

Validation vs. Estimation

Welcome and thank you for your interest in participating in this study!

The purpose of the study is to investigate the perception of the average height of points in a scatterplot.

The study consists of 50 trials and takes about 15-20 minutes to complete.

There are 123 questions in this survey.

General information about yourself.

Please remove any environmental factors that may interfere with participation, e.g. please close all other applications and browser windows.

Please answer as accurate as possible.

You can stop the study at an time at your request. In this case, your data will be deleted and not included in the evaluation.

Please write your answer here:

The visualizations used in this study require sufficient screen space of 13" or more. It is therefore recommended that you conduct the study on a sufficiently large display.

Please also disable the dark mode of your device if used.

Have you followed the instructions? *

Please choose **only one** of the following:

- yes
- no
- partial

Please specify your gender. *

Please choose **only one** of the following:

- male
- female
- diverse
- prefer not to say

Other

How old are you? *

Please choose **only one** of the following:

- <20
- 20-29
- 30-39
- 40-49
- 50-60
- >60
- prefer not to say

What is the highest degree or level of school you have completed? *

Please choose **only one** of the following:

- no schooling completed
- nursery school to 8th grade
- high school graduate, diploma or the equivalent
- trade/technical/vocational training
- bachelor's degree
- master's degree
- doctorate degree
- prefer not to say
- Other

How familiar are you with statistical model estimation?
(E.g. with the estimation of an average or regression analysis.) *

Please choose **only one** of the following:

- 1- not at all familiar
- 2 - slightly familiar
- 3 - somewhat familiar
- 4 - moderately familiar
- 5 - extremely familiar

{if(random>0,random,rand(1,2))} *

The following question serves as an introduction to the study and is intended to help understand the task design.

Since there is no time tracking here yet, you can take your time to familiarize yourself with the task type and input options. The training is only for learning the user interface of the tasks and does not provide feedback on the correctness.

In the study, there will be no option to return to a previous question once a response has been submitted (via the Next-Button below the pictures).

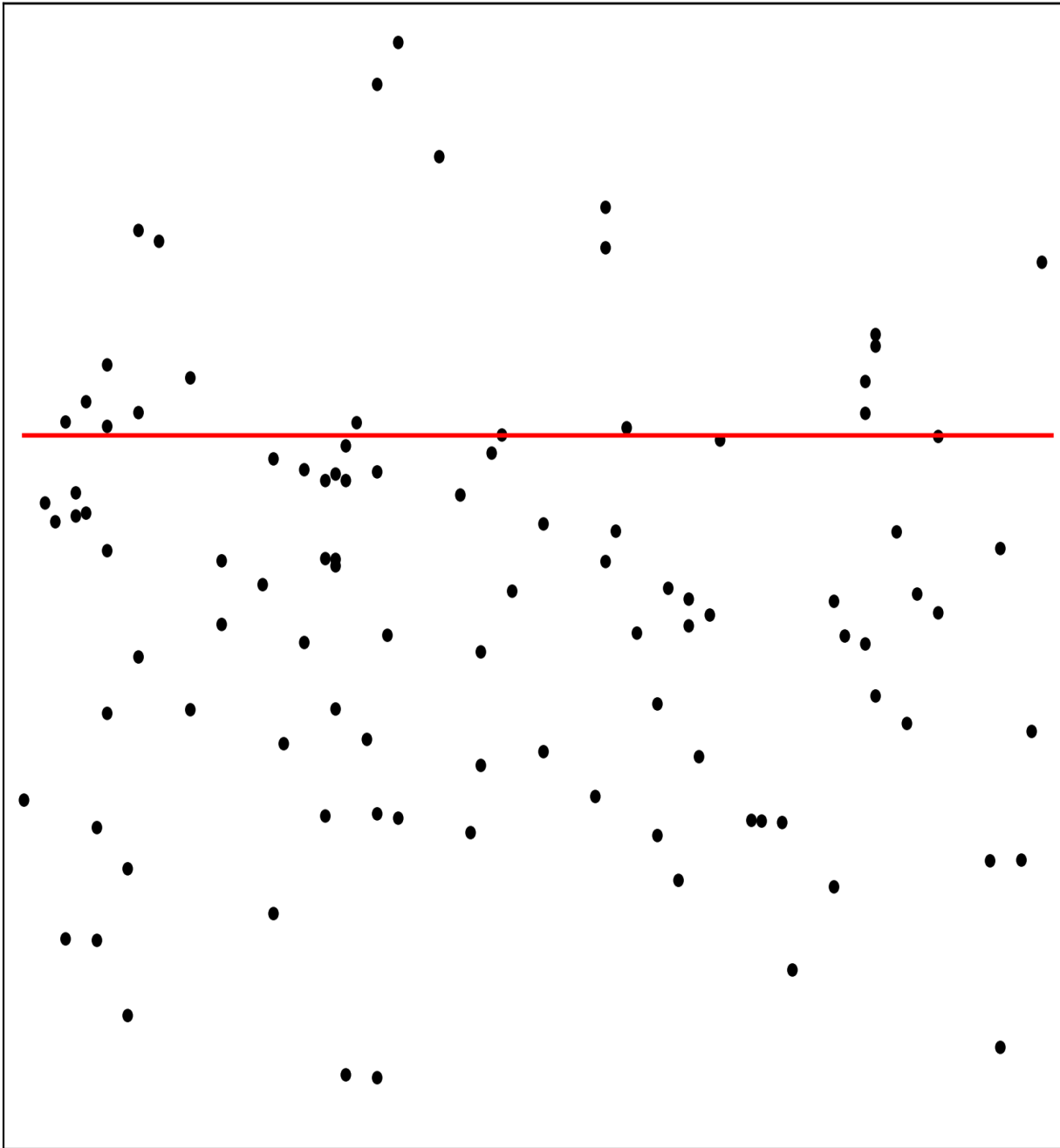
Validation

Training

In each of the questions in this study, you are shown a scatterplot in which a red line is drawn.

You are now asked to validate the line in comparison with the average height of the points in the scatterplot. So you have to indicate whether the line is higher, lower, or approximately equal to the average height of the dots. Submit your answer by clicking the Next-Button below the picture.

How does the drawn line relate to the average height of the scatterplot?



*

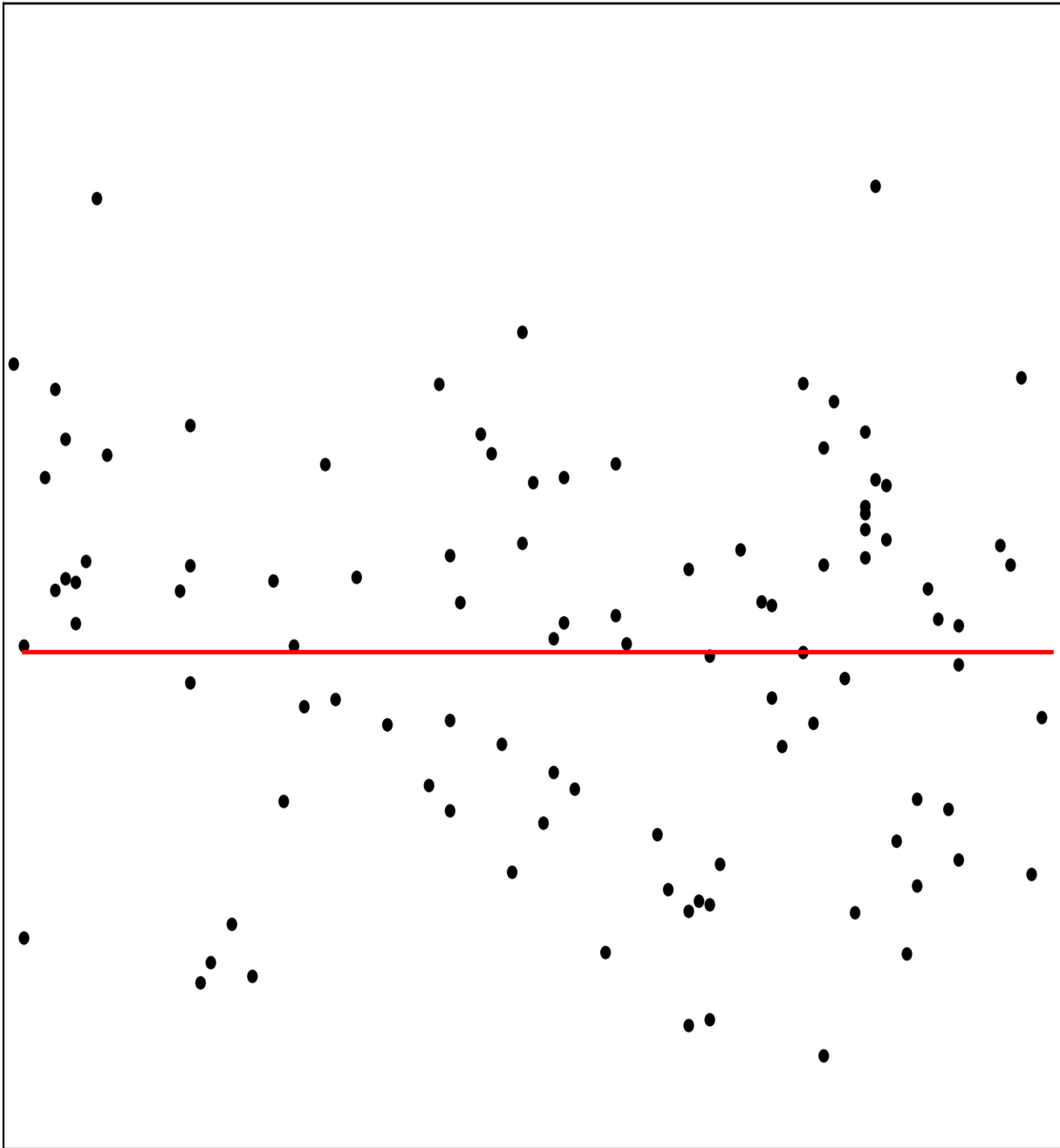
Please choose **only one** of the following:

- Too high
- Too low
- About the same
- I don't know

The training is over now.

The actual study begins on the next page.

How does the drawn line relate to the average height of the scatterplot?

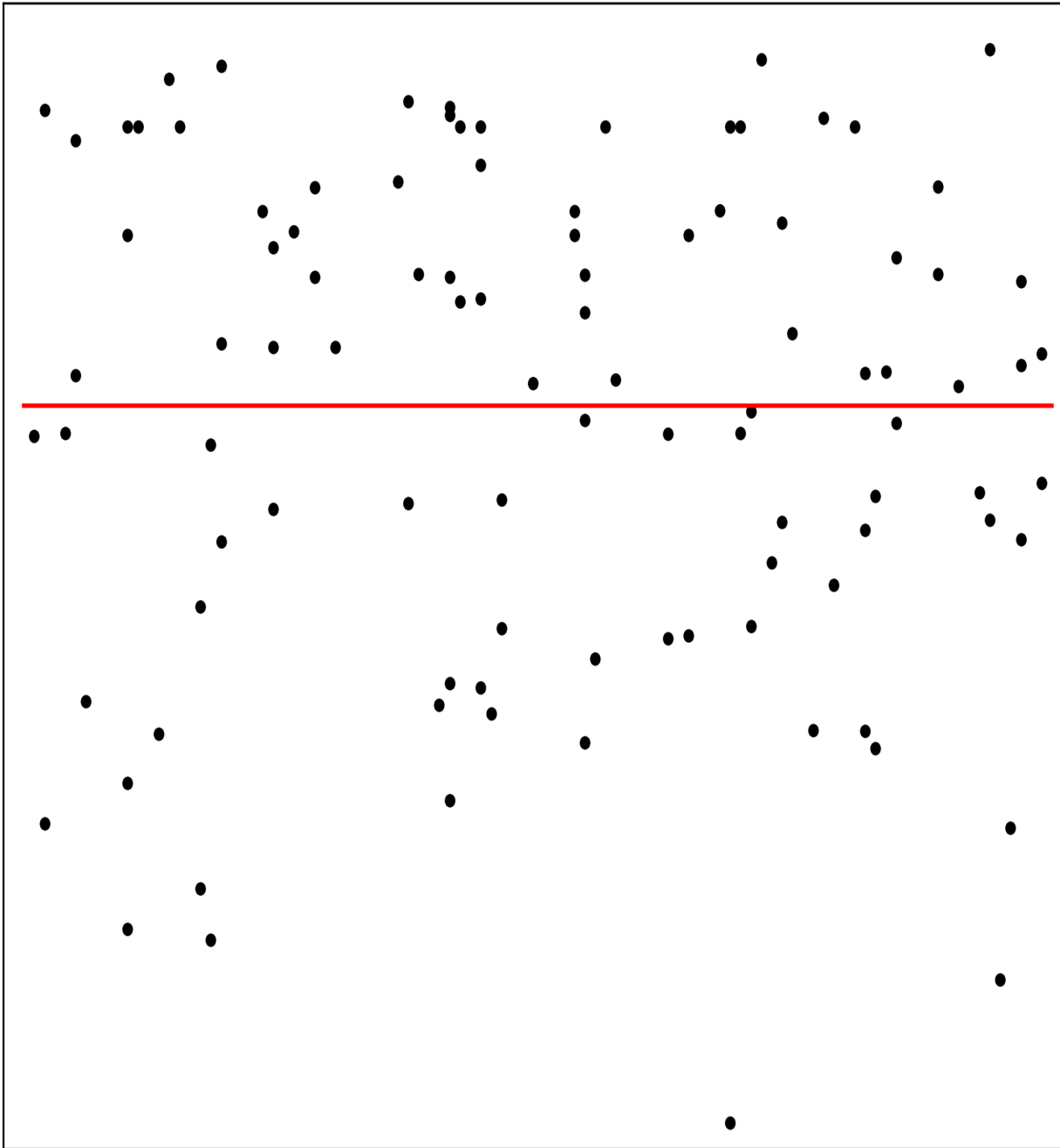


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Please choose **only one** of the following:

- Too high
- Too low
- About the same
- I don't know

How does the drawn line relate to the average height of the scatterplot?

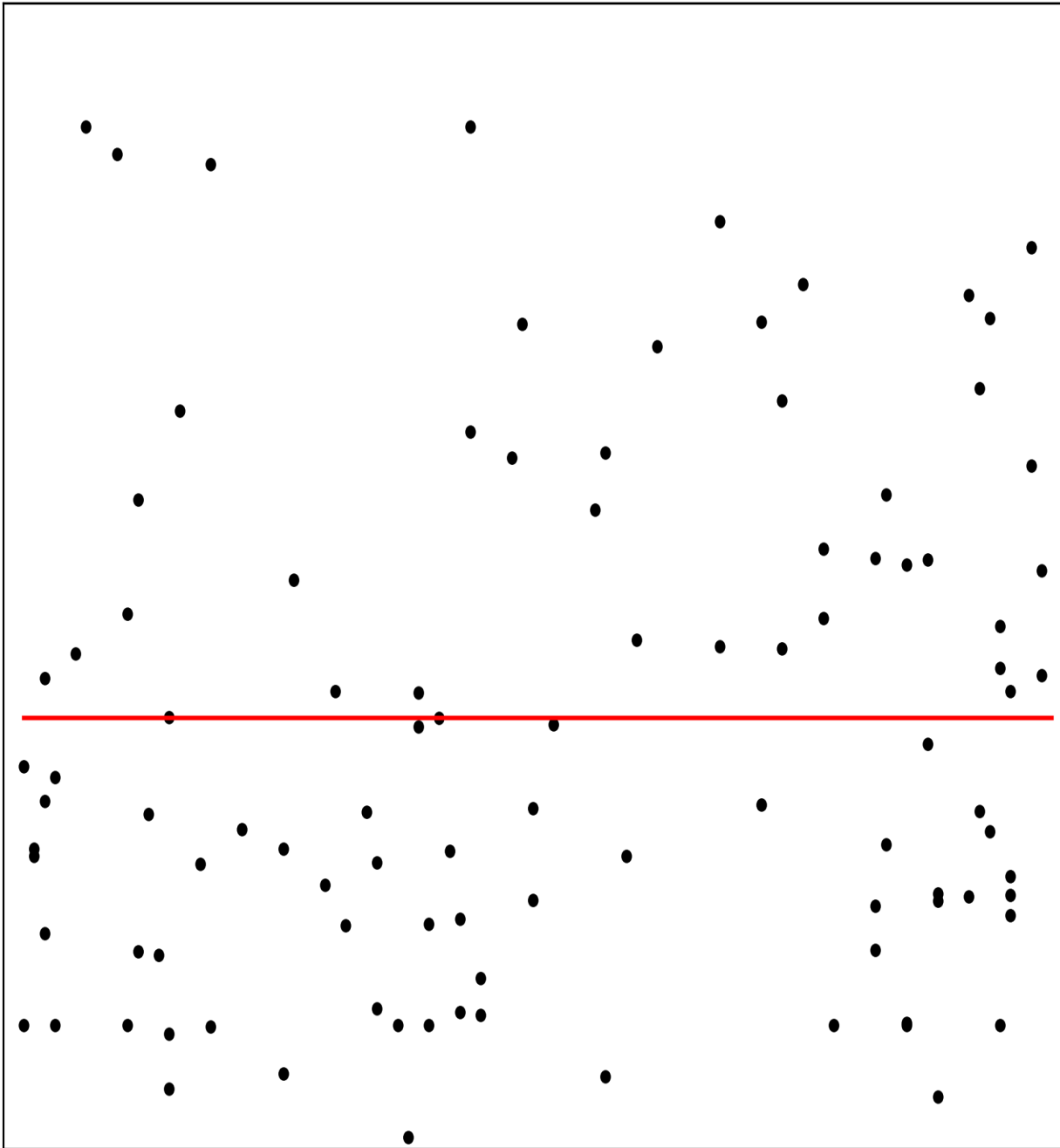


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Please choose **only one** of the following:

- Too high
- Too low
- About the same
- I don't know

How does the drawn line relate to the average height of the scatterplot?

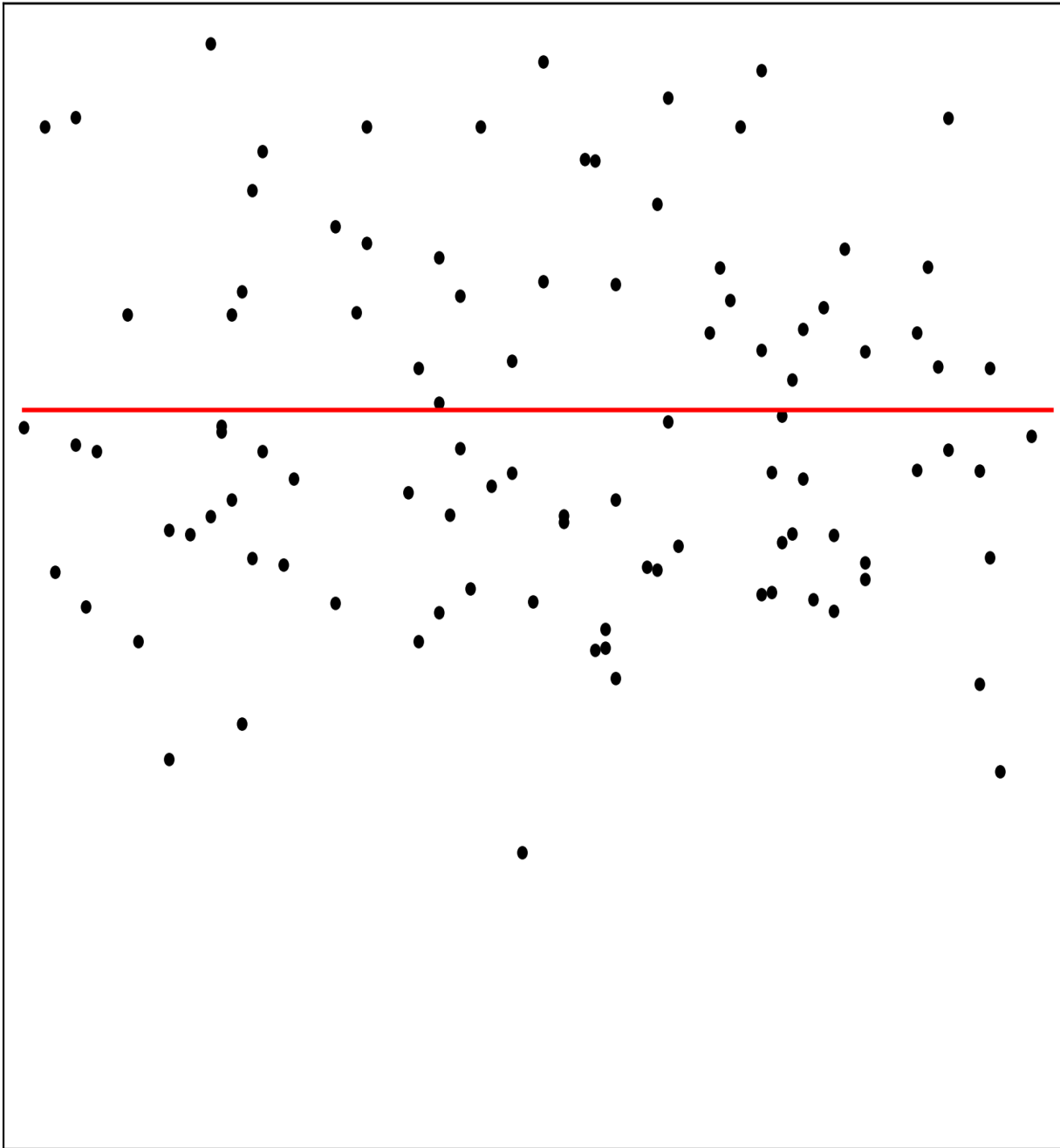


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How does the drawn line relate to the average height of the scatterplot?

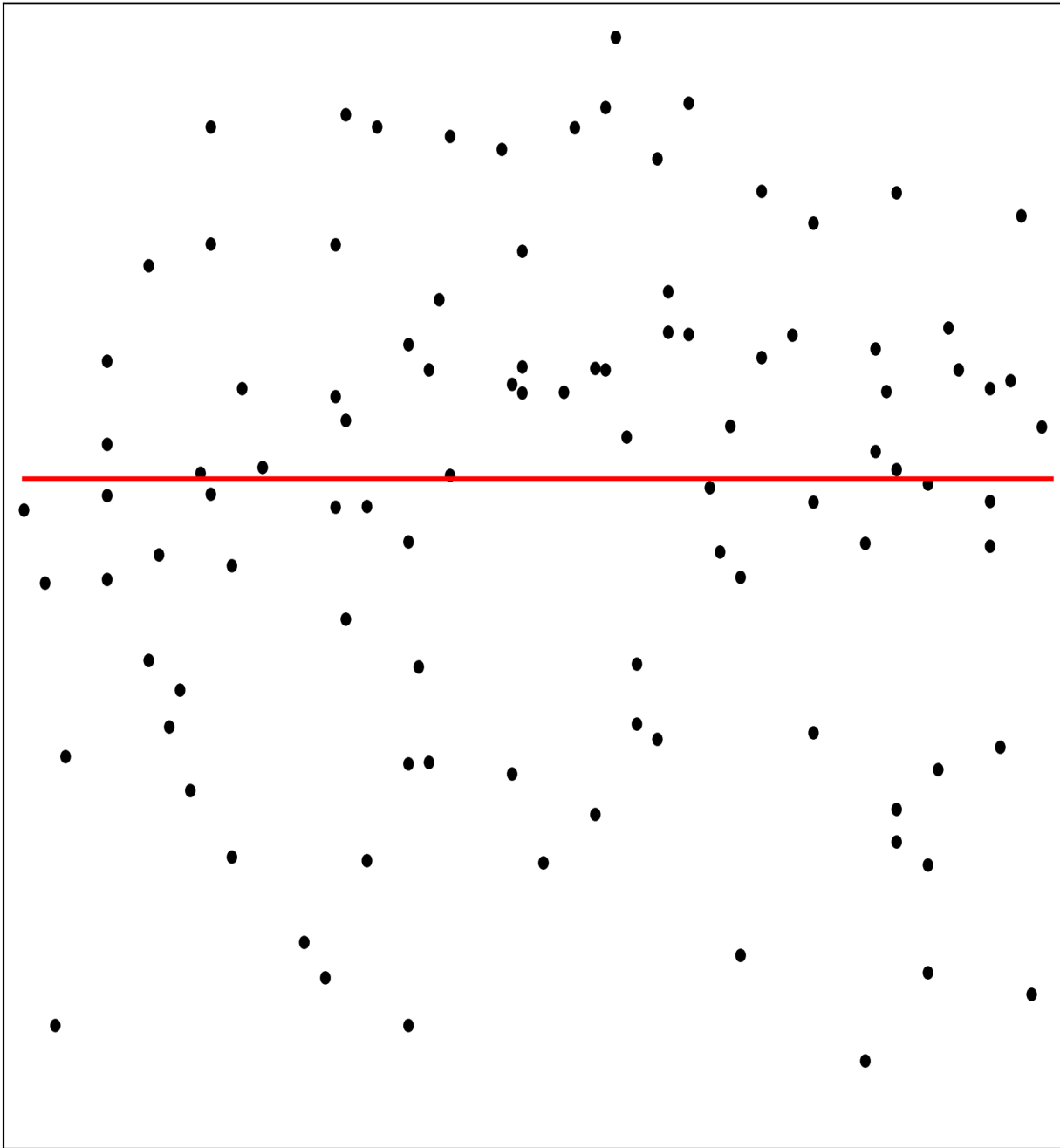


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How does the drawn line relate to the average height of the scatterplot?

