

Приложение 1. Тесты.

```
>> Miss! Step: 0, pos_i = -30.000000, pos_j = -4.000000, l = 12.000000
Miss! Step: 1, pos_i = 24.000000, pos_j = 0.000000, l = 3.000000
Miss! Step: 2, pos_i = 1.000000, pos_j = 0.000000, l = 9.000000
Hit 0! Step: 3, pos_i = -12.000000, pos_j = 1.000000, l = 0.000000
Miss! Step: 4, pos_i = -7.000000, pos_j = 15.000000, l = -1.000000
Miss! Step: 5, pos_i = -11.000000, pos_j = 15.000000, l = 1.000000
Miss! Step: 6, pos_i = -3.000000, pos_j = 16.000000, l = -2.000000
Miss! Step: 7, pos_i = -15.000000, pos_j = 16.000000, l = 2.000000
Miss! Step: 8, pos_i = 3.000000, pos_j = 22.000000, l = 4.000000
Miss! Step: 9, pos_i = -17.000000, pos_j = 18.000000, l = 12.000000
Miss! Step: 10, pos_i = 10.000000, pos_j = 26.000000, l = -4.000000
Miss! Step: 11, pos_i = 0.000000, pos_j = 26.000000, l = 12.000000
Miss! Step: 12, pos_i = -5.000000, pos_j = 14.000000, l = 2.000000
Miss! Step: 13, pos_i = -9.000000, pos_j = 17.000000, l = 3.000000
Miss! Step: 14, pos_i = -2.000000, pos_j = 22.000000, l = 6.000000
Miss! Step: 15, pos_i = -12.000000, pos_j = 16.000000, l = 9.000000
Miss! Step: 16, pos_i = 5.000000, pos_j = 27.000000, l = 1.000000
Miss! Step: 17, pos_i = -9.000000, pos_j = 26.000000, l = -9.000000
Miss! Step: 18, pos_i = -14.000000, pos_j = 26.000000, l = -7.000000
Hit 1! Step: 19, pos_i = -12.000000, pos_j = 2.000000, l = 2.000000
Miss! Step: 20, pos_i = -5.000000, pos_j = 1.000000, l = 2.000000
Miss! Step: 21, pos_i = -12.000000, pos_j = 25.000000, l = 3.000000
Miss! Step: 22, pos_i = -1.000000, pos_j = 3.000000, l = 6.000000
Miss! Step: 23, pos_i = -10.000000, pos_j = 23.000000, l = 13.000000
Miss! Step: 24, pos_i = 6.000000, pos_j = 3.000000, l = -14.000000
Miss! Step: 25, pos_i = 0.000000, pos_j = 18.000000, l = 10.000000
Miss! Step: 26, pos_i = -5.000000, pos_j = 25.000000, l = -18.000000
Miss! Step: 27, pos_i = -2.000000, pos_j = 1.000000, l = -21.000000
Miss! Step: 28, pos_i = 0.000000, pos_j = 29.000000, l = 0.000000
Miss! Step: 29, pos_i = -12.000000, pos_j = 29.000000, l = 0.000000
Miss! Step: 30, pos_i = 1.000000, pos_j = 11.000000, l = -29.000000
Miss! Step: 31, pos_i = 11.000000, pos_j = 29.000000, l = -10.000000
Miss! Step: 32, pos_i = 2.000000, pos_j = 29.000000, l = -29.000000
Miss! Step: 33, pos_i = 14.000000, pos_j = 0.000000, l = -28.000000
Miss! Step: 34, pos_i = 22.000000, pos_j = 19.000000, l = -10.000000
Miss! Step: 35, pos_i = 16.000000, pos_j = 19.000000, l = -22.000000
Miss! Step: 36, pos_i = 21.000000, pos_j = 19.000000, l = -15.000000
Miss! Step: 37, pos_i = 17.000000, pos_j = 19.000000, l = -16.000000
Miss! Step: 38, pos_i = 14.000000, pos_j = 20.000000, l = -3.000000
Miss! Step: 39, pos_i = -3.000000, pos_j = 24.000000, l = -11.000000
Miss! Step: 40, pos_i = -8.000000, pos_j = 12.000000, l = -23.000000
Miss! Step: 41, pos_i = -3.000000, pos_j = 18.000000, l = -3.000000
Miss! Step: 42, pos_i = -12.000000, pos_j = 14.000000, l = -9.000000
Miss! Step: 43, pos_i = -14.000000, pos_j = 24.000000, l = -13.000000
Miss! Step: 44, pos_i = -19.000000, pos_j = 27.000000, l = -15.000000
Miss! Step: 45, pos_i = -9.000000, pos_j = 3.000000, l = -22.000000
Miss! Step: 46, pos_i = -4.000000, pos_j = 24.000000, l = 1.000000
Miss! Step: 47, pos_i = -11.000000, pos_j = 20.000000, l = -23.000000
Miss! Step: 48, pos_i = -8.000000, pos_j = 28.000000, l = -11.000000
Miss! Step: 49, pos_i = -10.000000, pos_j = 26.000000, l = -27.000000
Miss! Step: 50, pos_i = -1.000000, pos_j = 29.000000, l = -17.000000
The end! Total hits: 2, Step: 50, EXIT: pos_i = -1.000000, pos_j = 29.000000, l = -17.000000
```

Приложение 1. Код.

```
#include <stdio.h>
#include <math.h>

double Const1 = 10, Const2 = 20;

int isPointInArea(double i, double j) {
    if (i + j + Const1 <= 0 && i + j + Const2 >= 0) {
        return 1;
    }
    return 0;
}

double min(double a, double b) {
    if(a > b) {
        return b;
    }
    return a;
}

double max(double a, double b) {
    if(a > b) {
        return a;
    }
    return b;
}

int mod(int a, int b) {
    if(a >= 0) {
        return a % b;
    }
    return a % b + b;
}

int sign(double a) {
    if(a >= 0) {
        return 1;
    }
    return -1;
}

int main() {
    double i = -30, j = -4, l = 12;
    int k = 0, max_k = 50, count = 0;

    while (k <= max_k) {
        if (isPointInArea(i, j)) {
            printf("Hit %d! ", count);
            count += 1;
        } else {
            printf("Miss! ");
        }
        printf("Step: %d, pos_i = %f, pos_j = %f, l = %f\n", k, i, j, l);

        if (k == max_k) {
            break;
        }
    }
}
```

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    }

    double iOld = i, jOld = j;
    i = fabs(iOld - 1) + min(mod(jOld, 10), mod(1 + k, 10)) - 20;
    j = mod(max(k - iOld, min(jOld, max(iOld - 1, jOld - 1))), 30);
    l = mod(pow(1, 2), 20) - mod(max(iOld, jOld), k + 1);
    k += 1;
}

if (count == 0) {
    printf("Missed due to formula!\n");
}

printf("The end! Total hits: %d, Step: %d, EXIT: pos_i = %f, pos_j = %f, l = %f\n", count, k, i, j, l);

return 0;
}

```