Solver using Constraint Satisfaction Techniques, 2006.
- [ort11] Google or-tools, 2011.
- [Sch03] Hermann Schichl. Mathematical Modeling and Global Optimization. PhD thesis, University of Vienna, November 2003.
- [Wik] Wikipédia. Conditionnement d'une matrice.