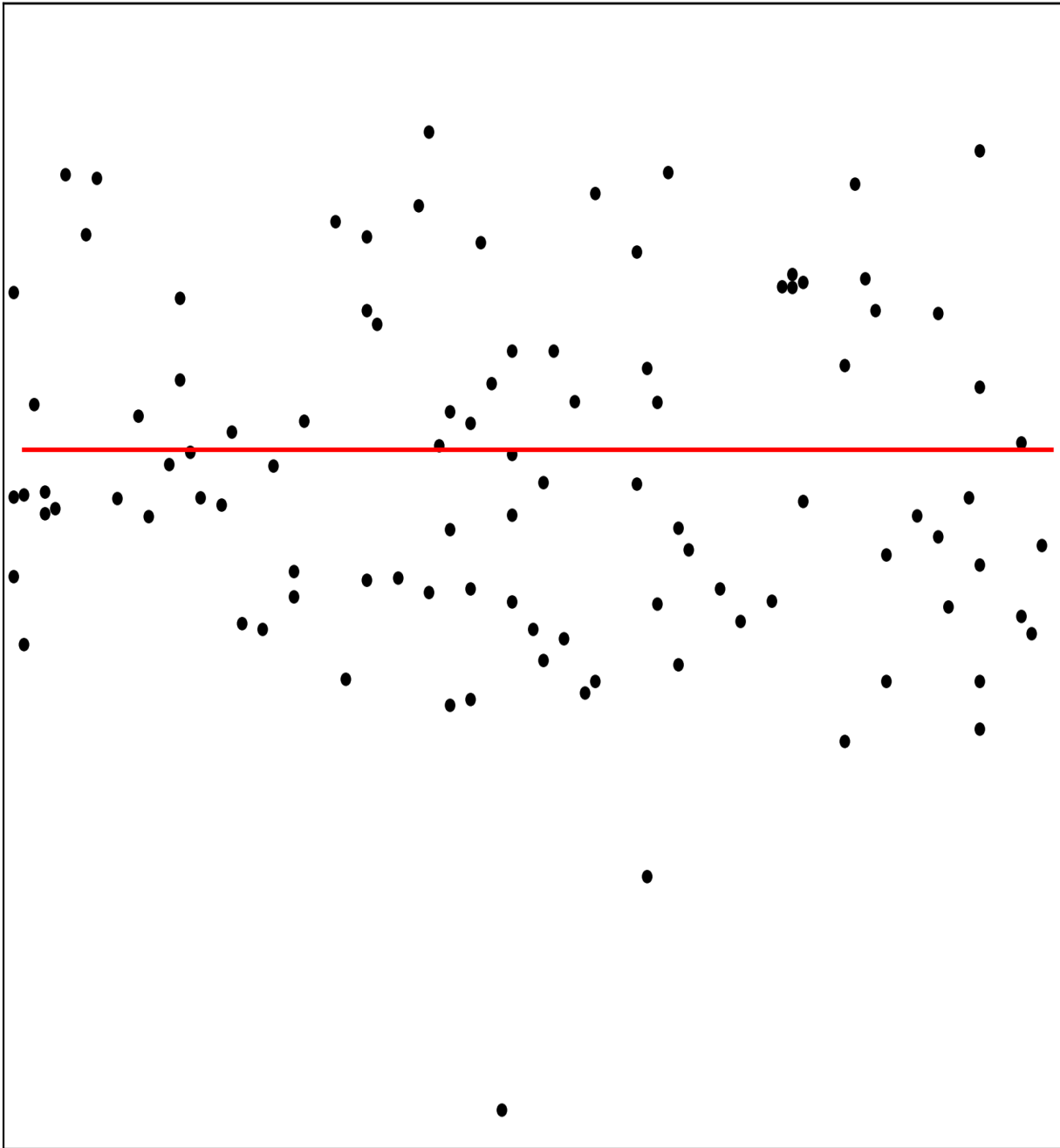


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- Too low
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How does the drawn line relate to the average height of the scatterplot?

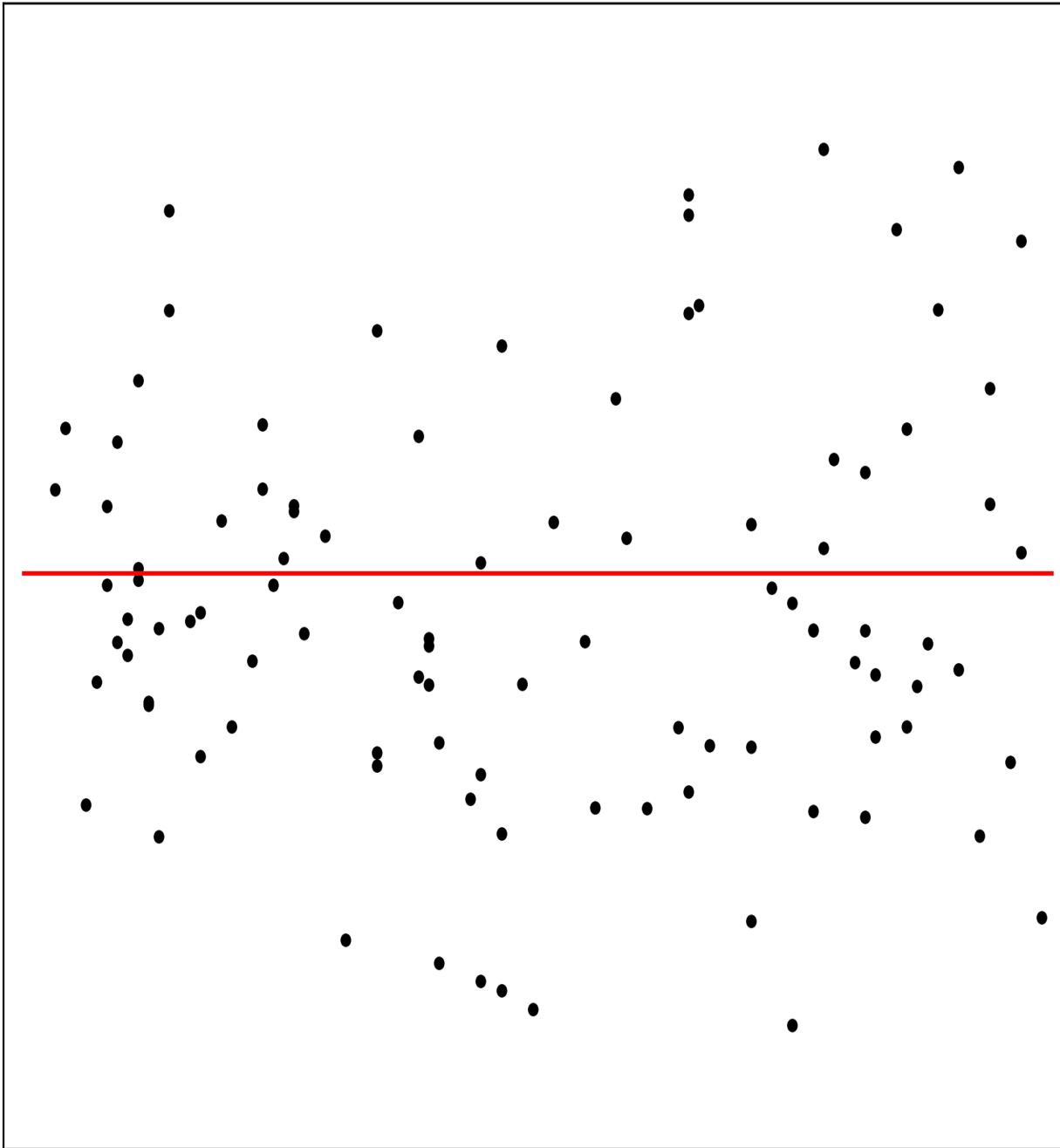


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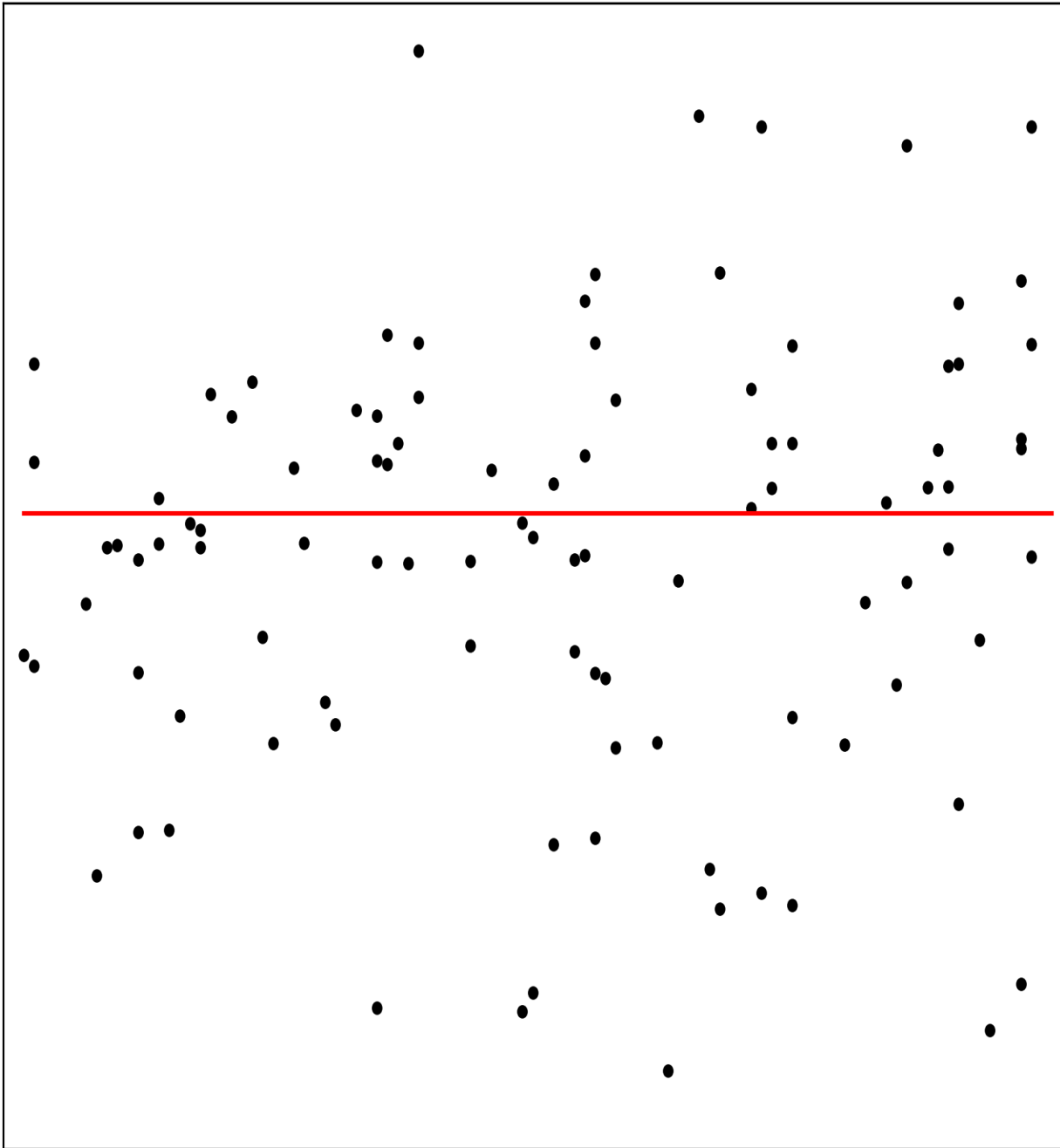


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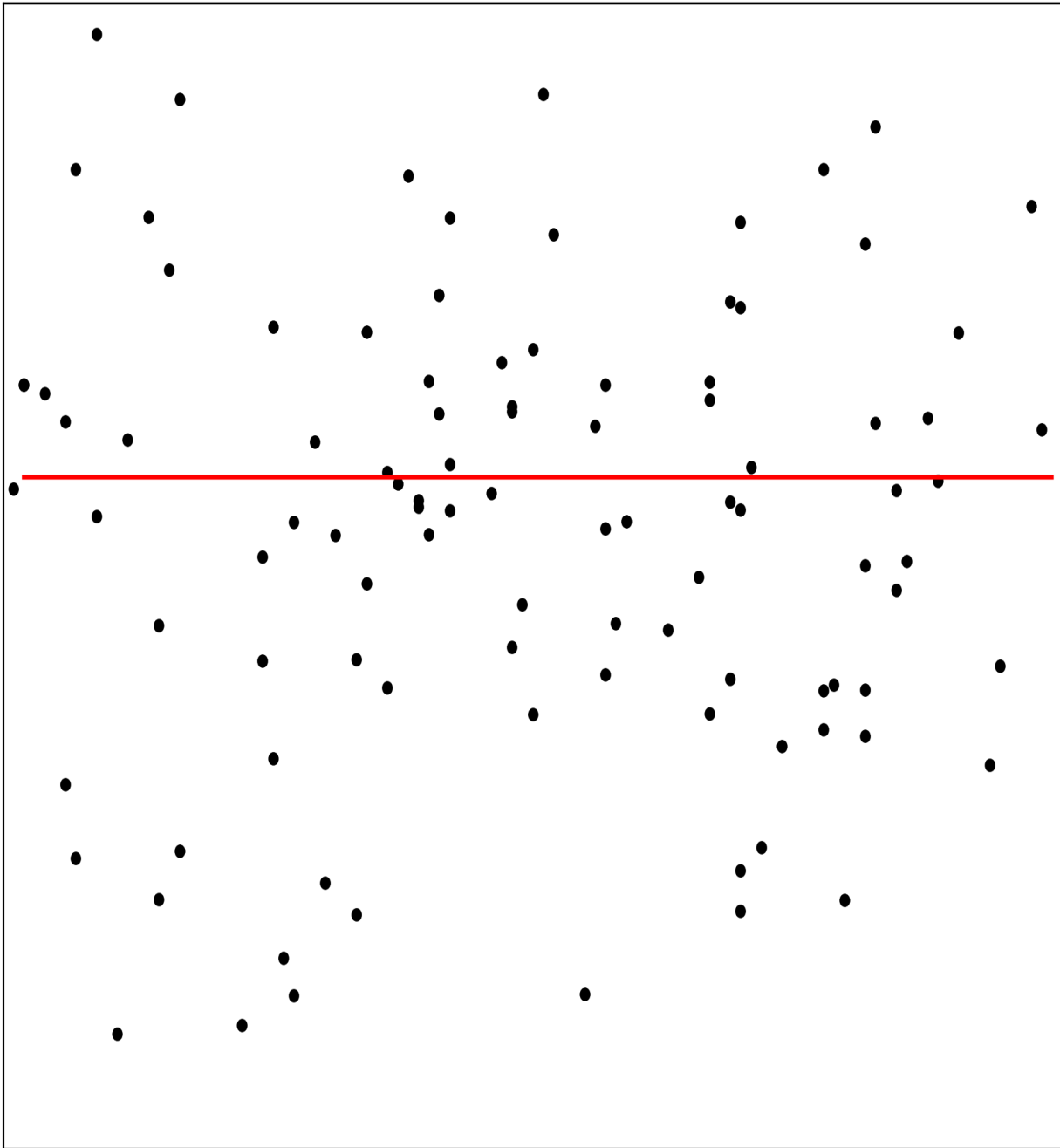


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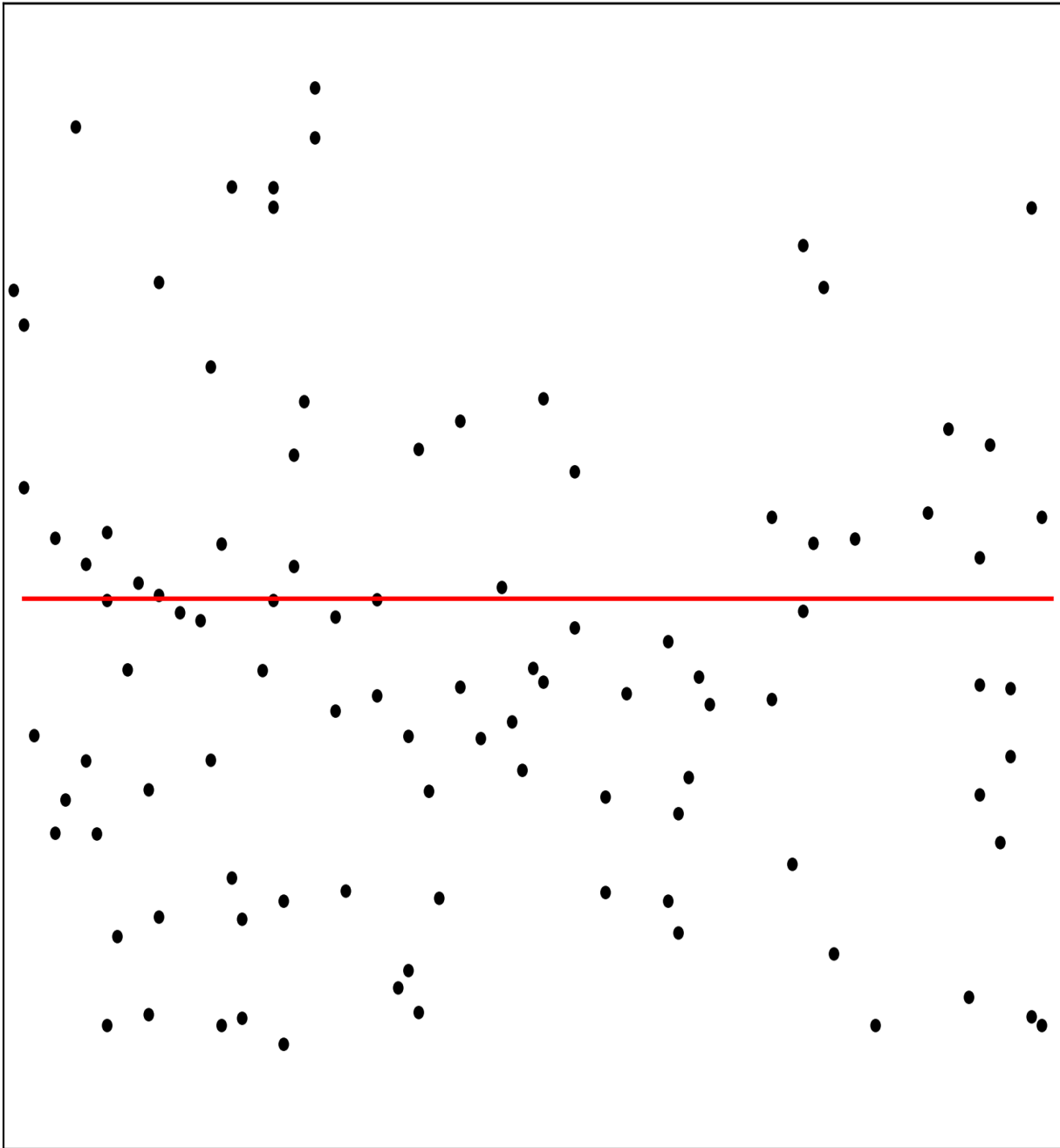


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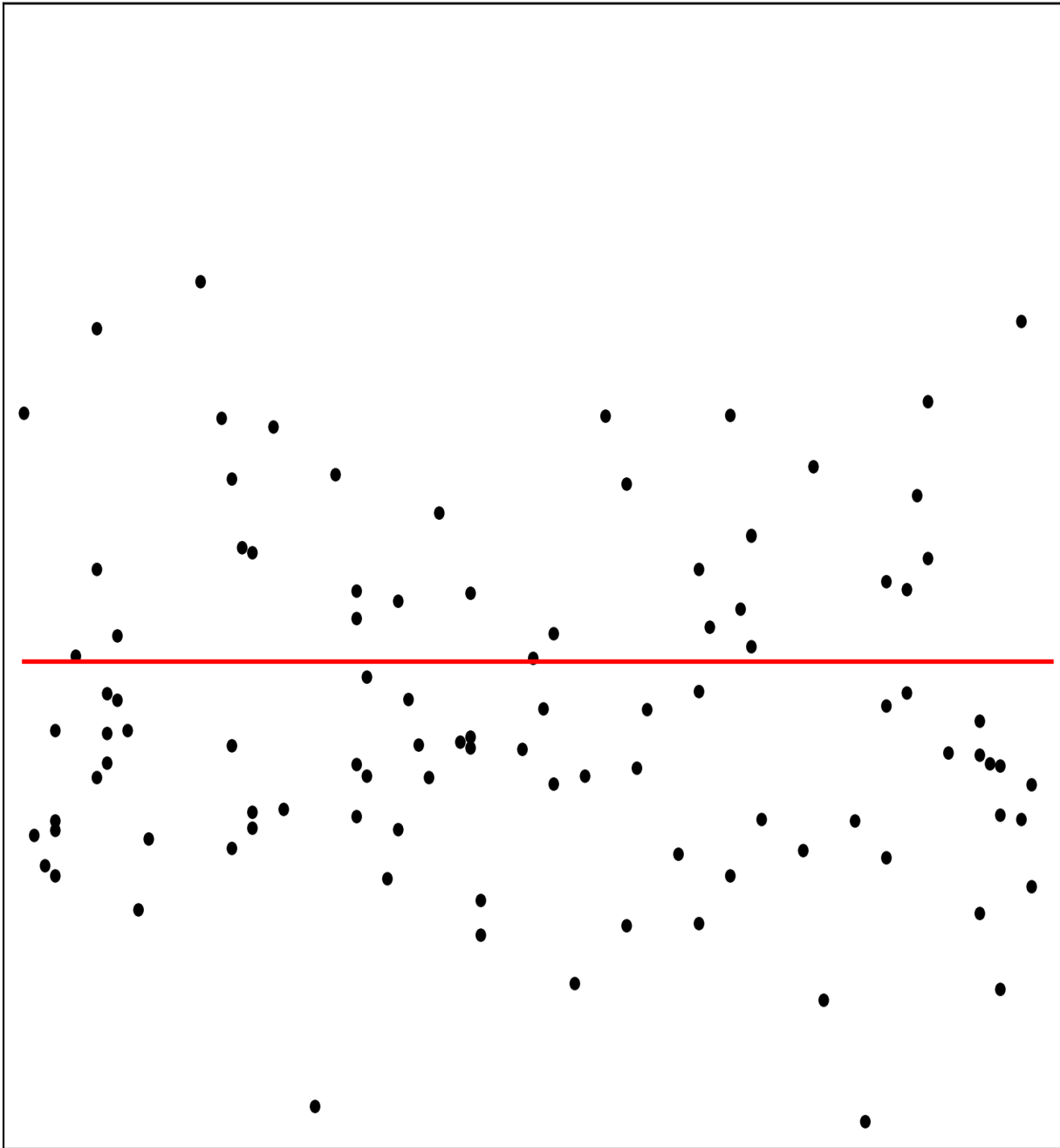


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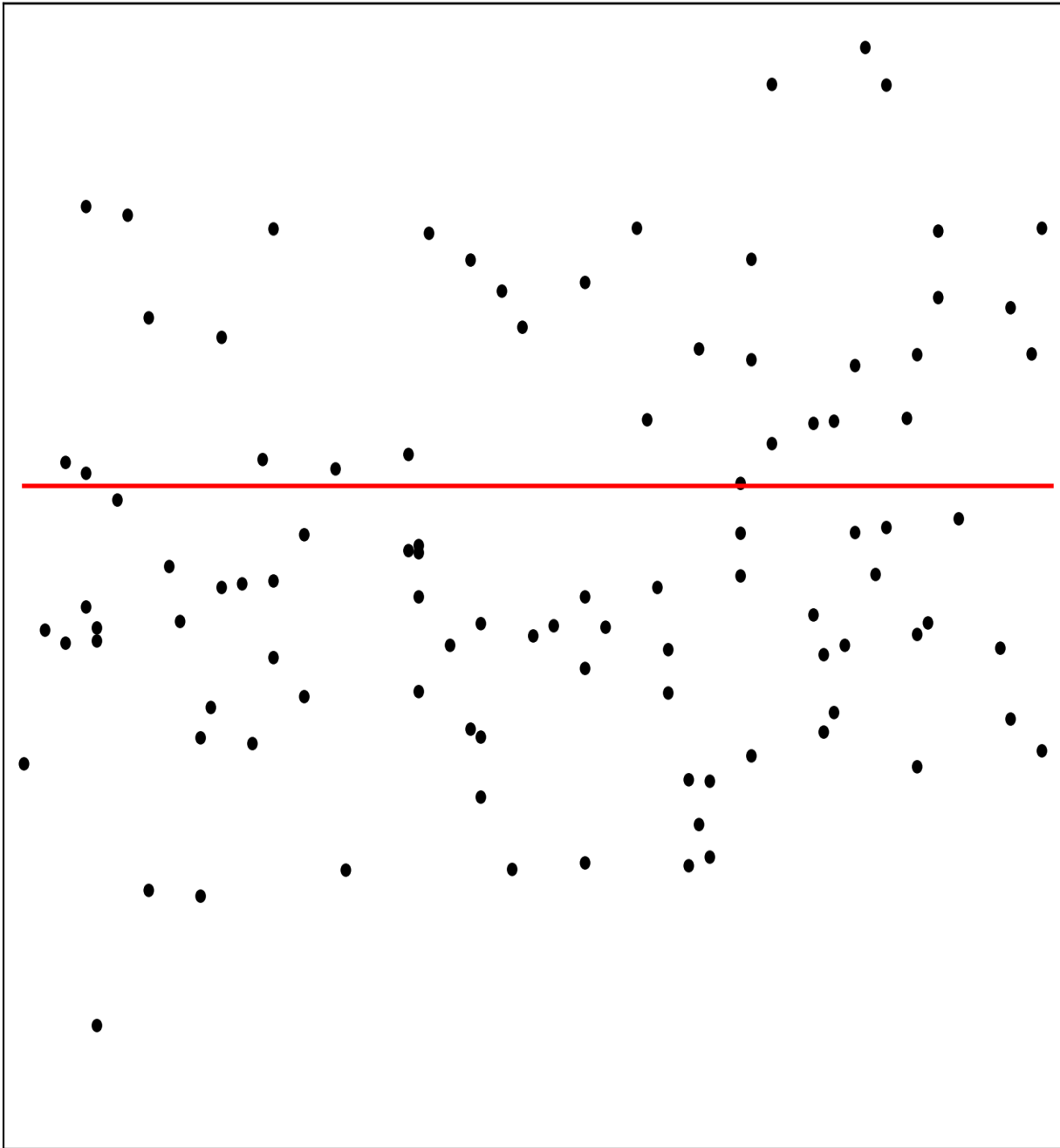


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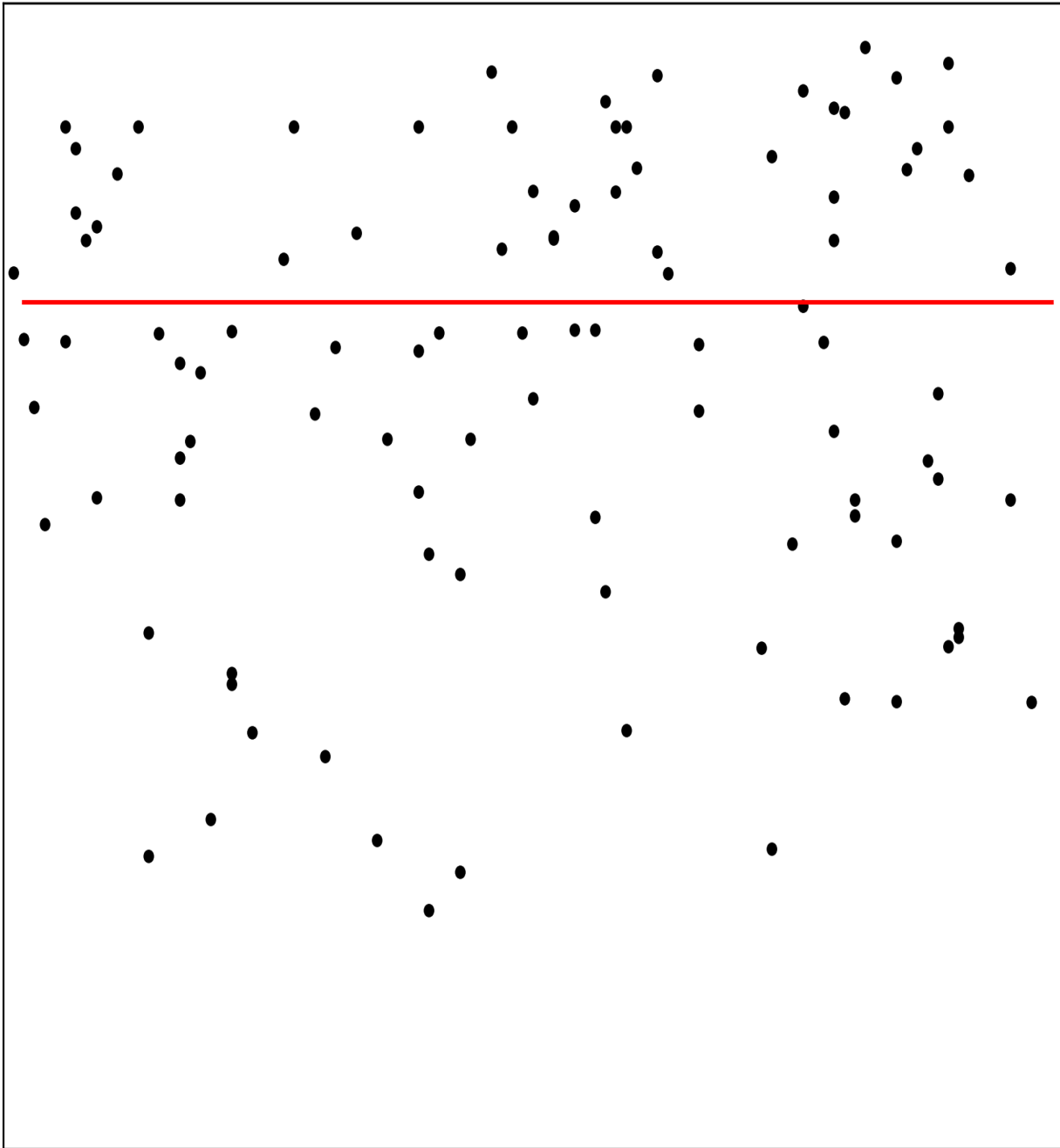


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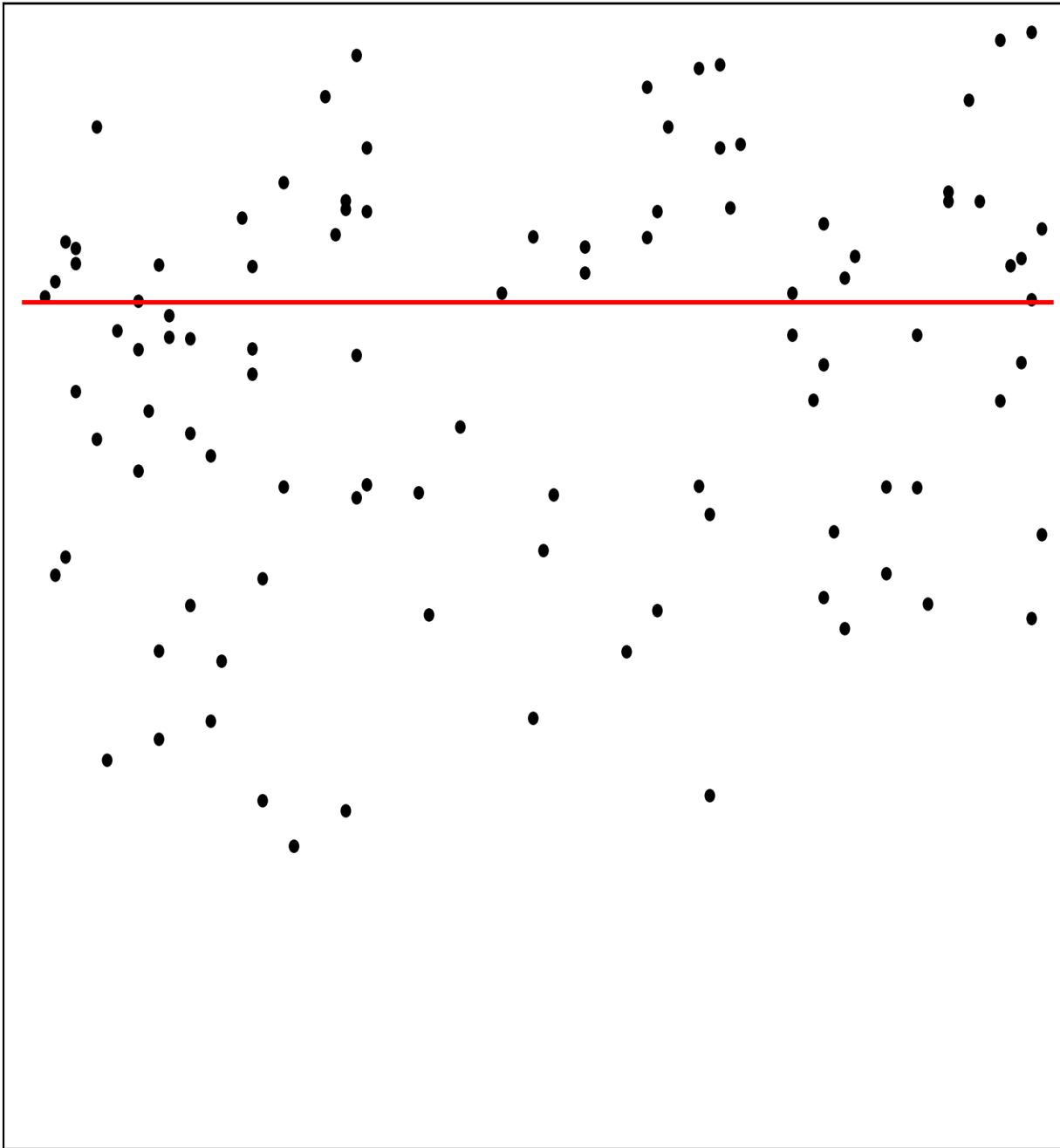


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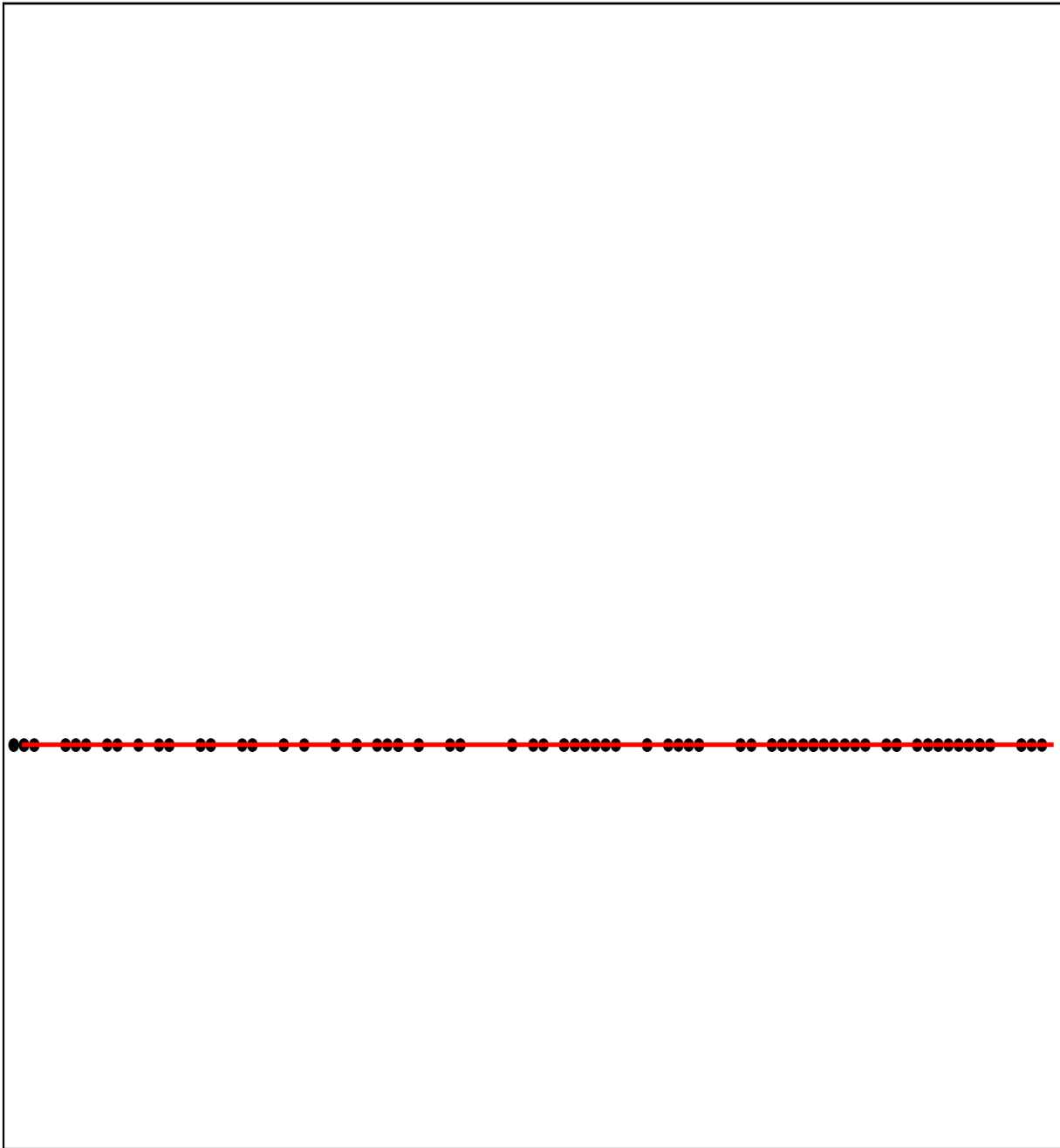


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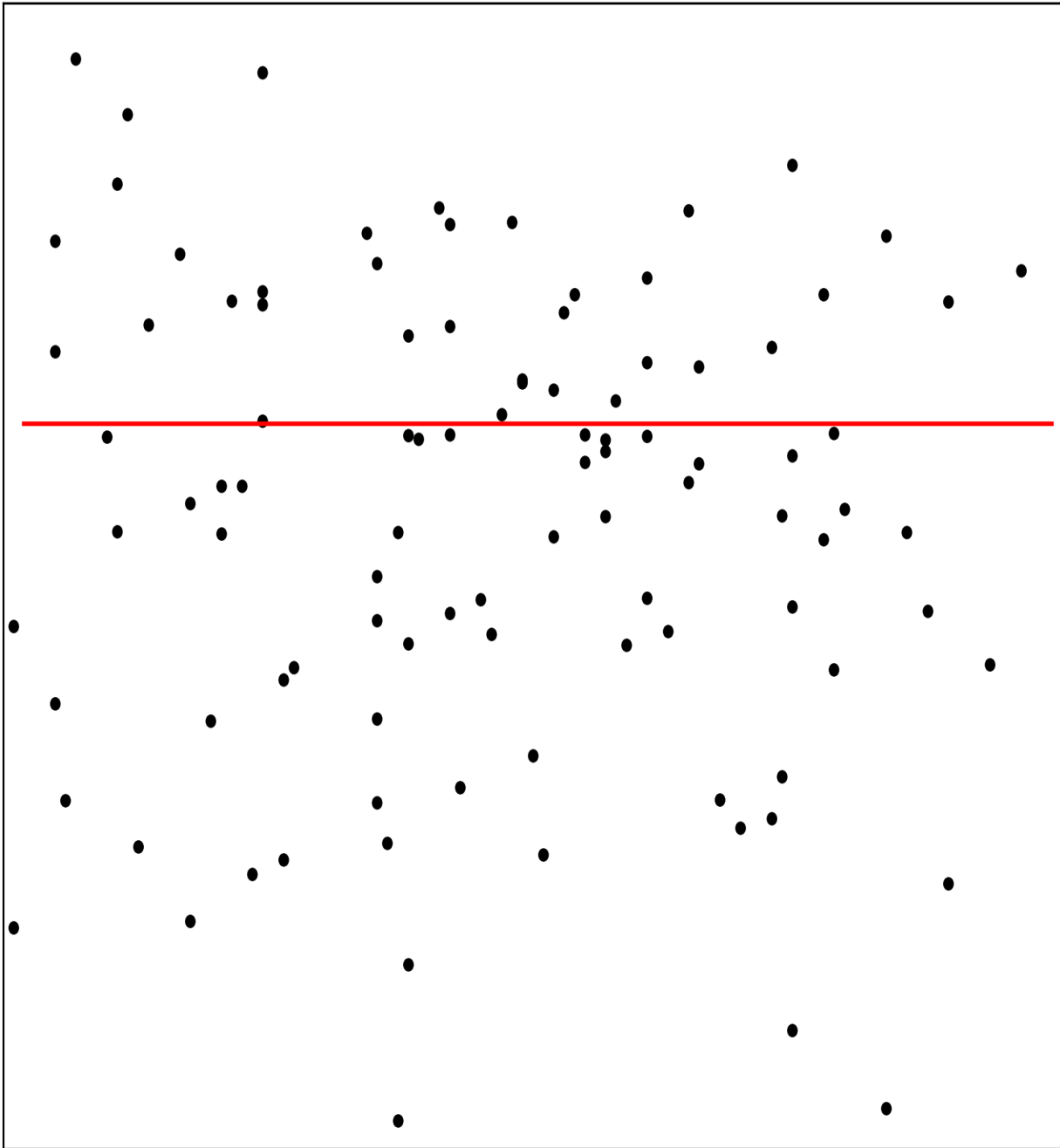


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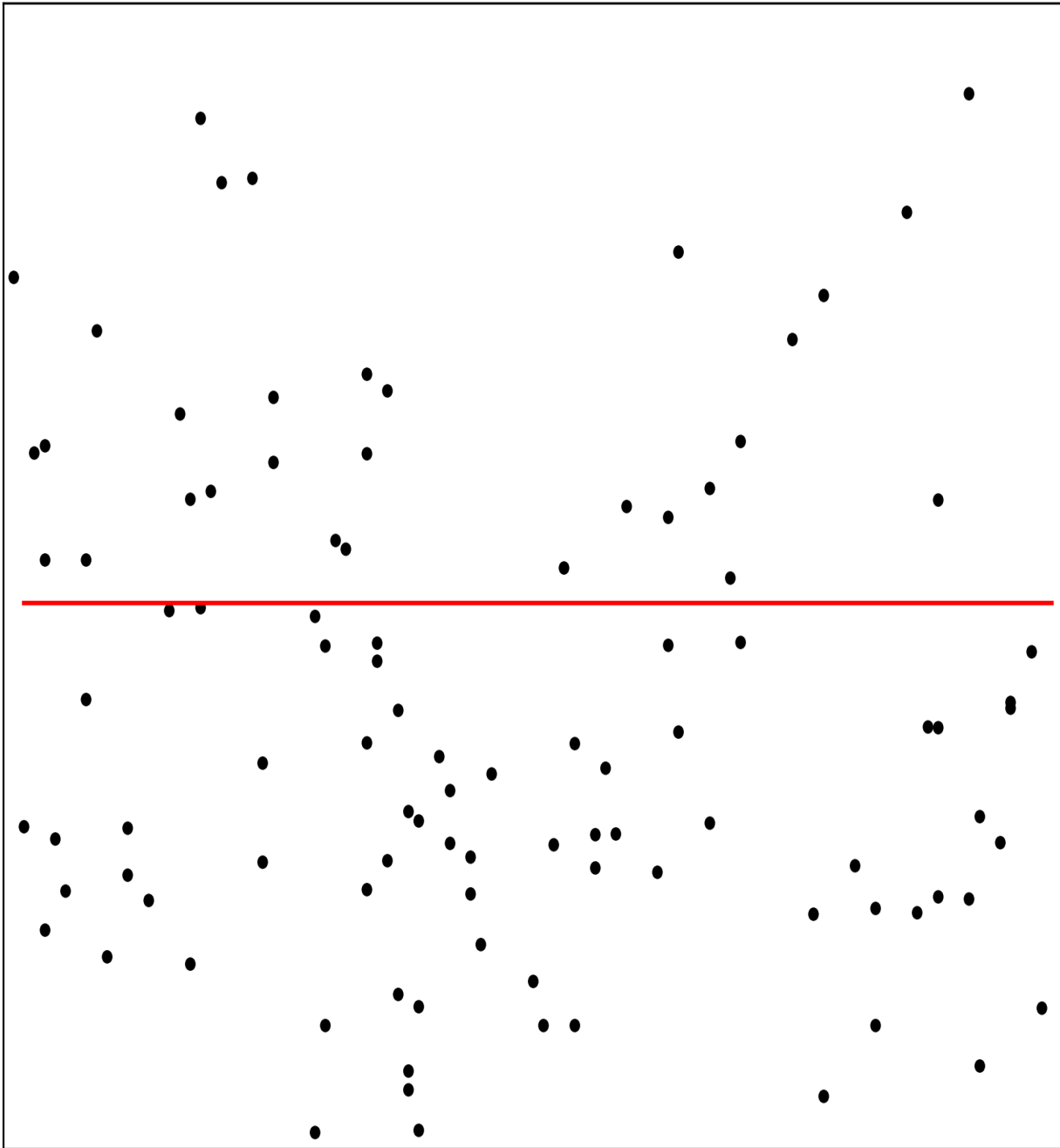


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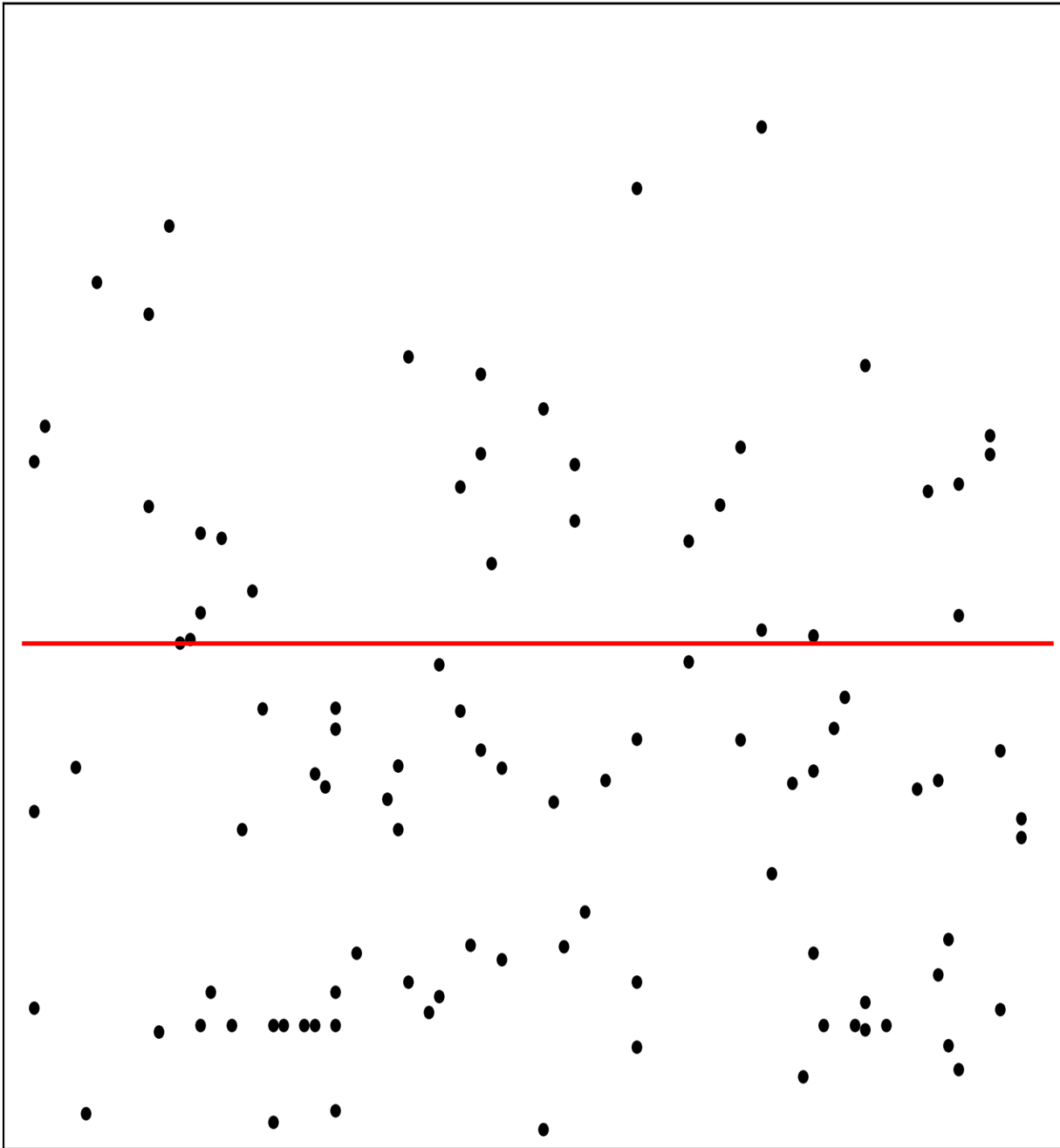


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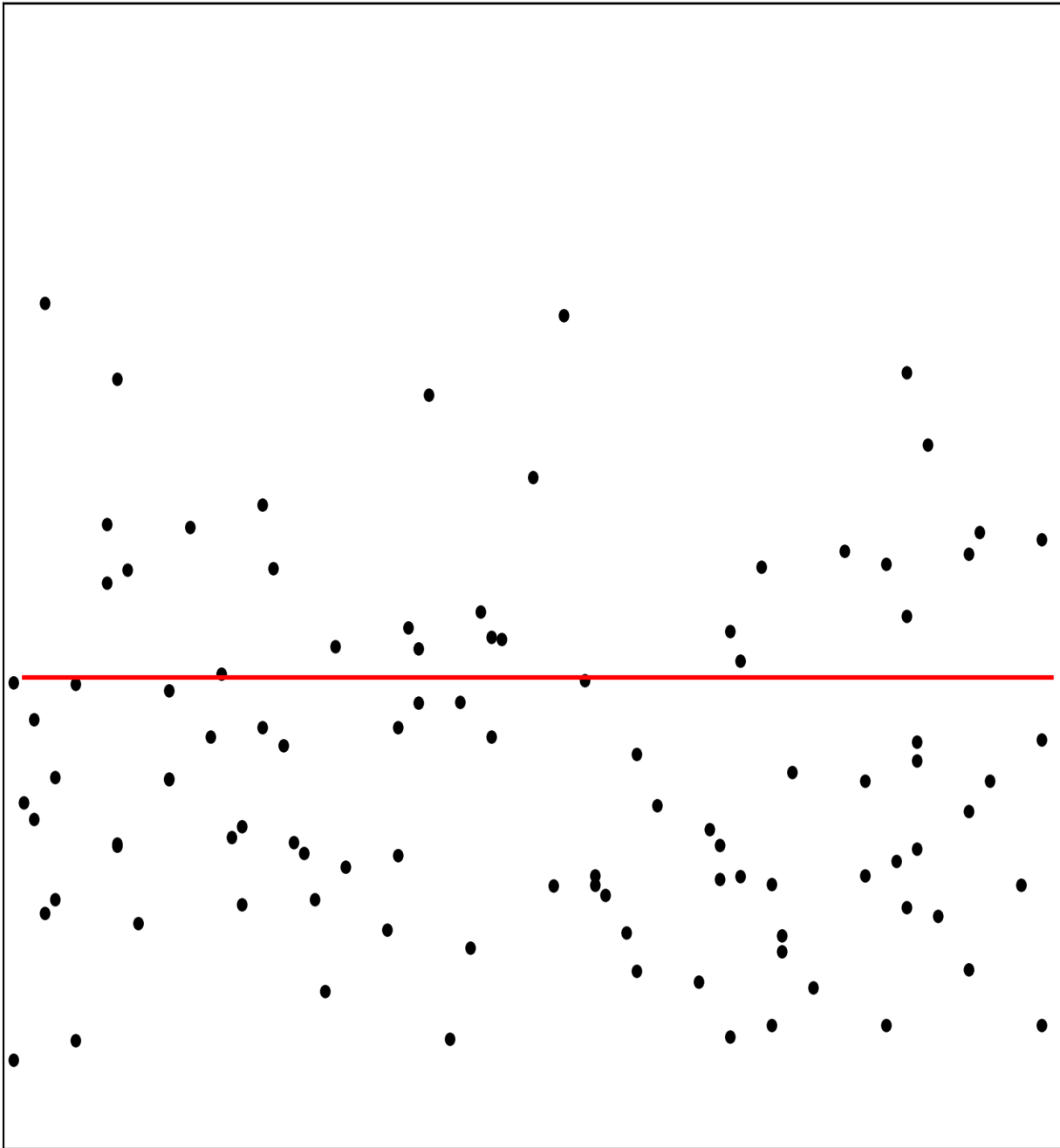


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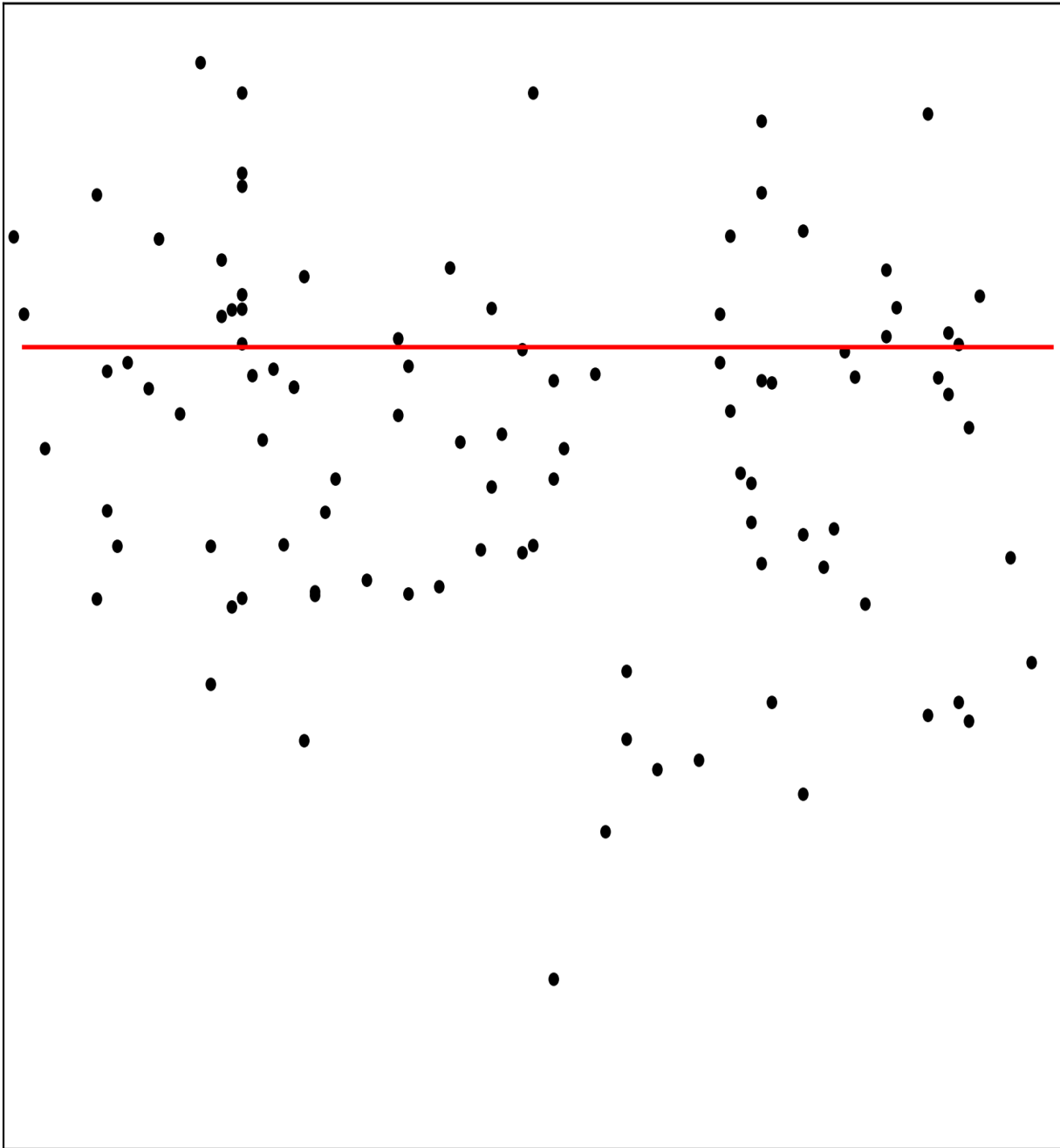


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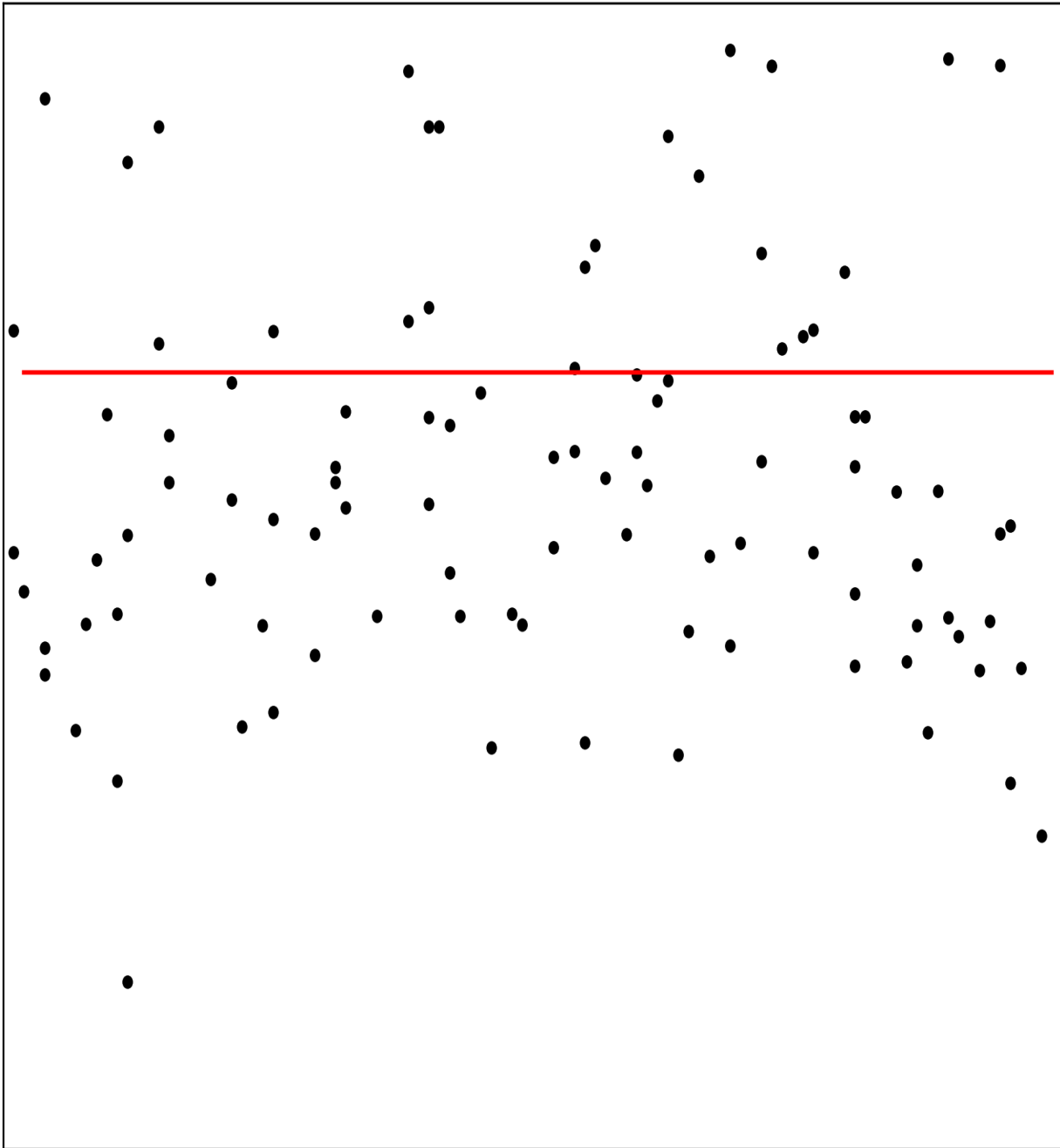


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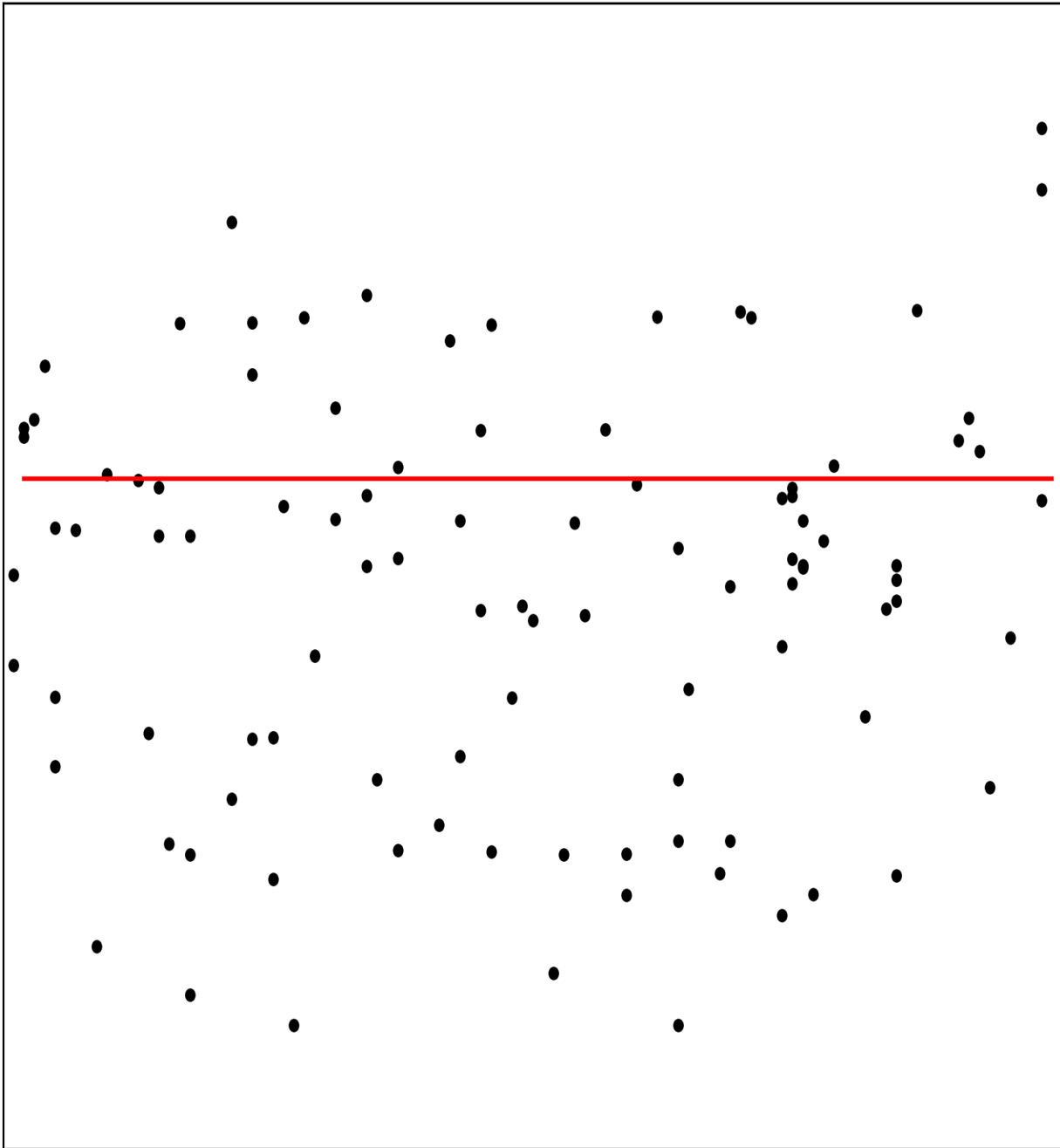


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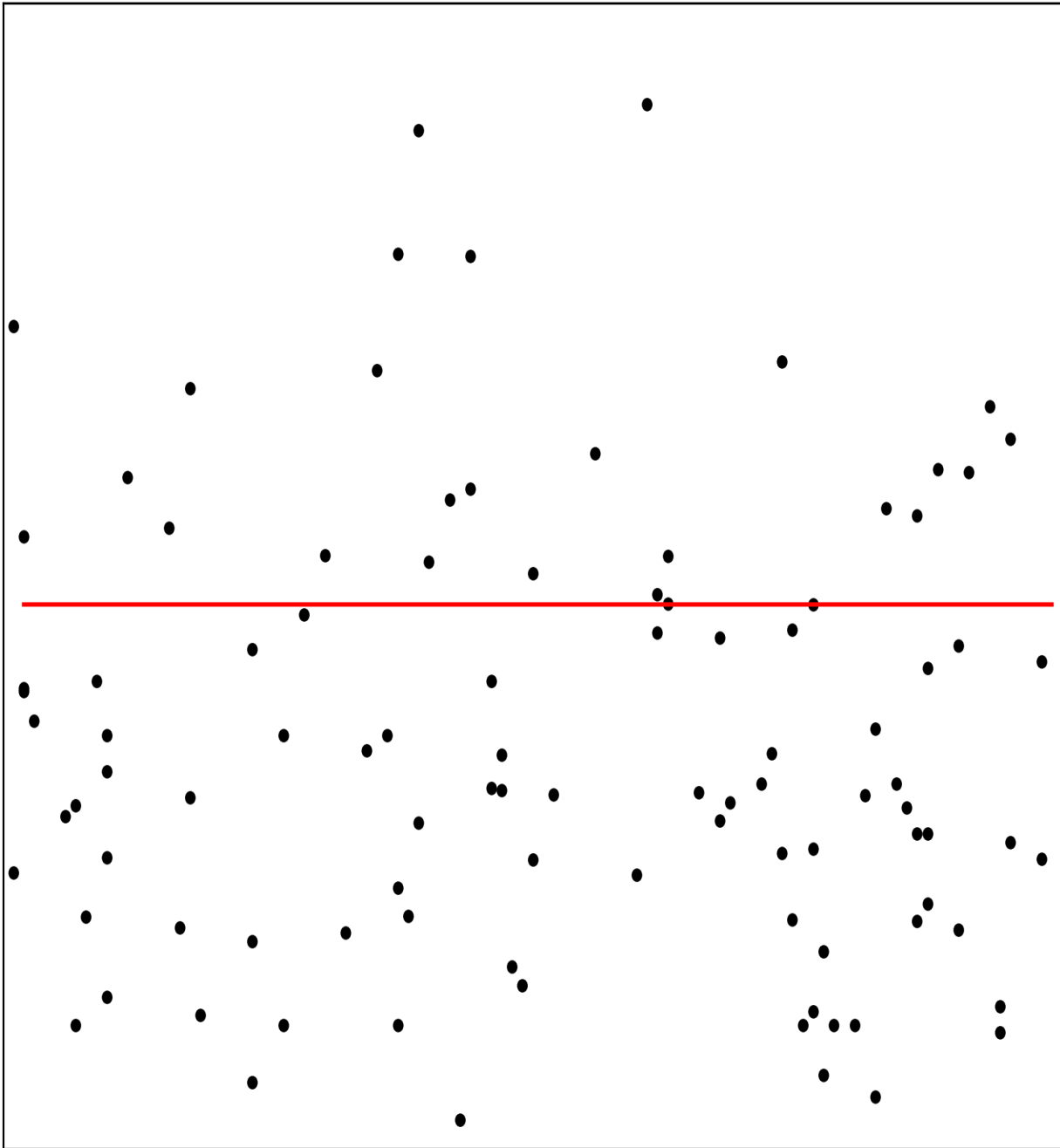


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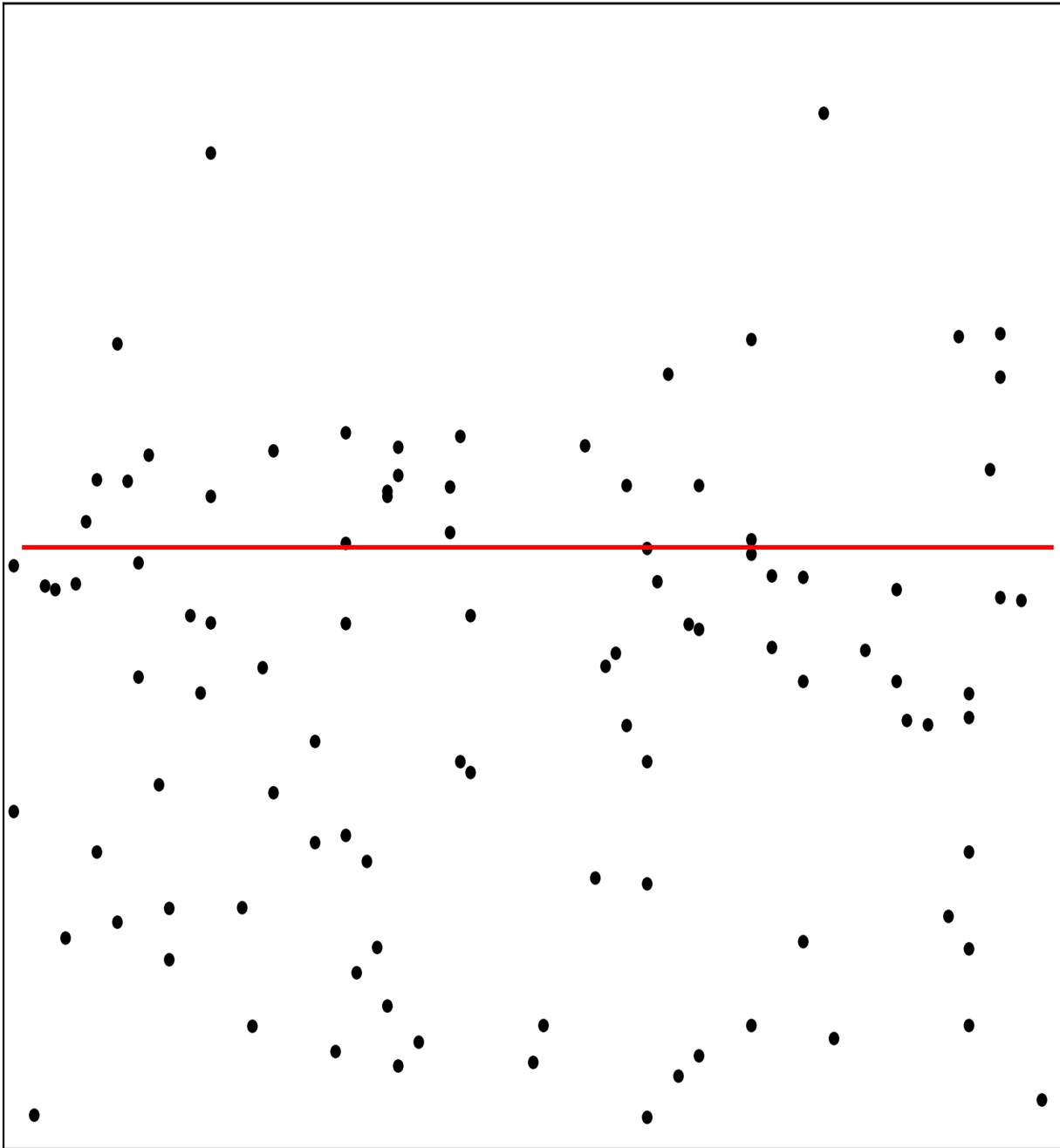


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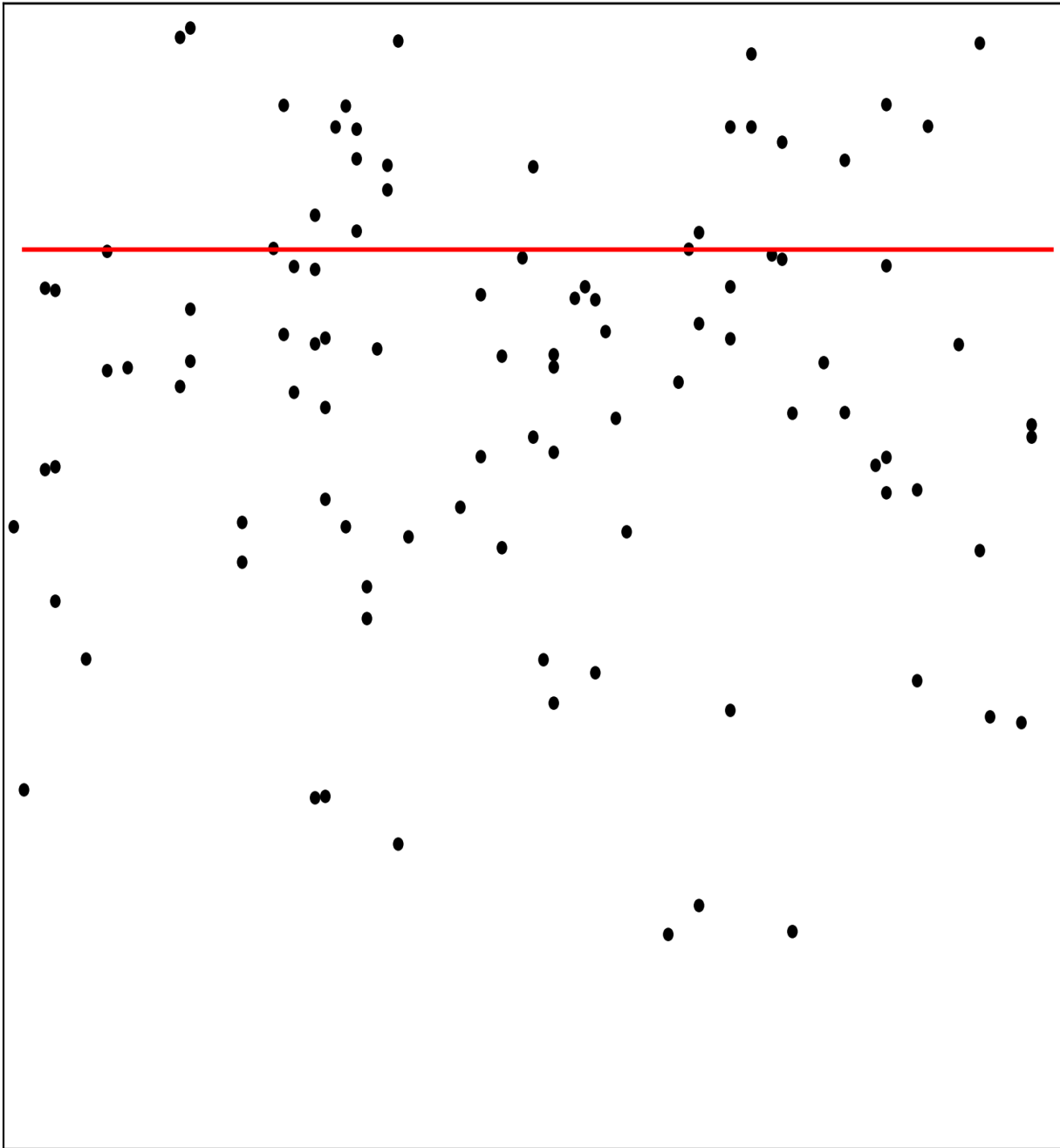


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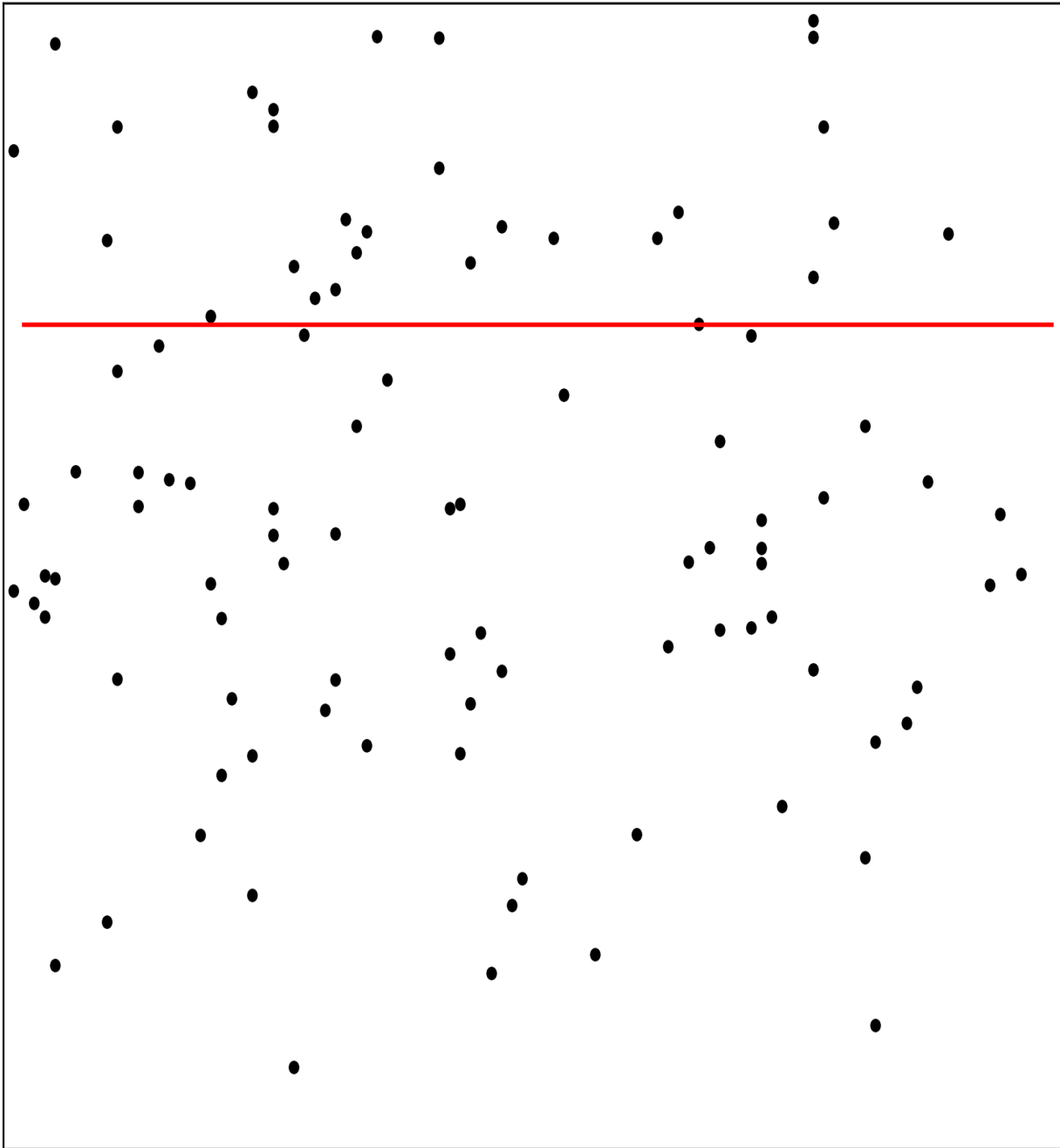


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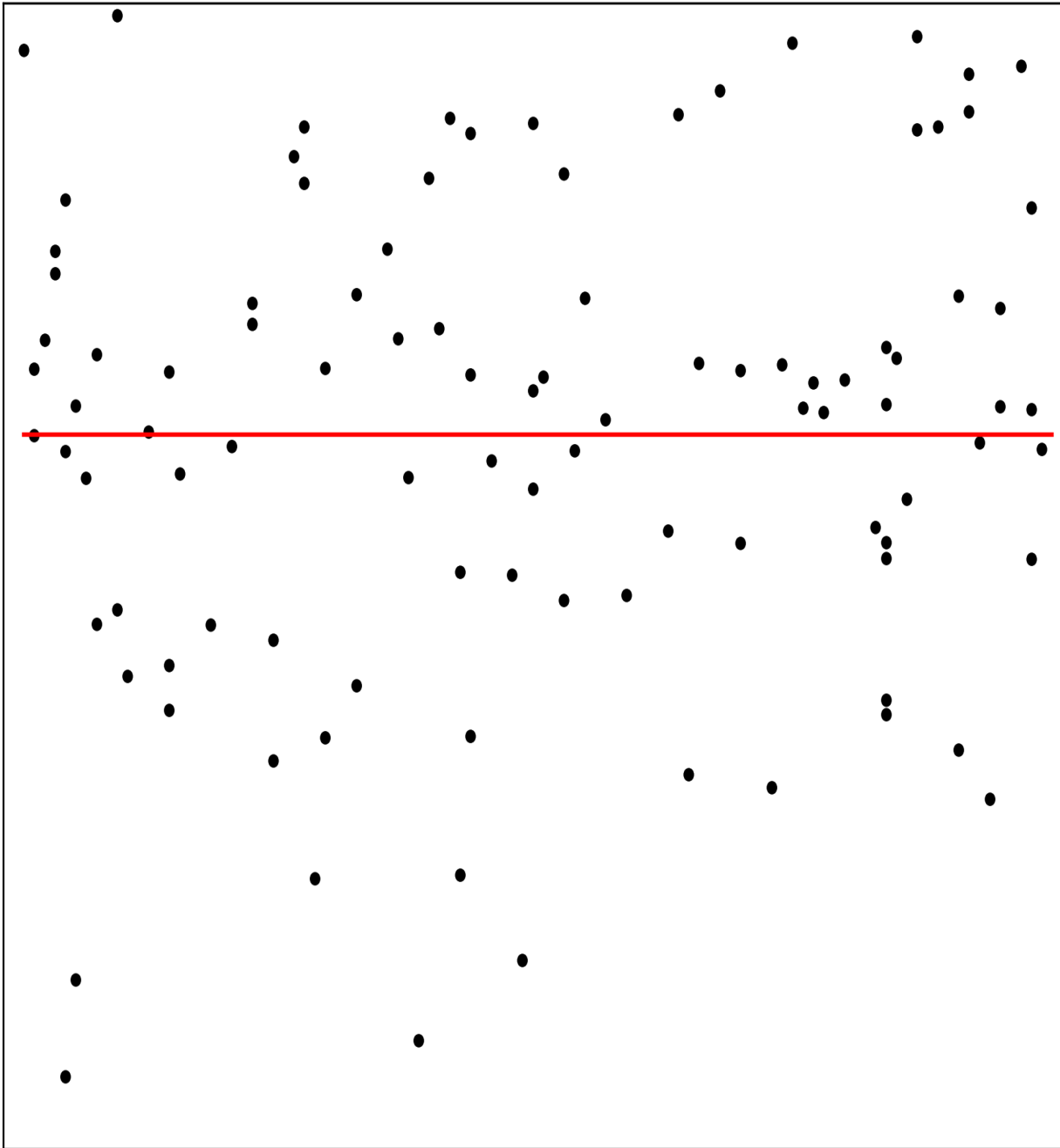
Please choose **only one** of the following:

- Too high
- Too low
- About the same
- I don't know

This is a short break. You have completed the first half of the tasks.

Take a moment to relax. You can proceed whenever you feel ready.

How does the drawn line relate to the average height of the scatterplot?

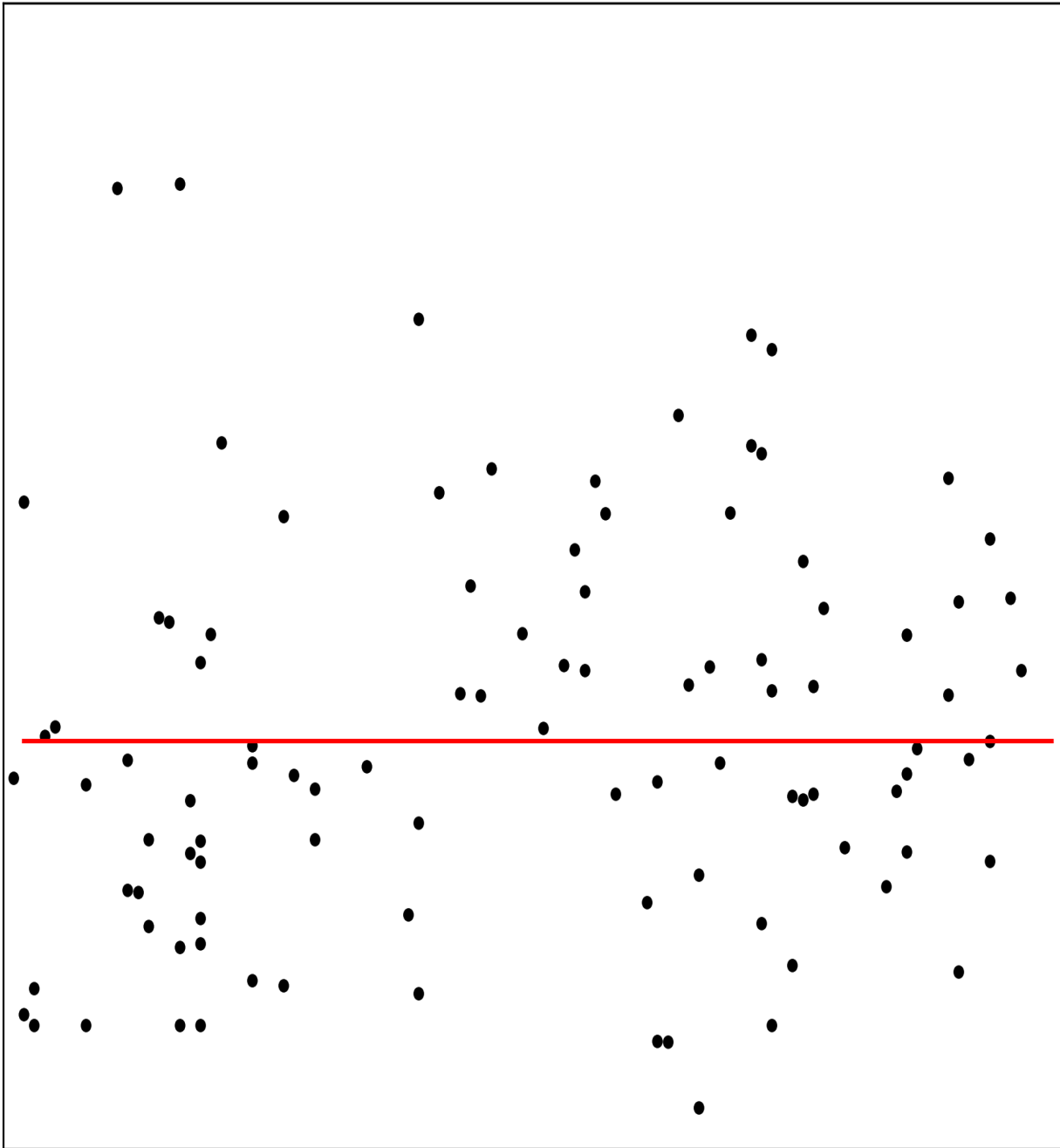


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How does the drawn line relate to the average height of the scatterplot?

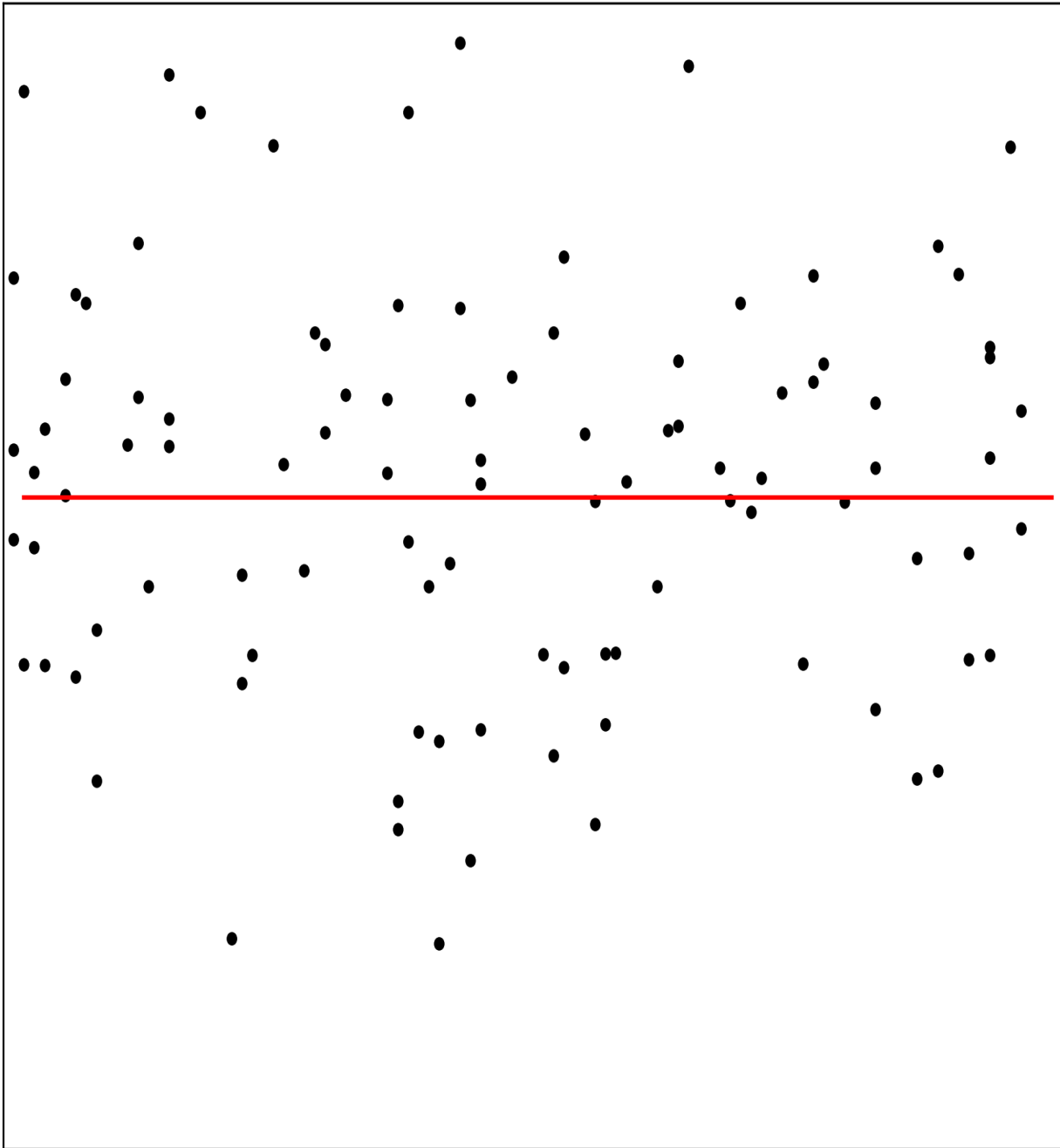


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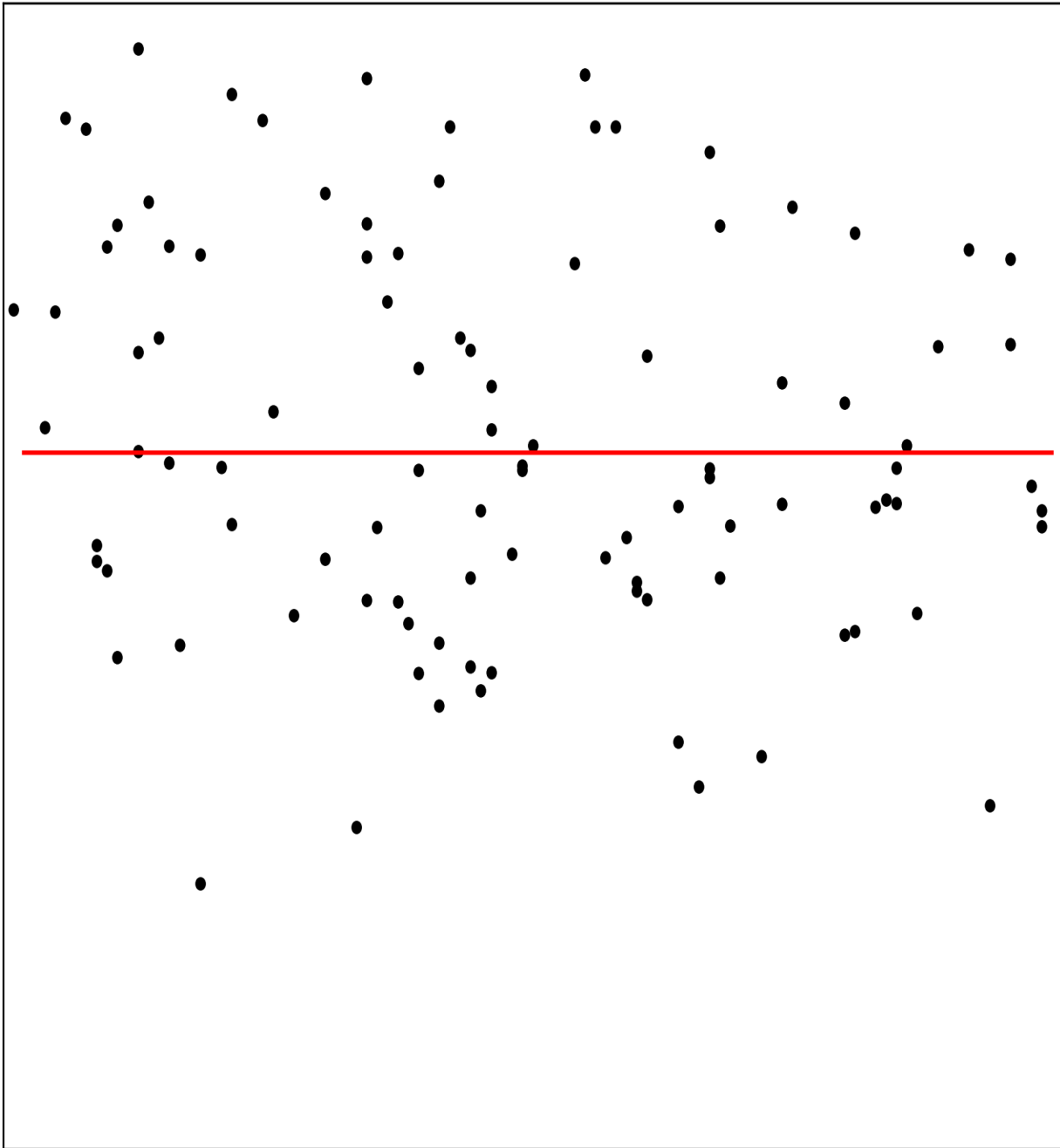


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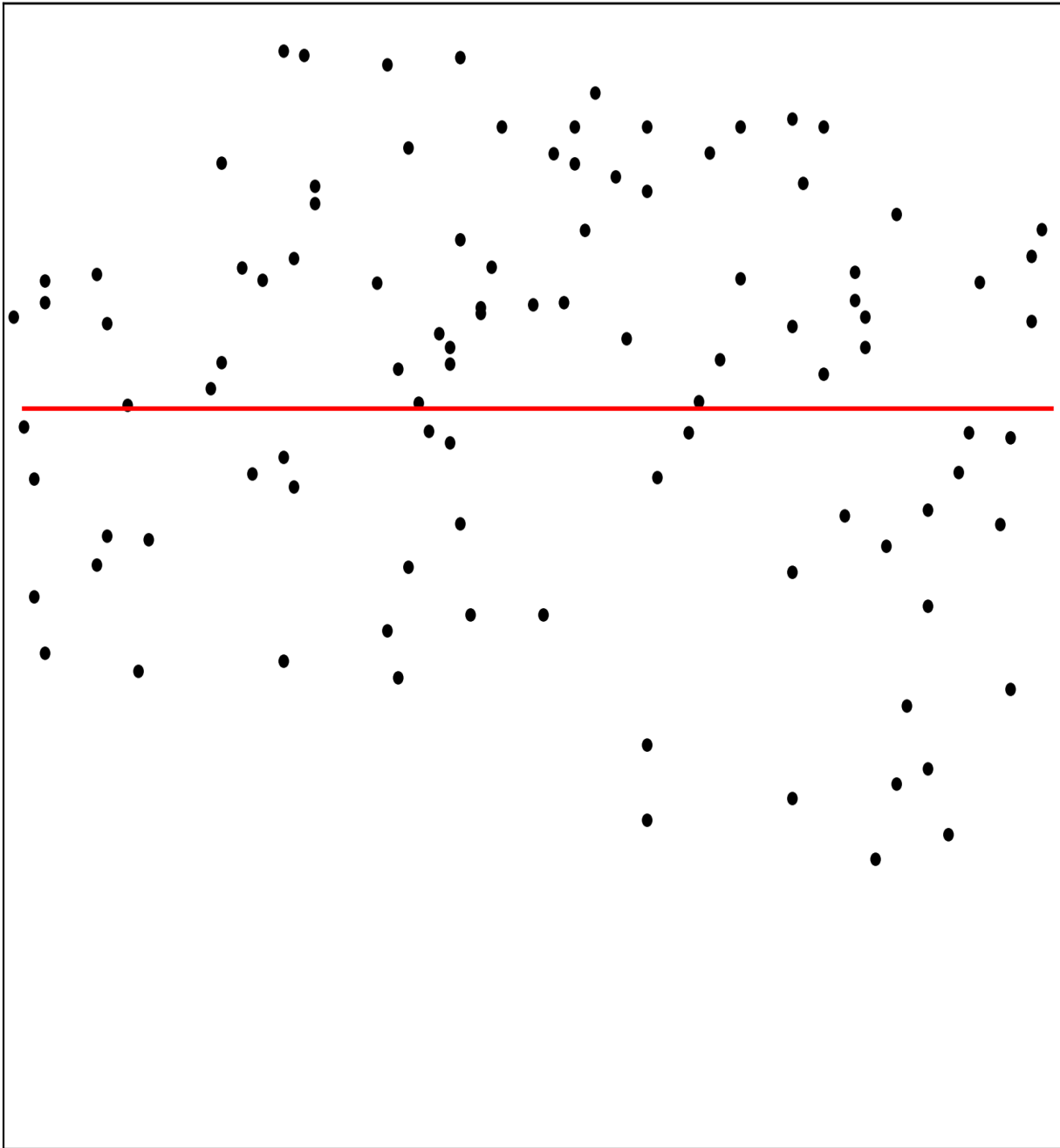


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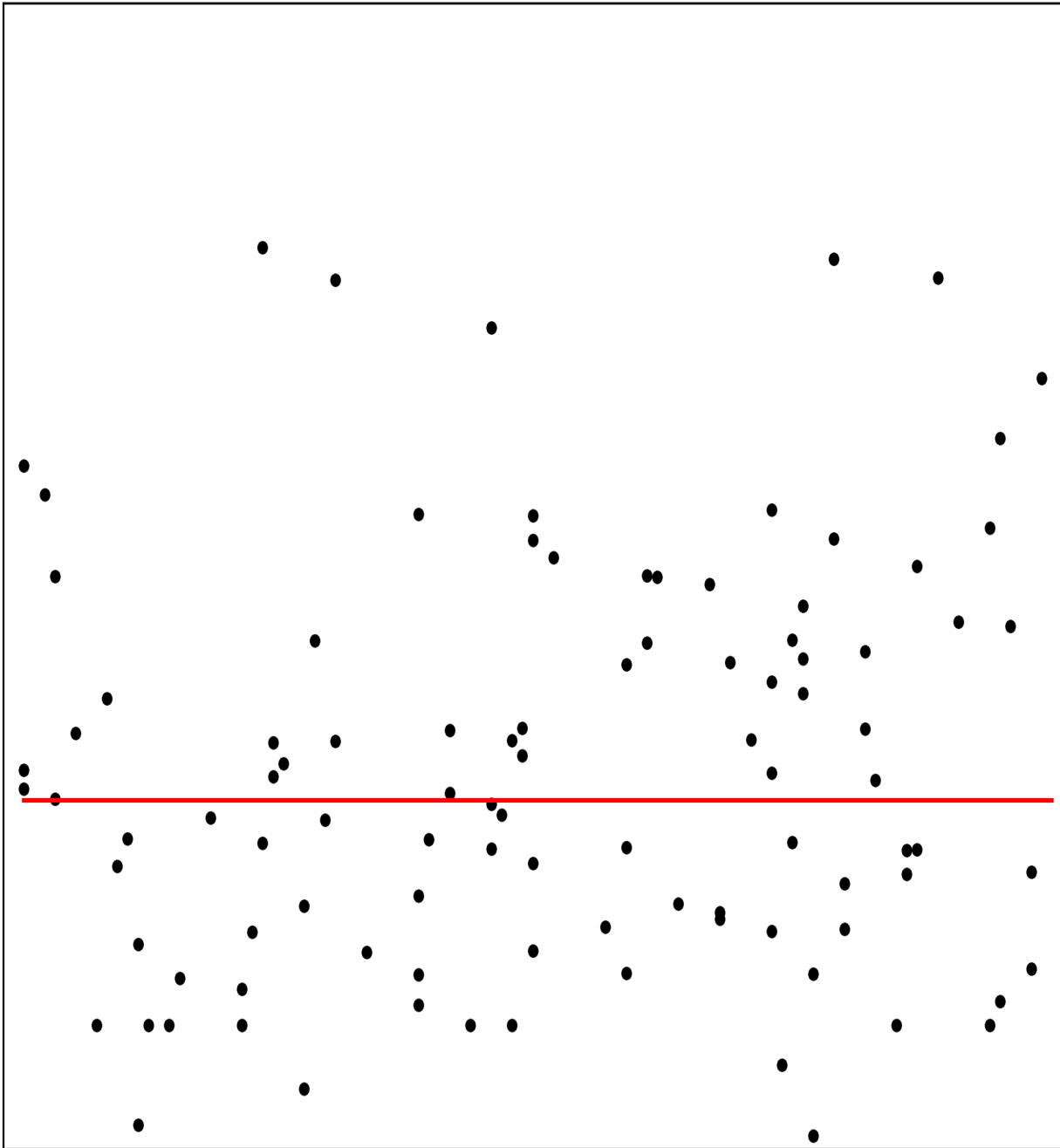


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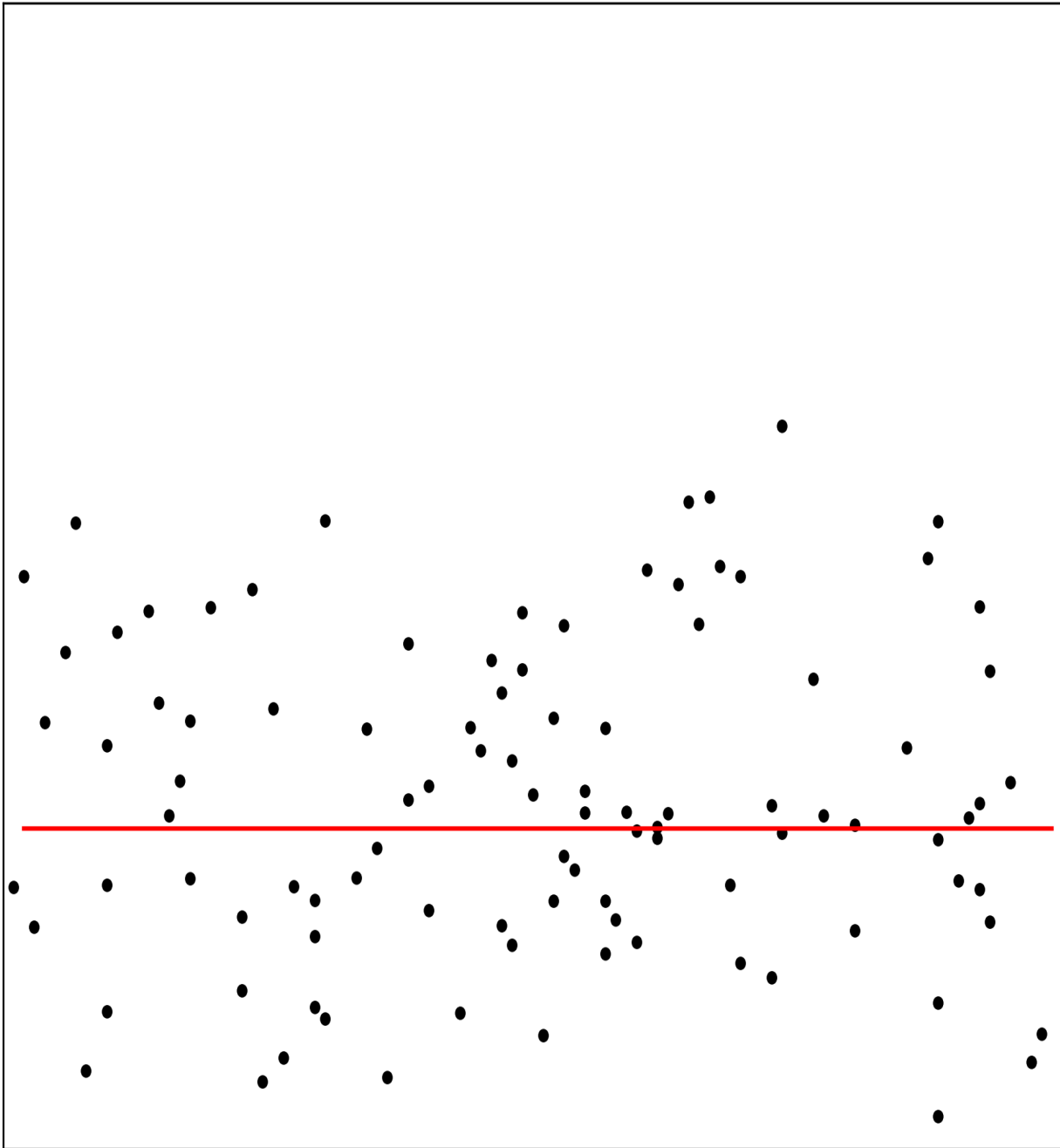


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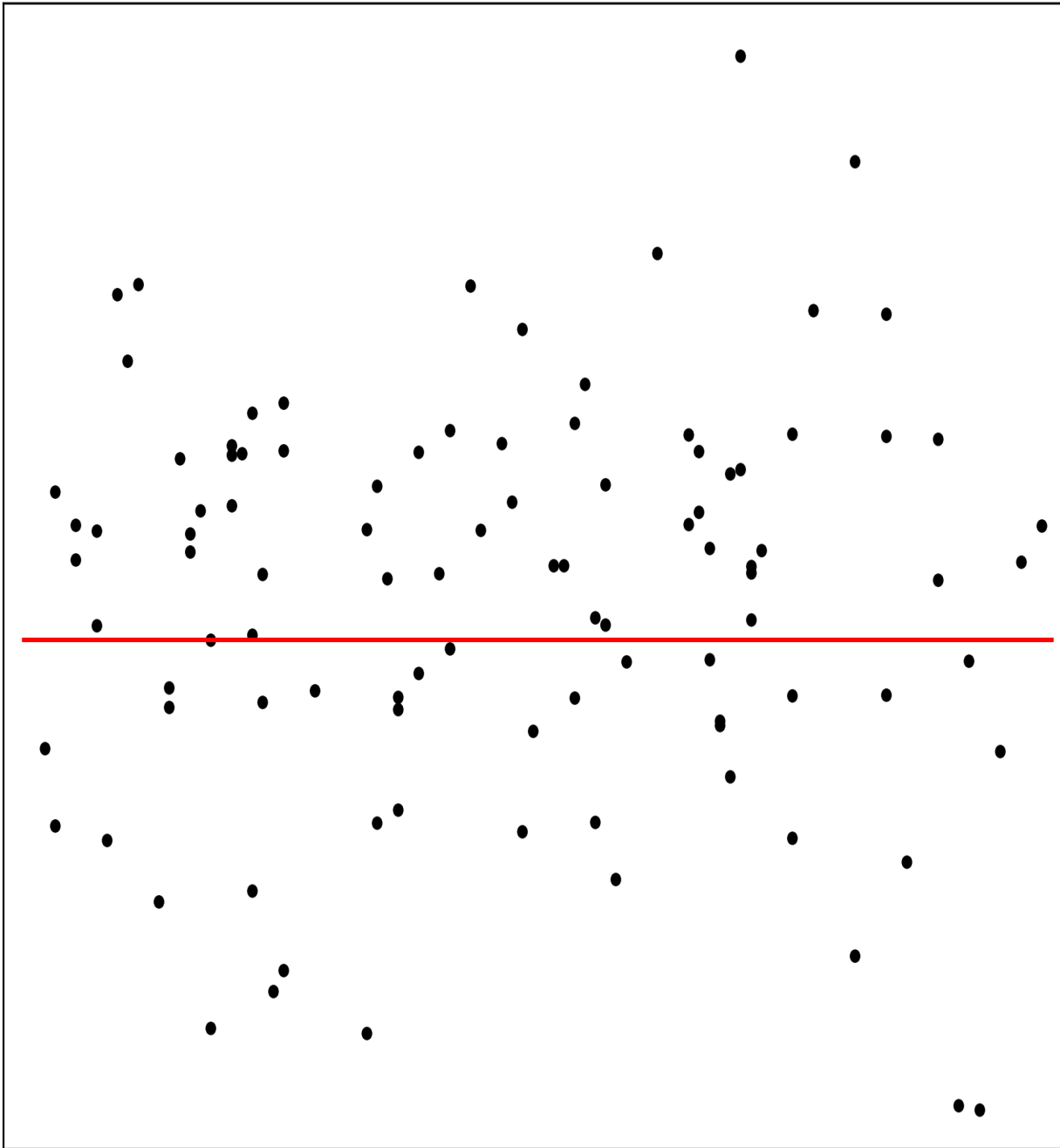


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How does the drawn line relate to the average height of the scatterplot?

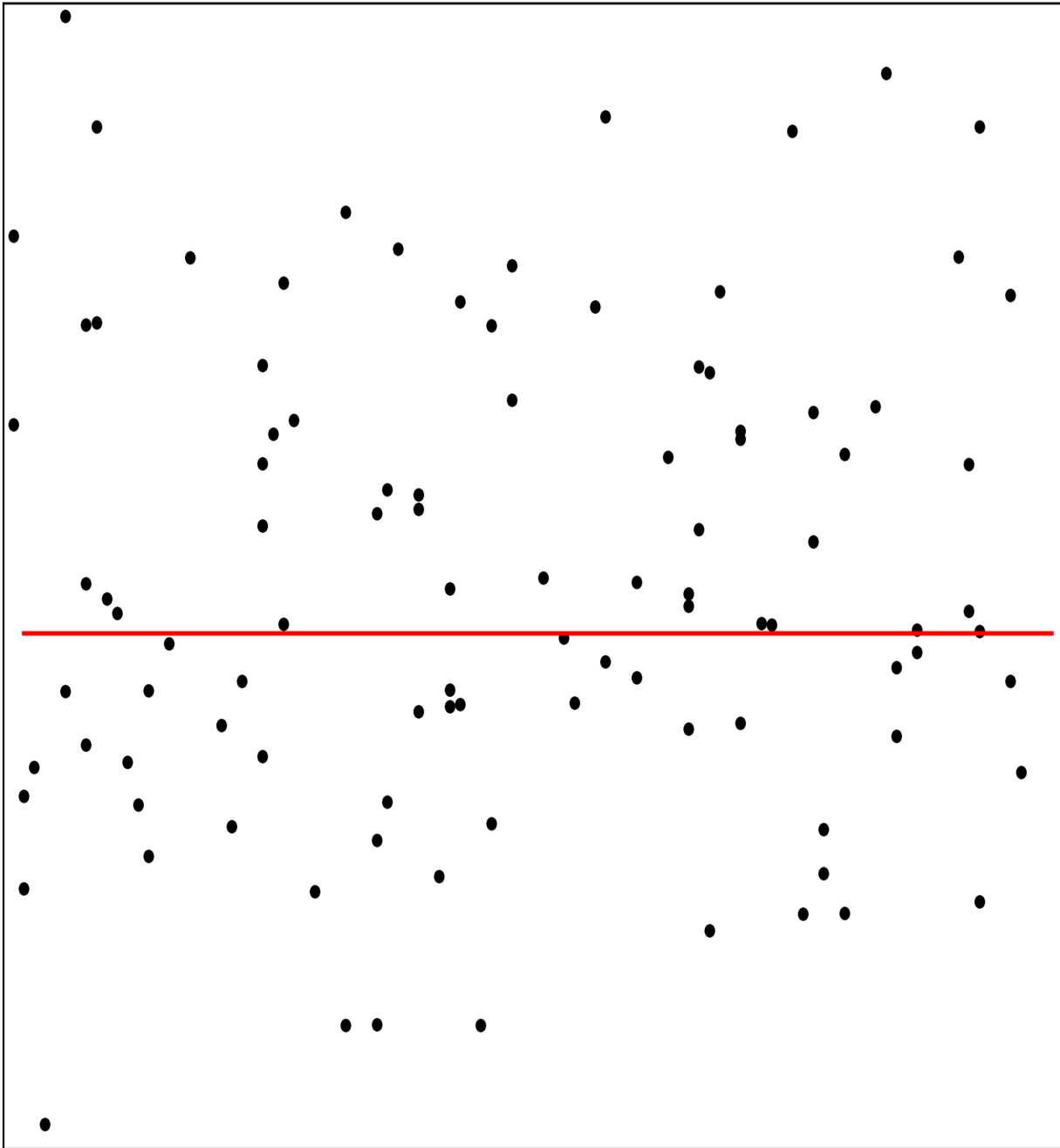


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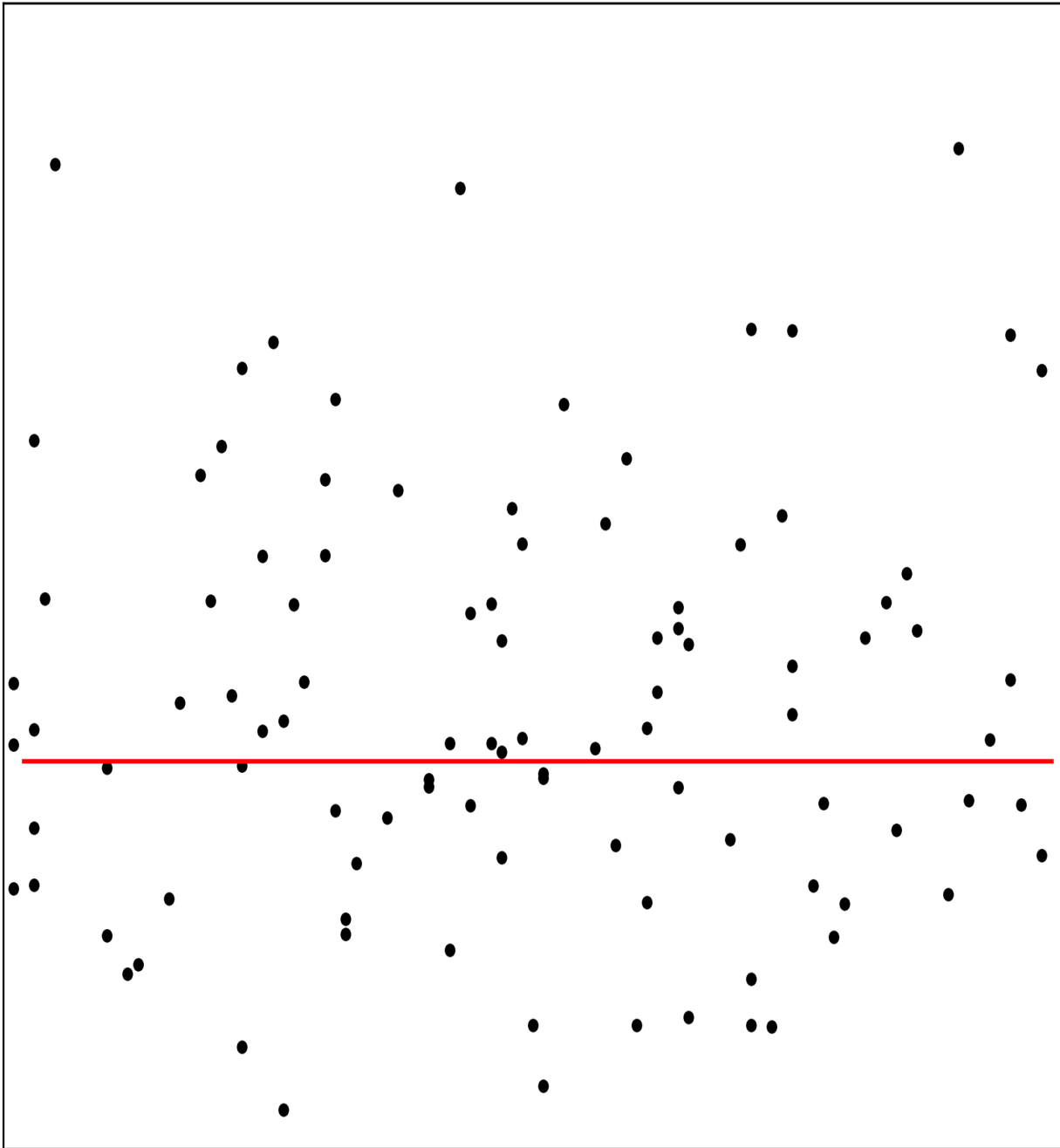


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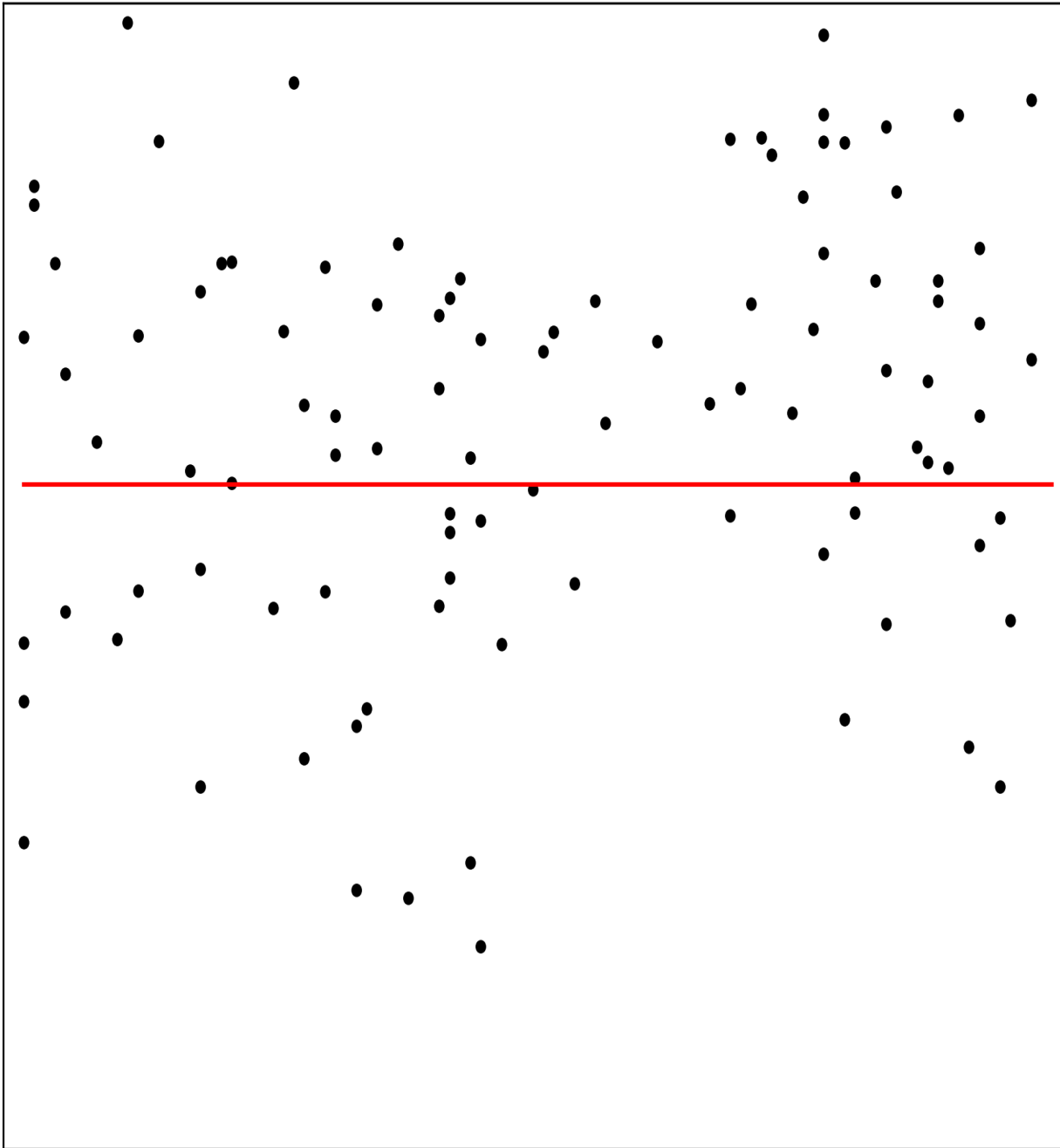


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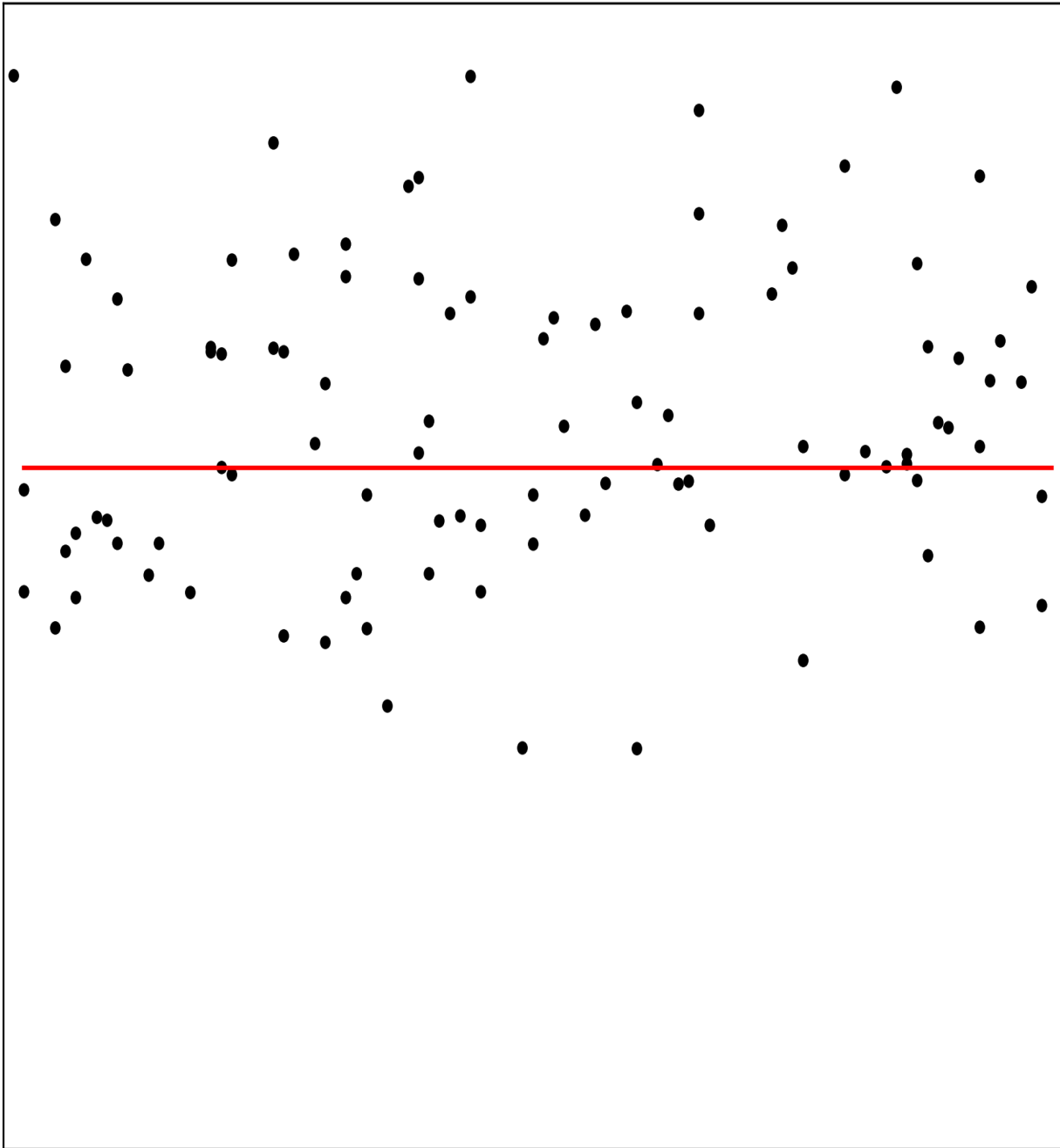


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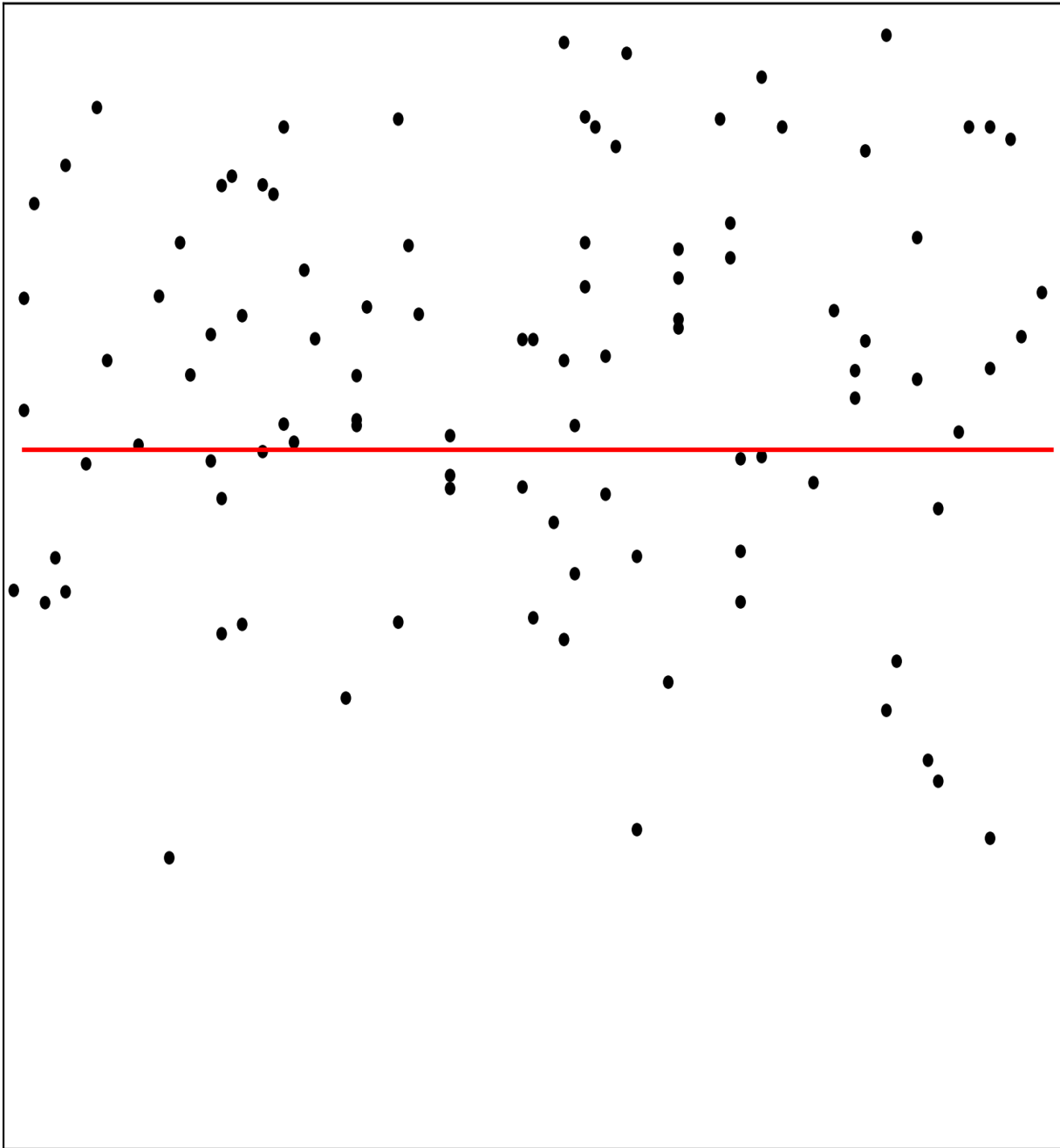


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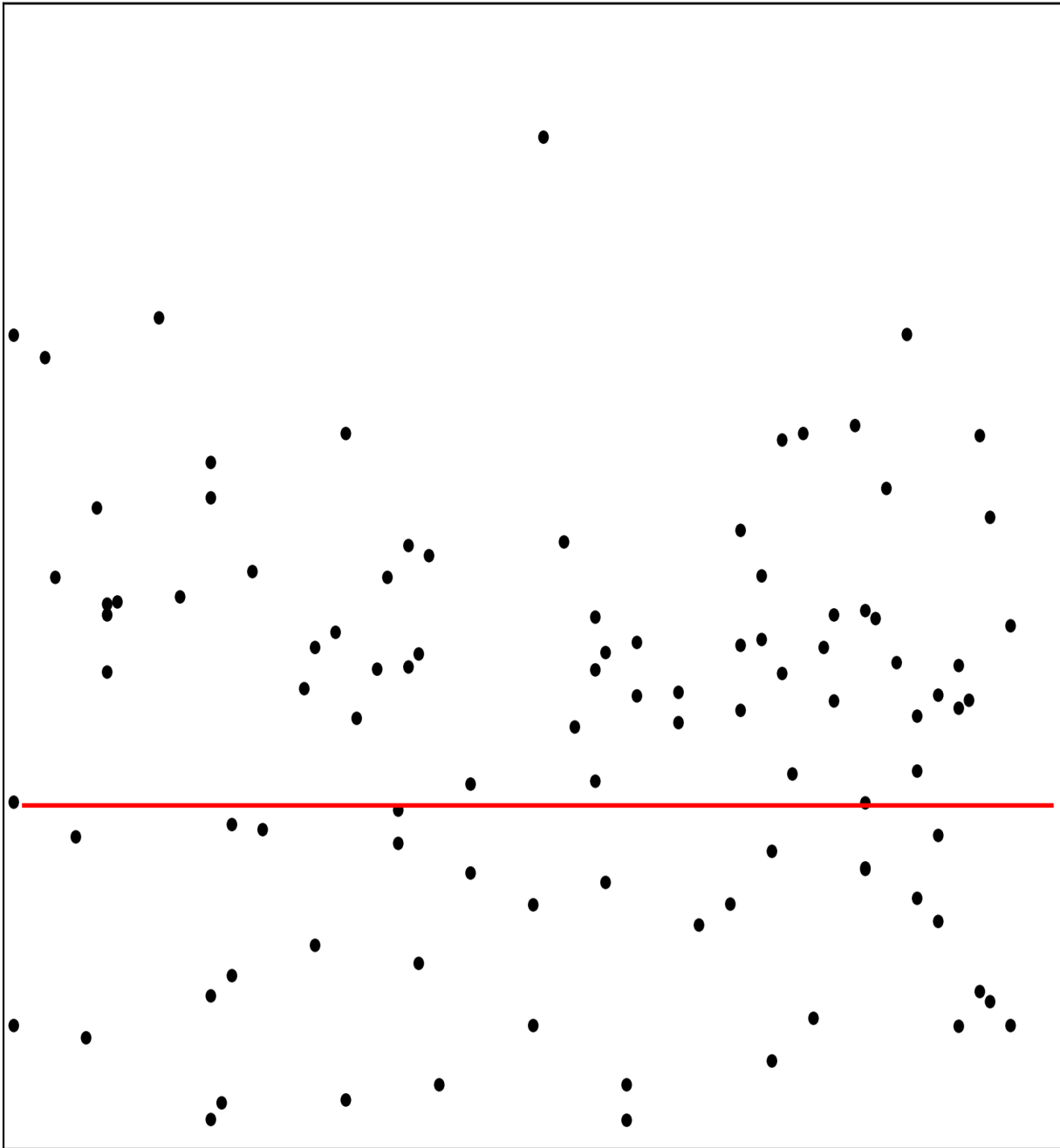


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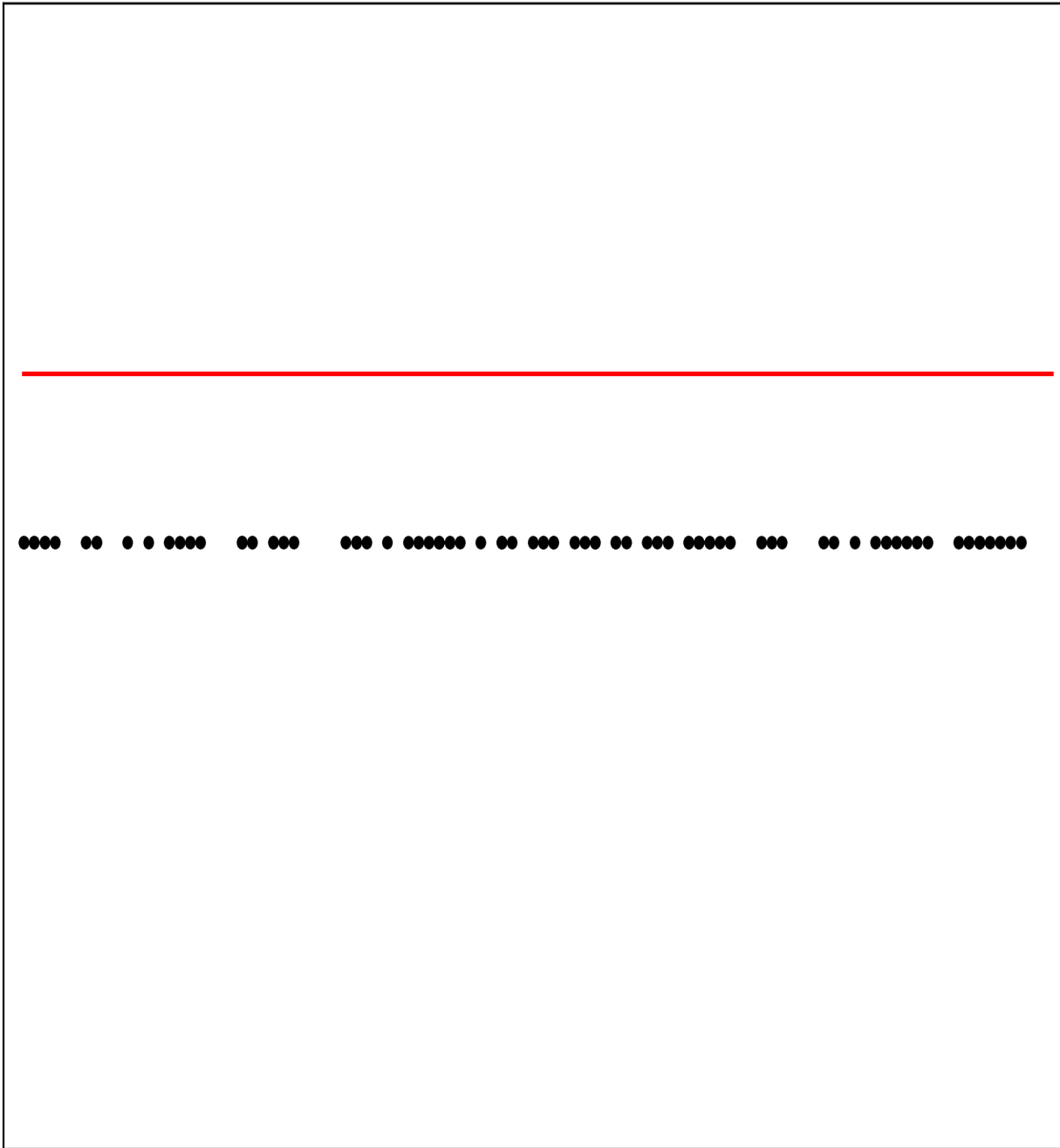


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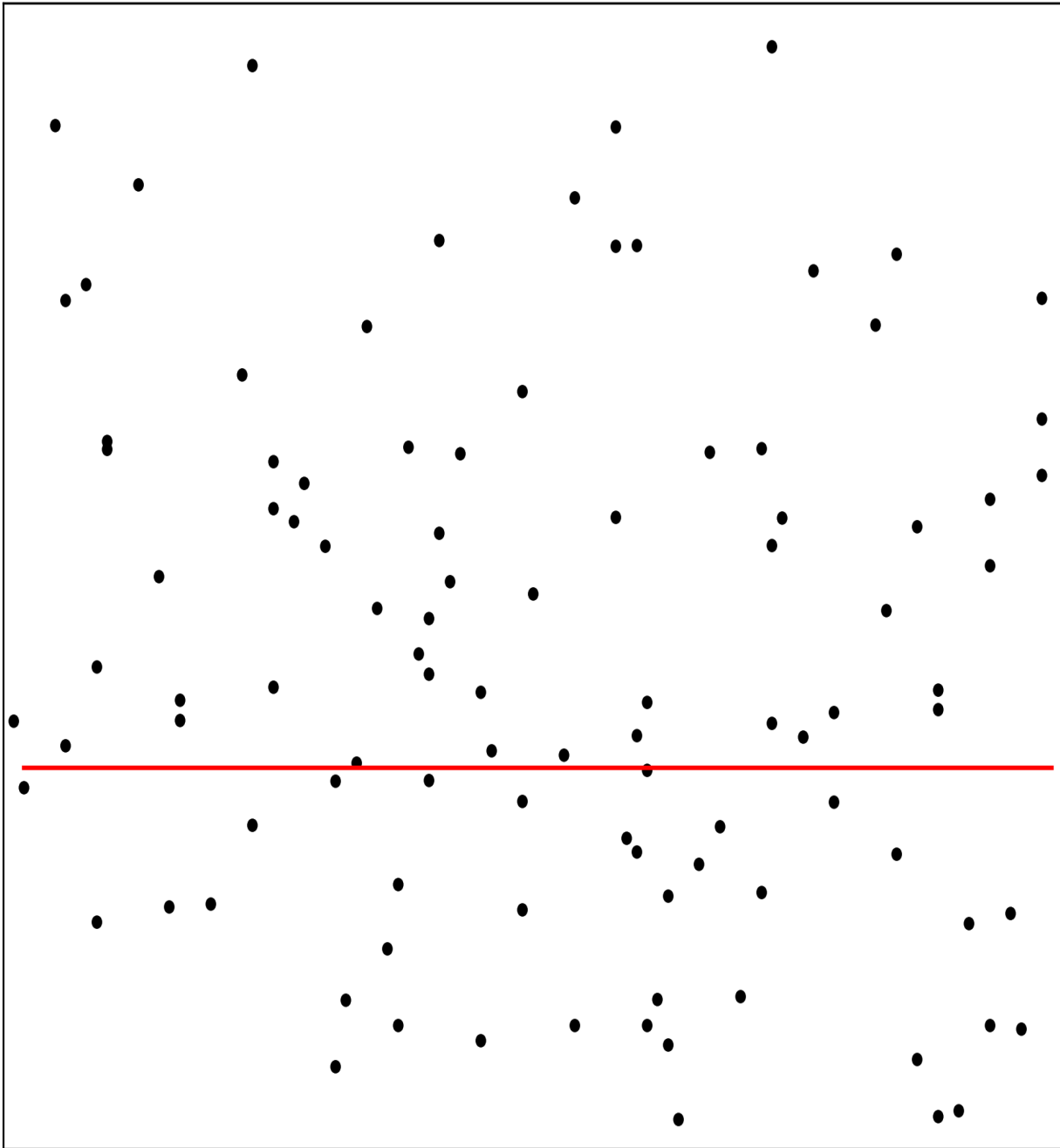


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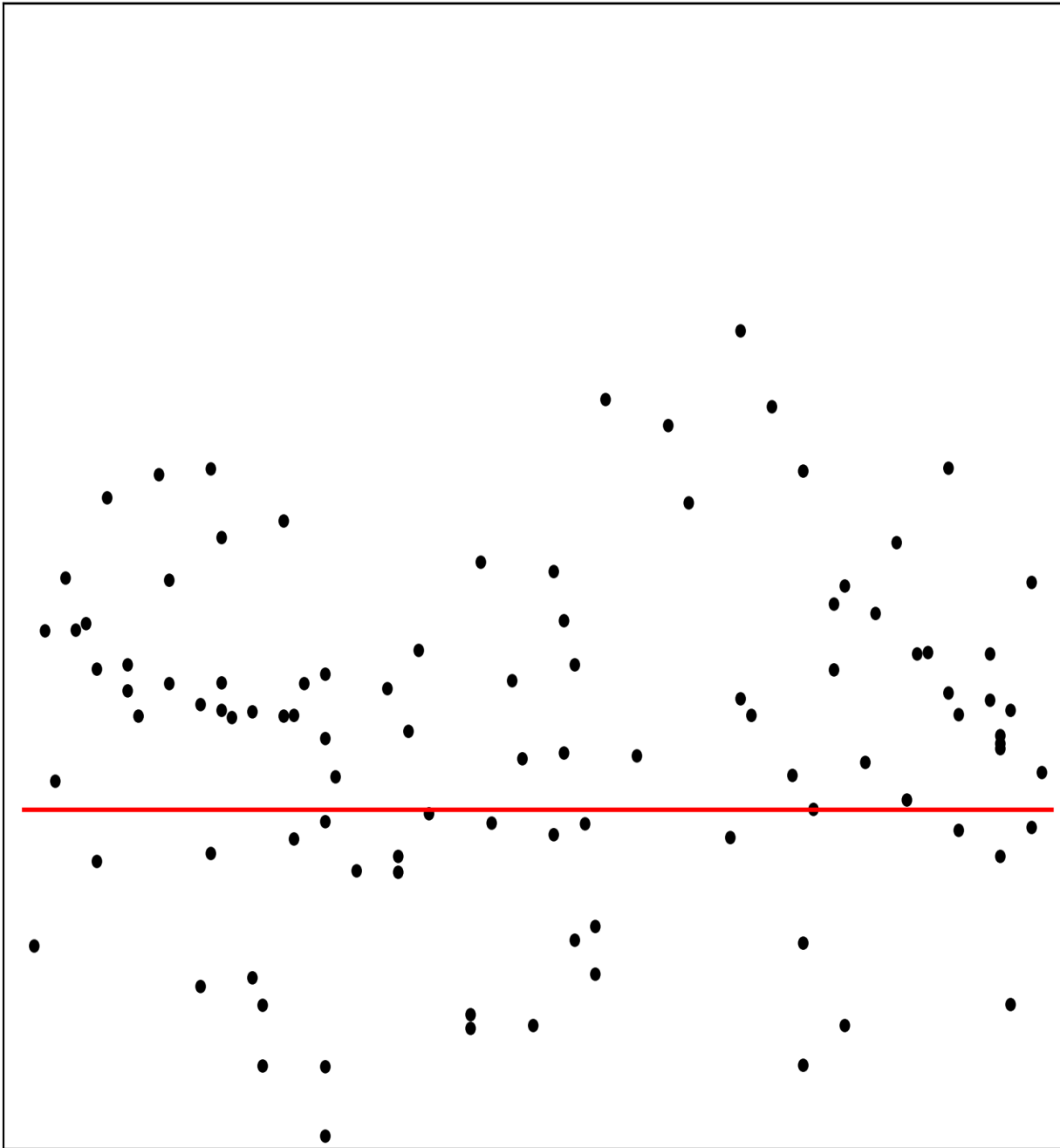


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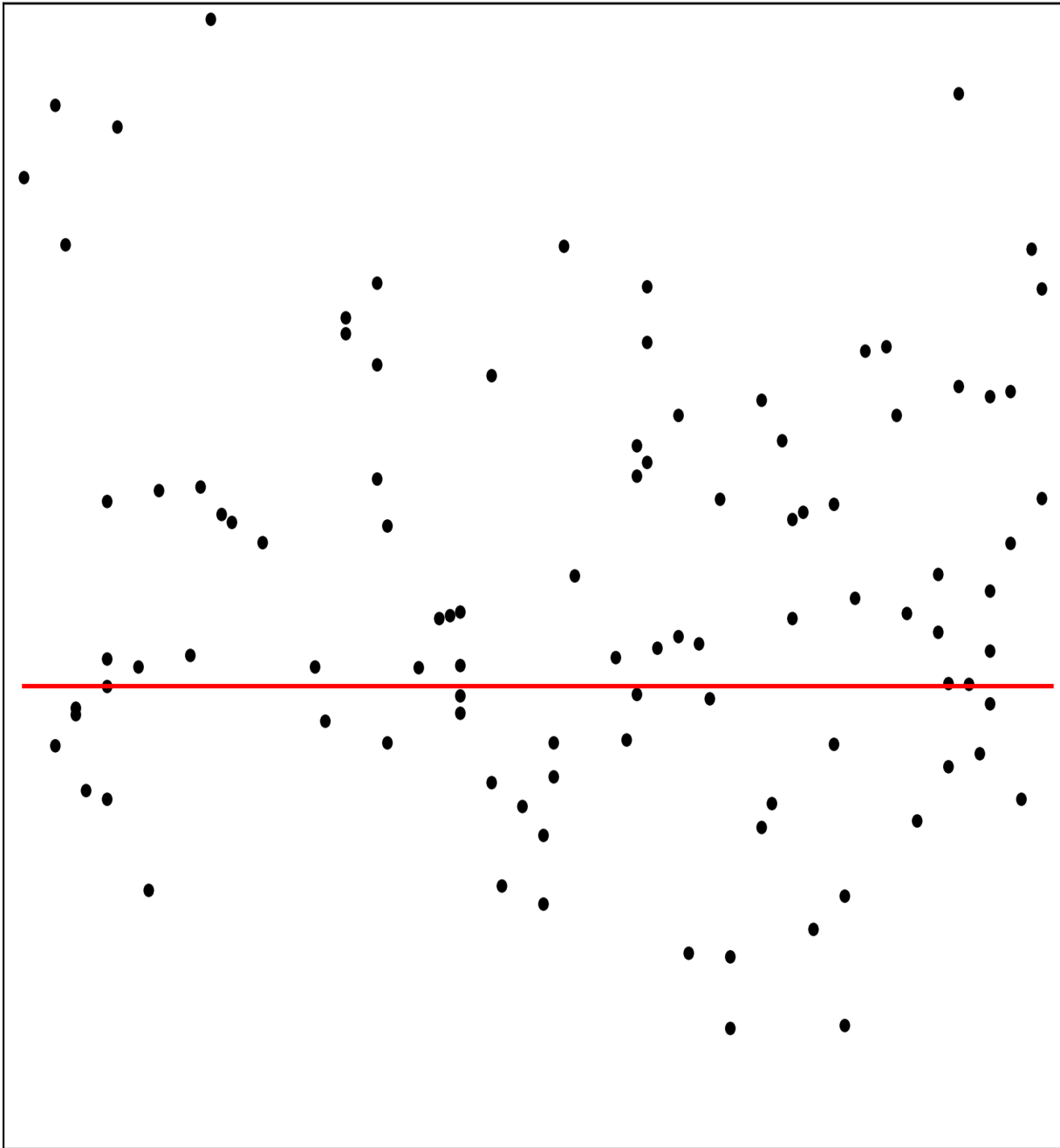


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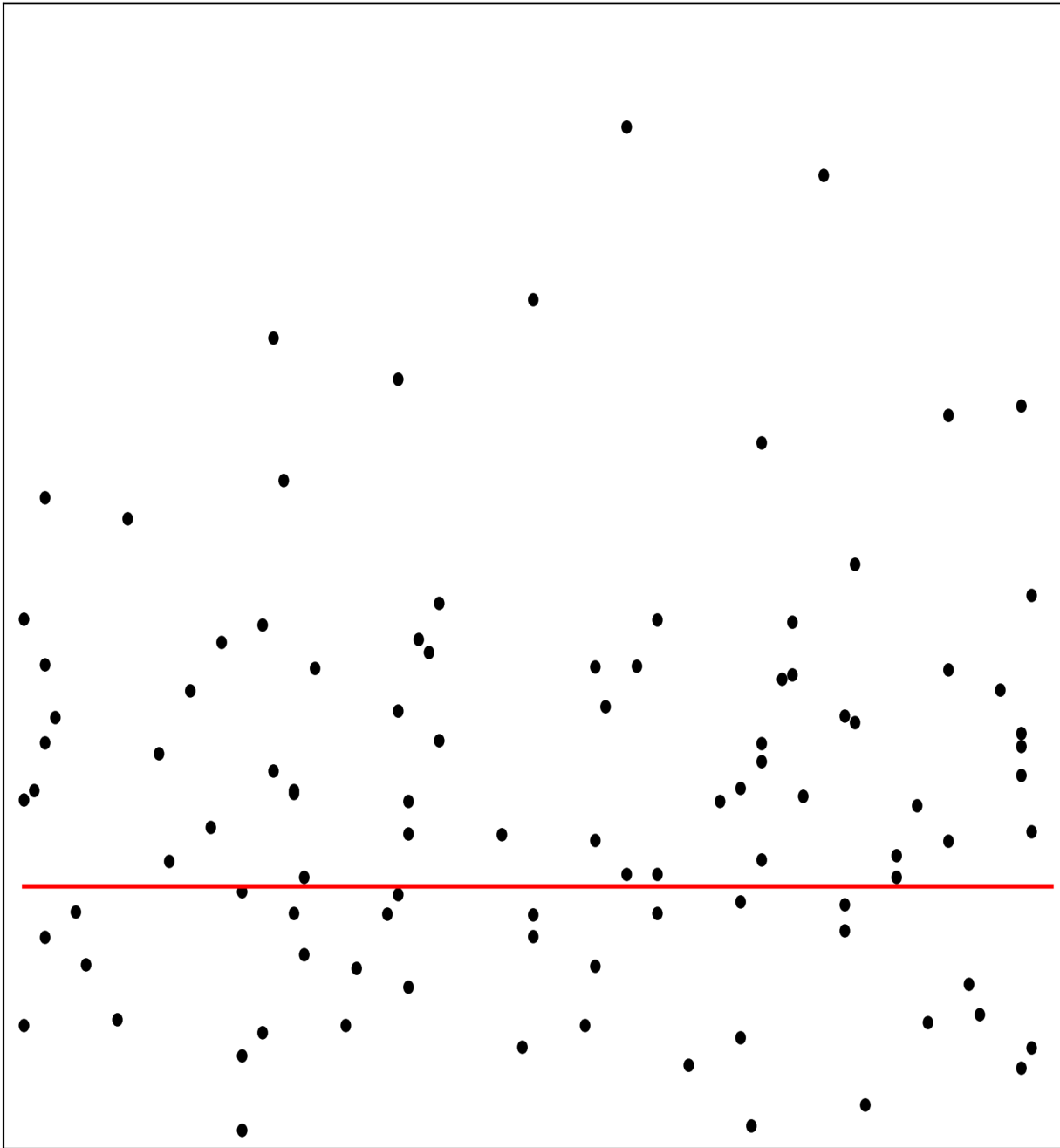


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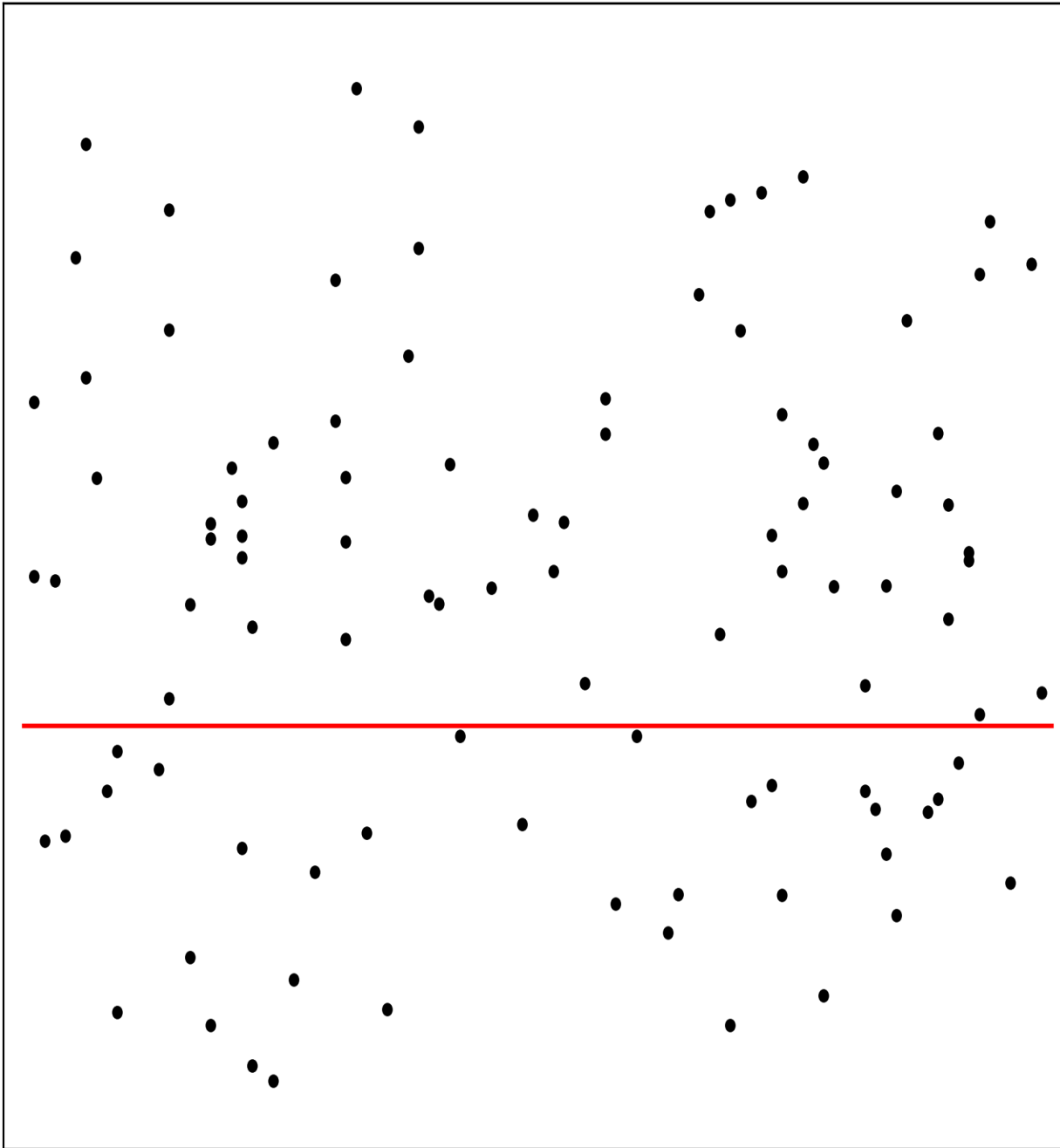


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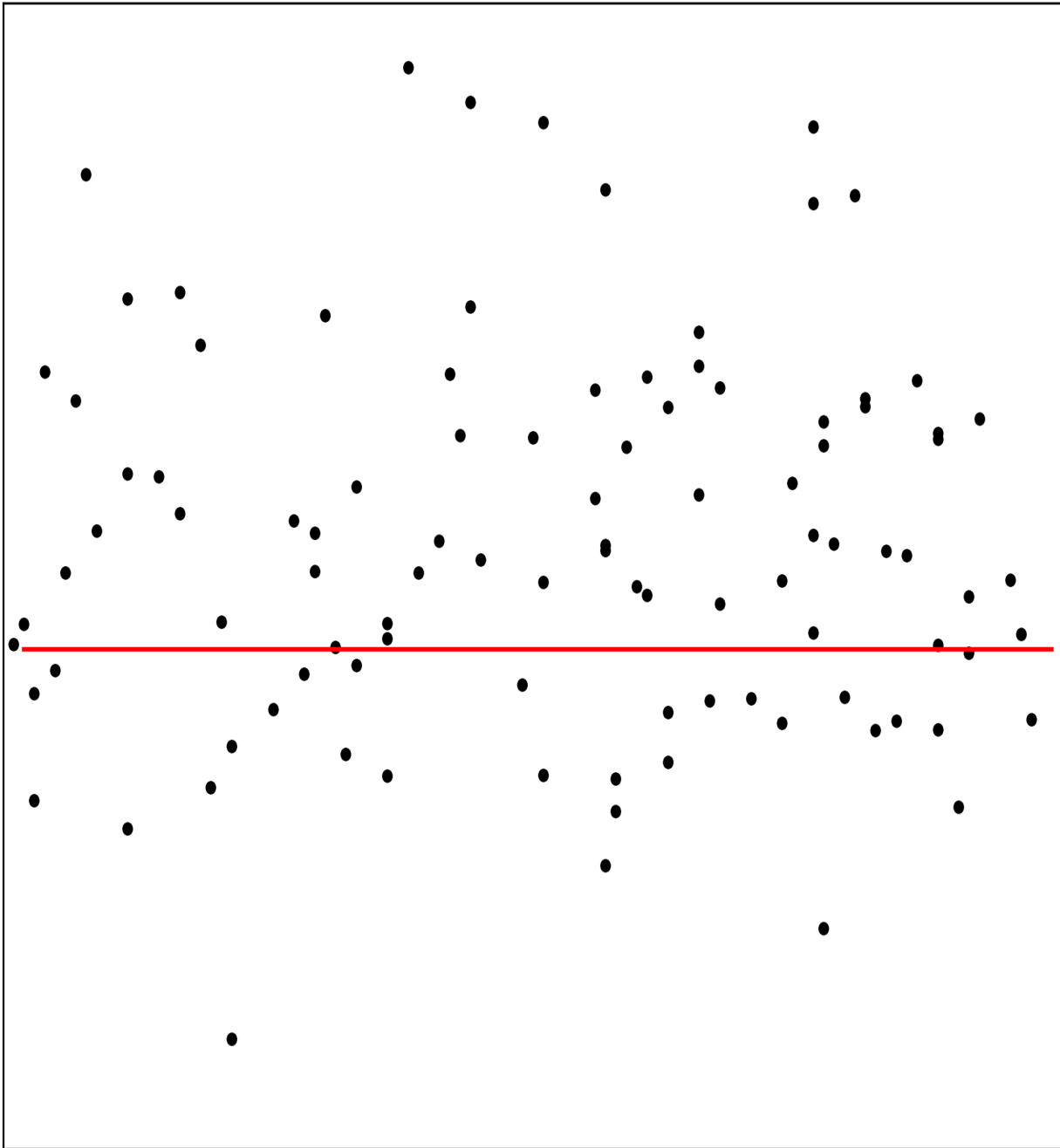


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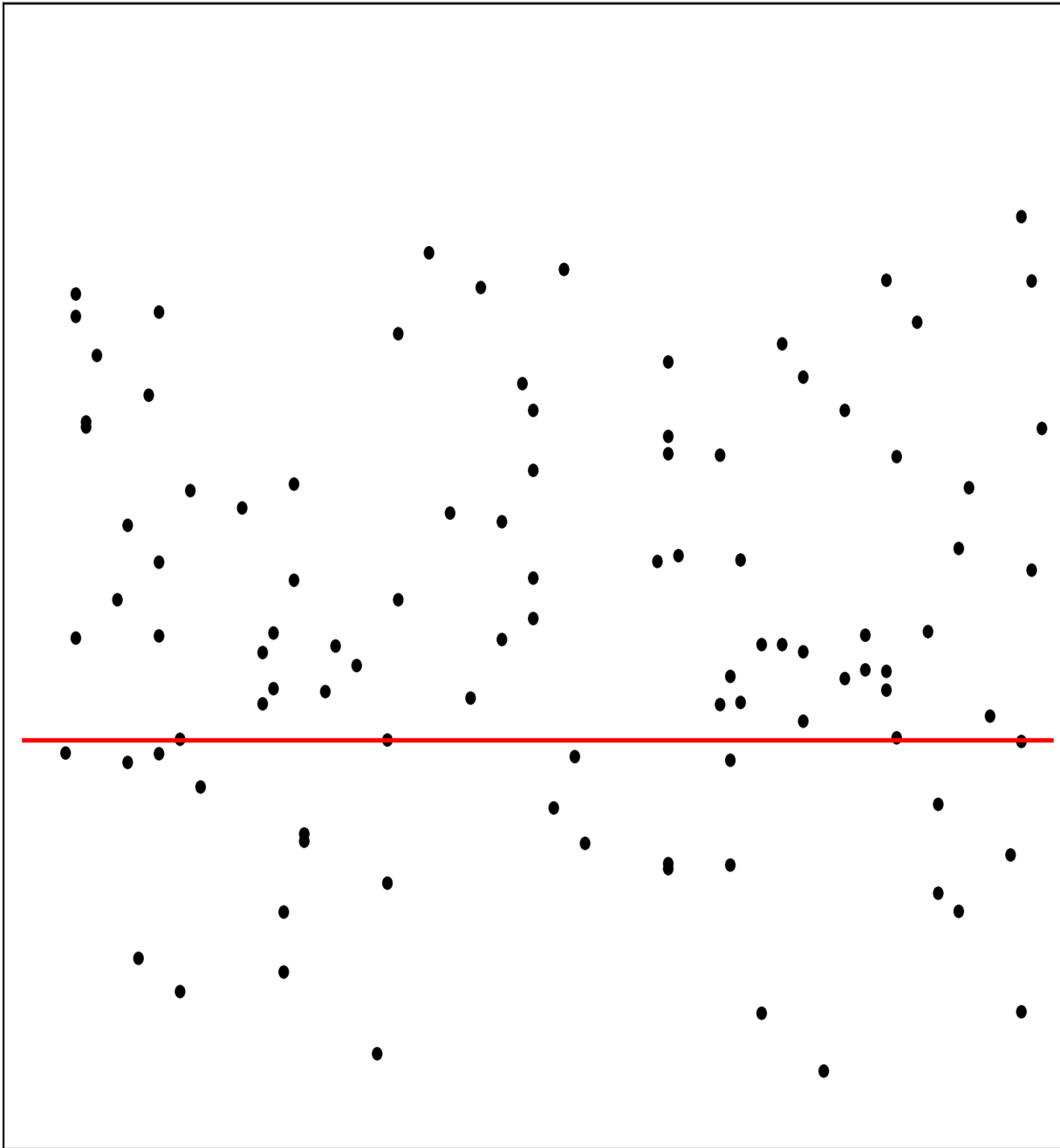


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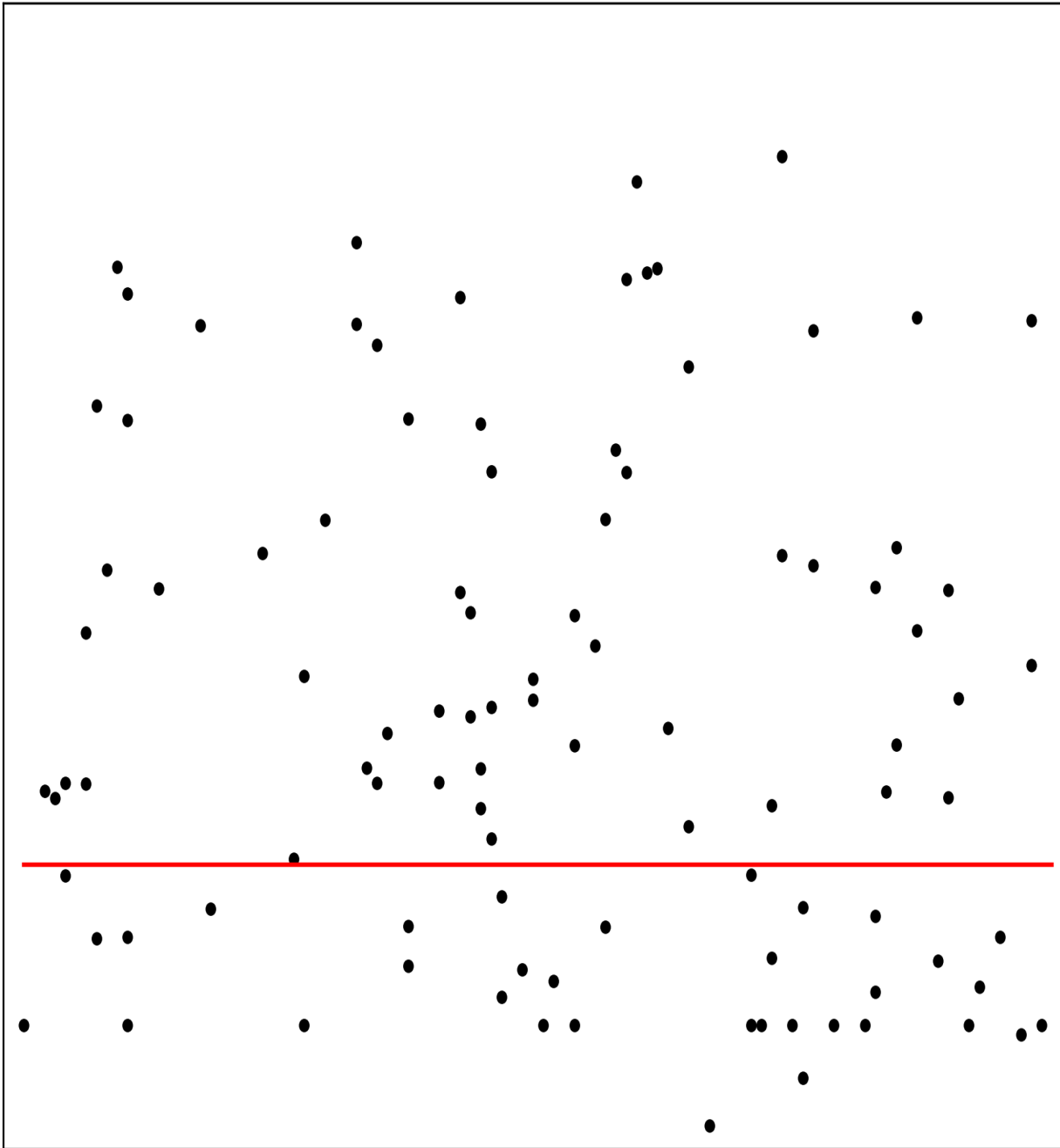


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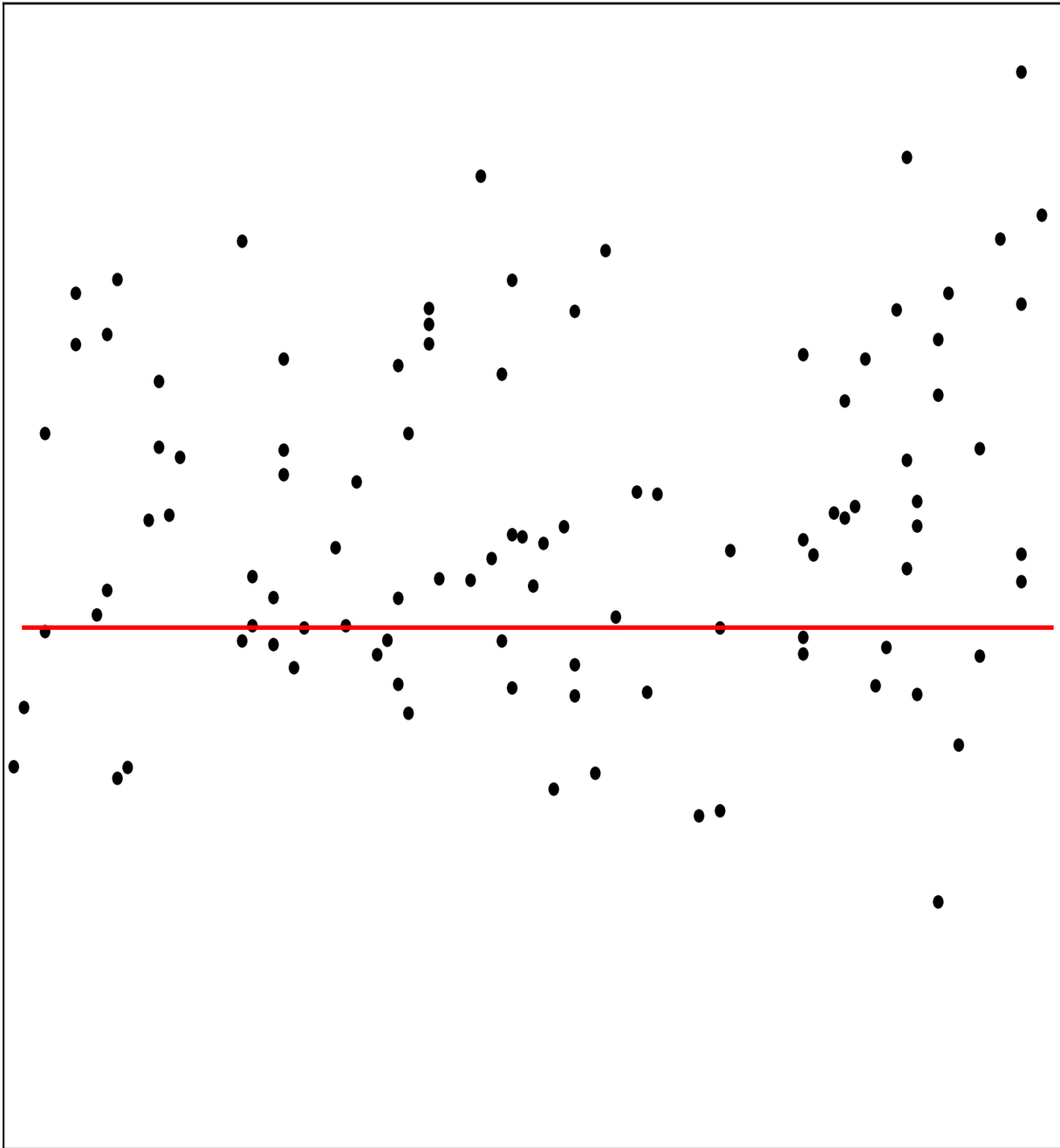


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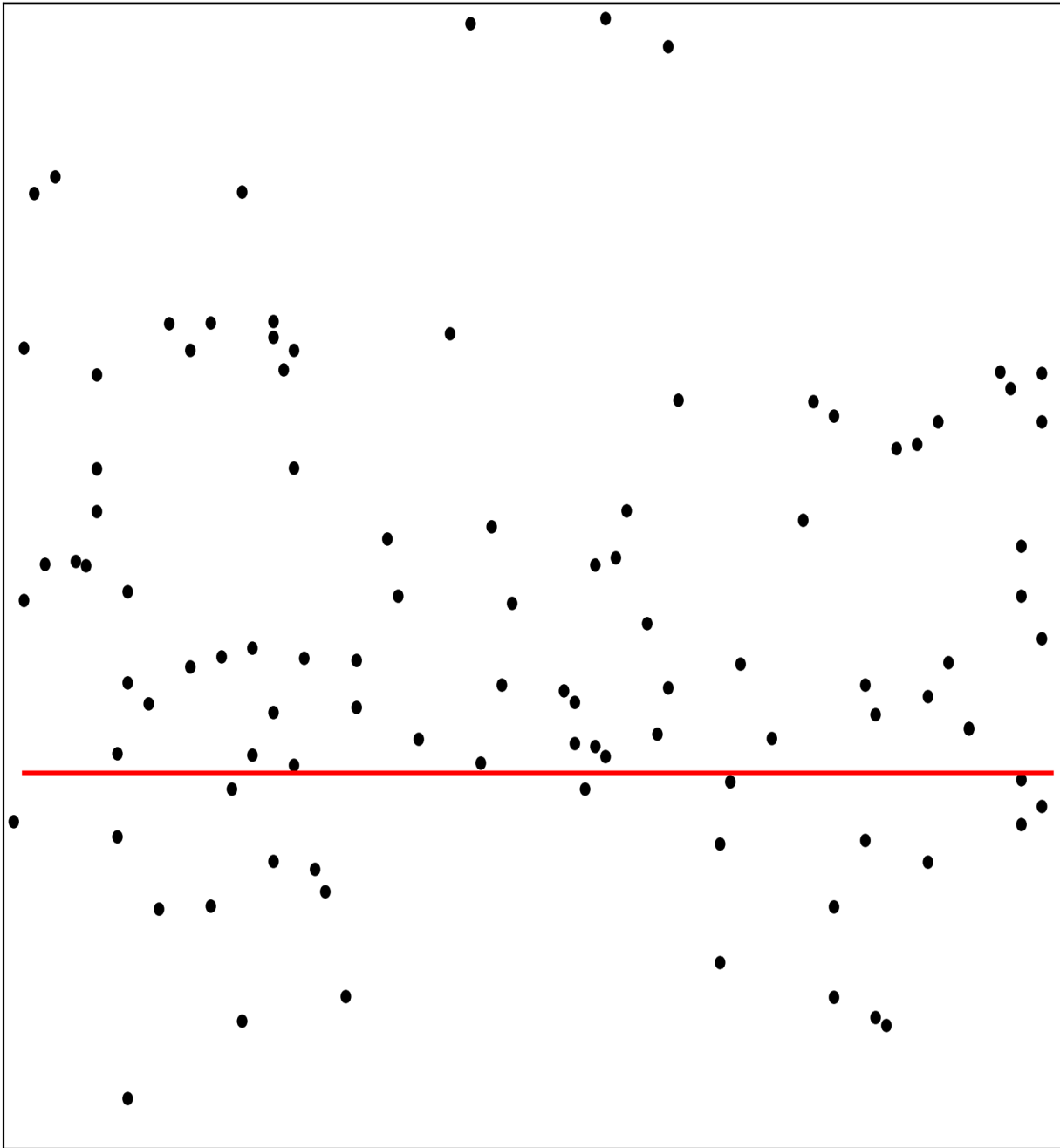


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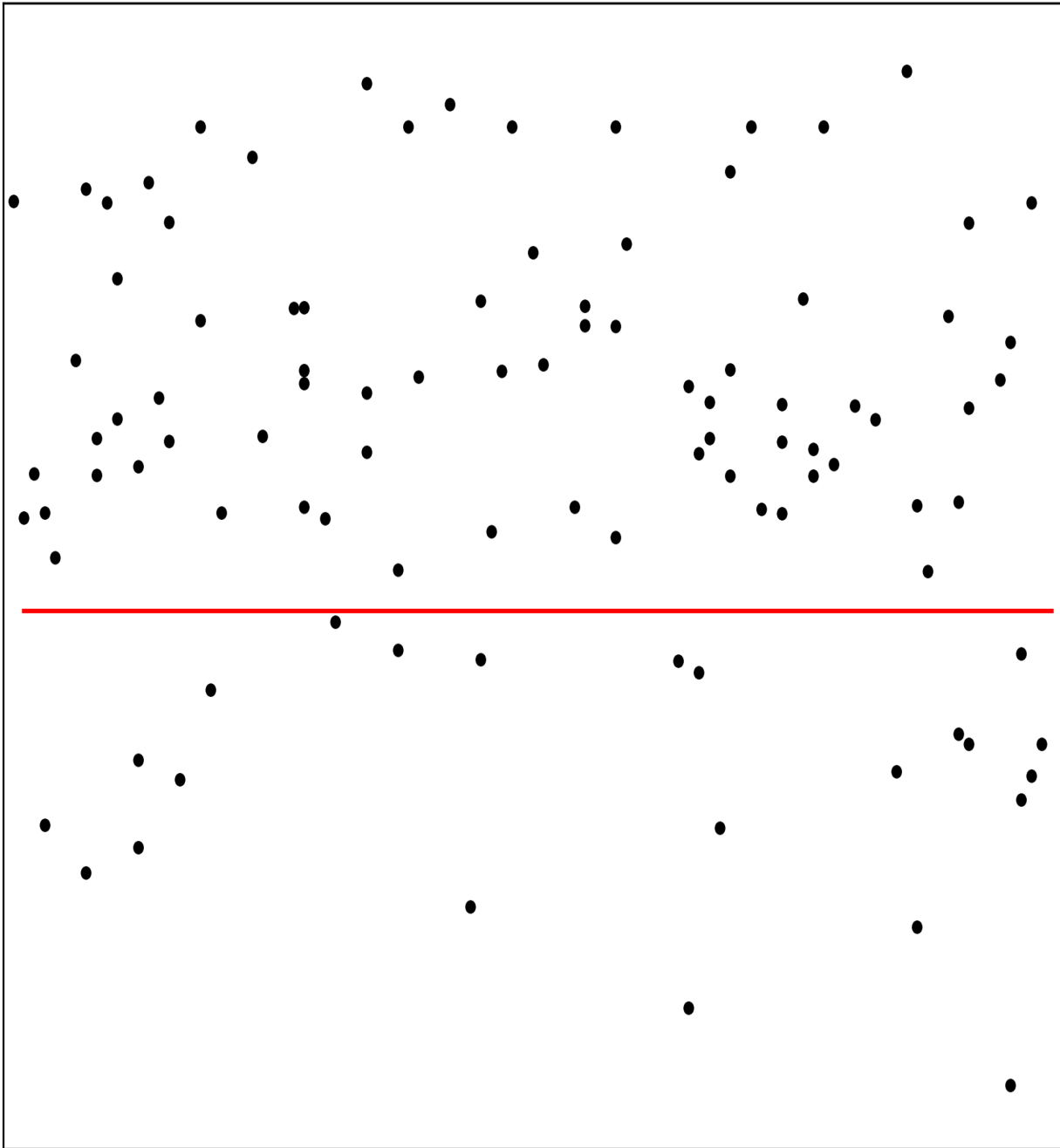


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How does the drawn line relate to the average height of the scatterplot?



*

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- I don't know

How difficult did you find the study tasks? *

Please choose **only one** of the following:

- 1 - Very difficult
- 2 - Difficult
- 3 - Neutral
- 4 - Easy
- 5 - Very easy

Estimation

Training

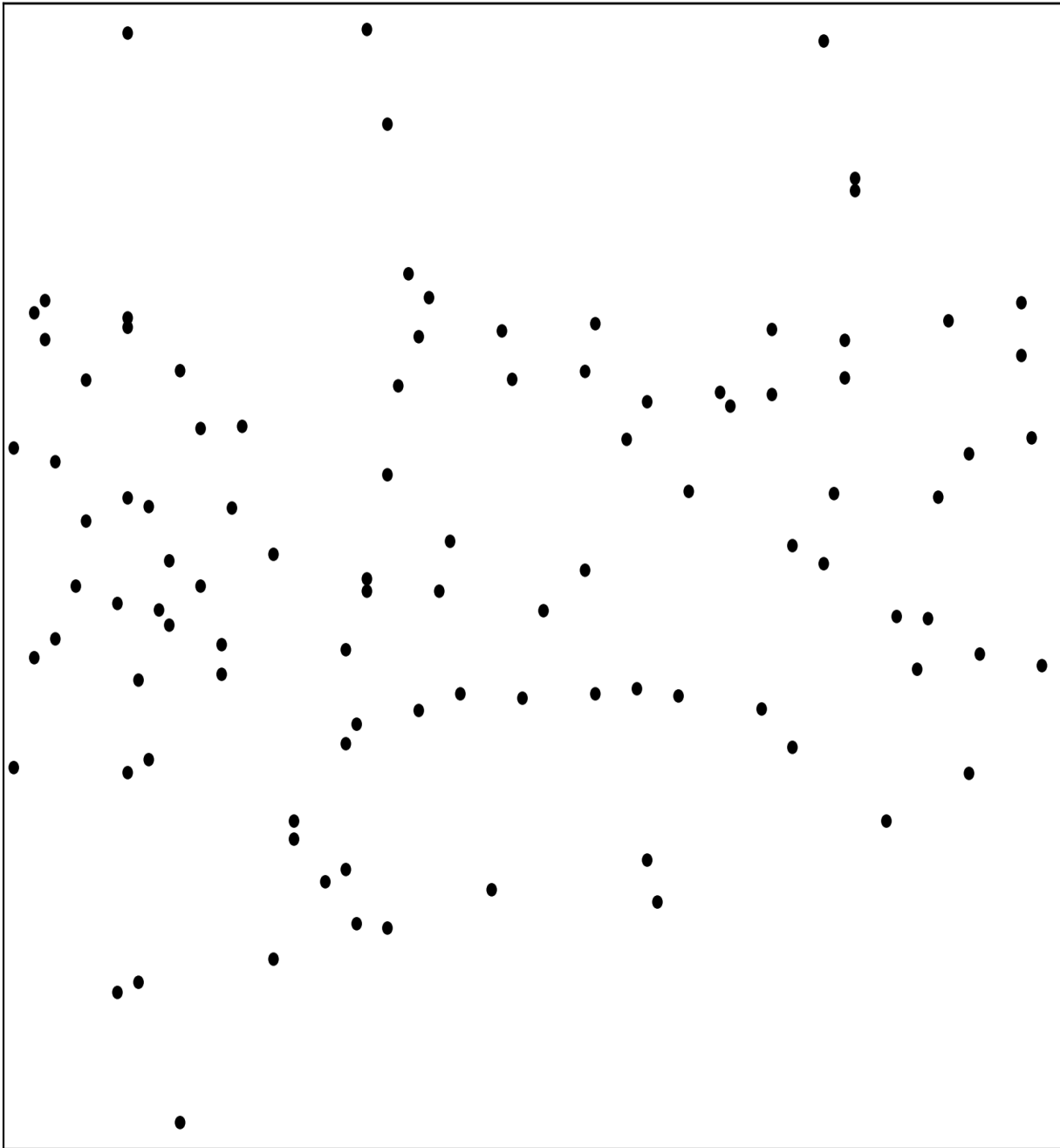
In each of the questions in this study, you are shown a scatterplot.

You are now asked to estimate the average height of the points in the scatterplot via a red line.

You can do this by hovering over the scatterplot to your desired position. Clicking with the left mouse button fixes the line. If you want to change your answer, you can release the line again by clicking another time (you can not drag the line). Submit your answer by clicking the Next-Button below the picture.

Try all the functions: Move your mouse on the picture, click to fix the line, click to release the line.

Please indicate the average height of the scatterplot.

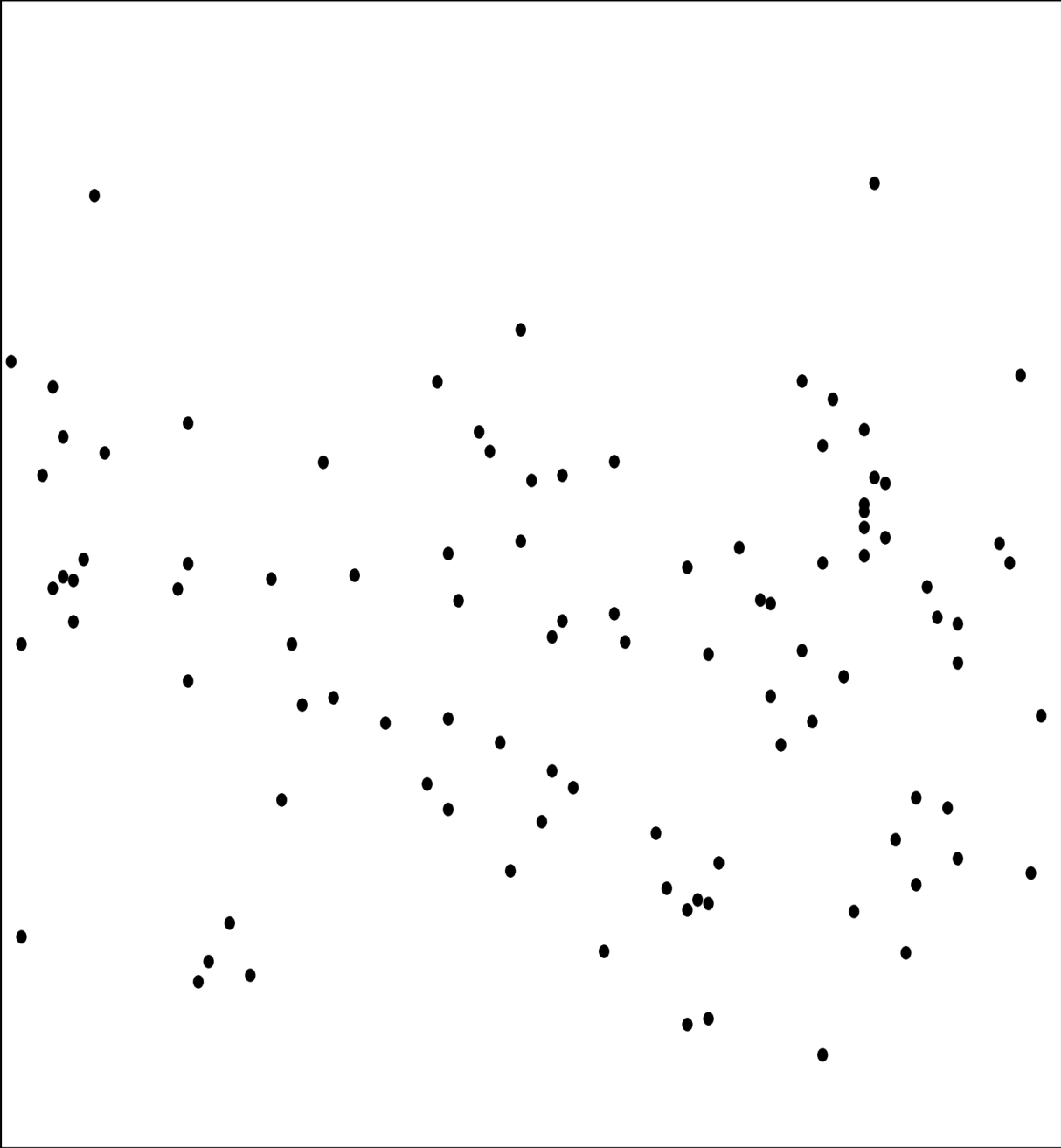


*

The training is over now.

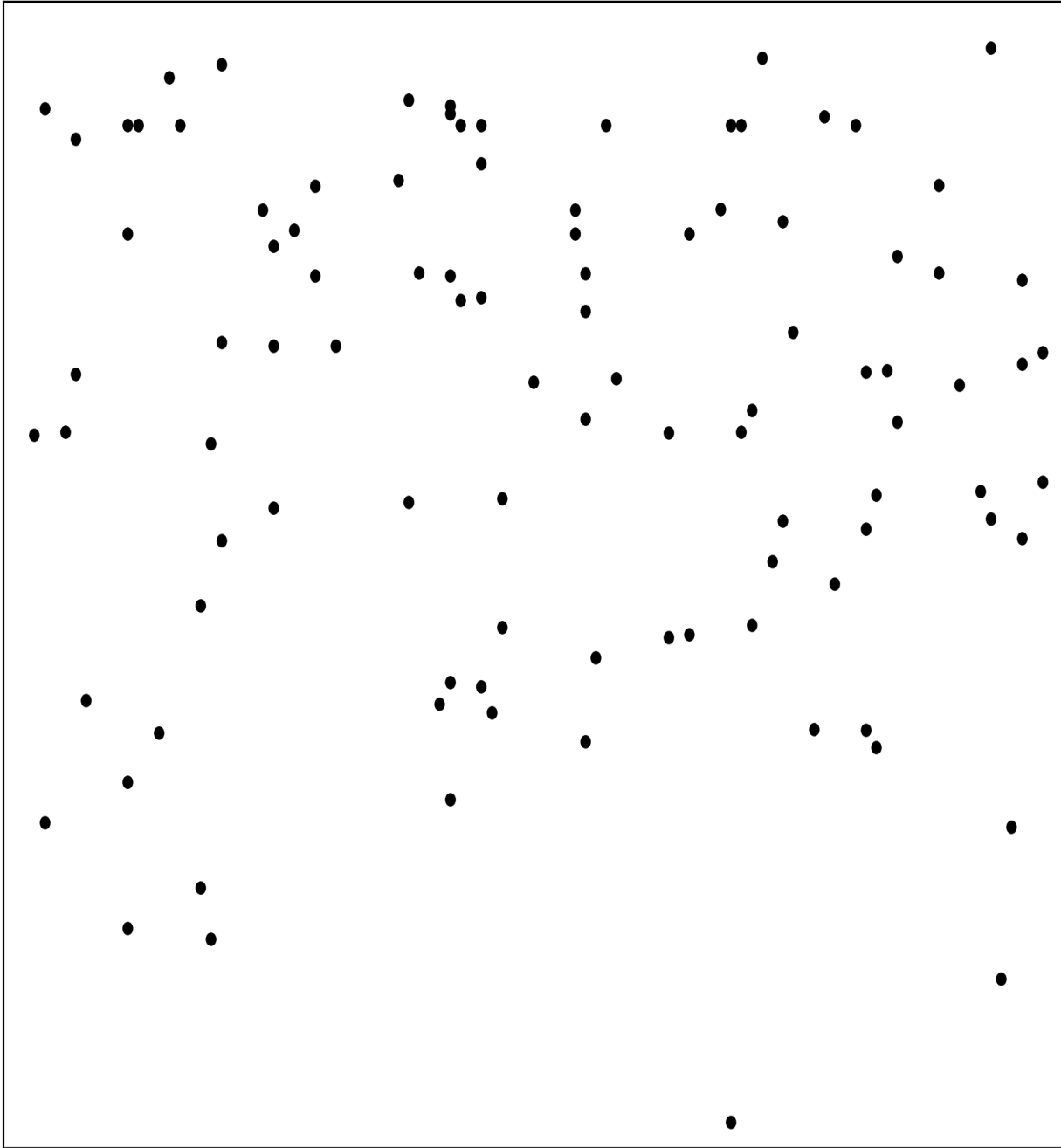
The actual study, including time measurement, begins on the next page.

Please indicate the average height of the scatterplot.



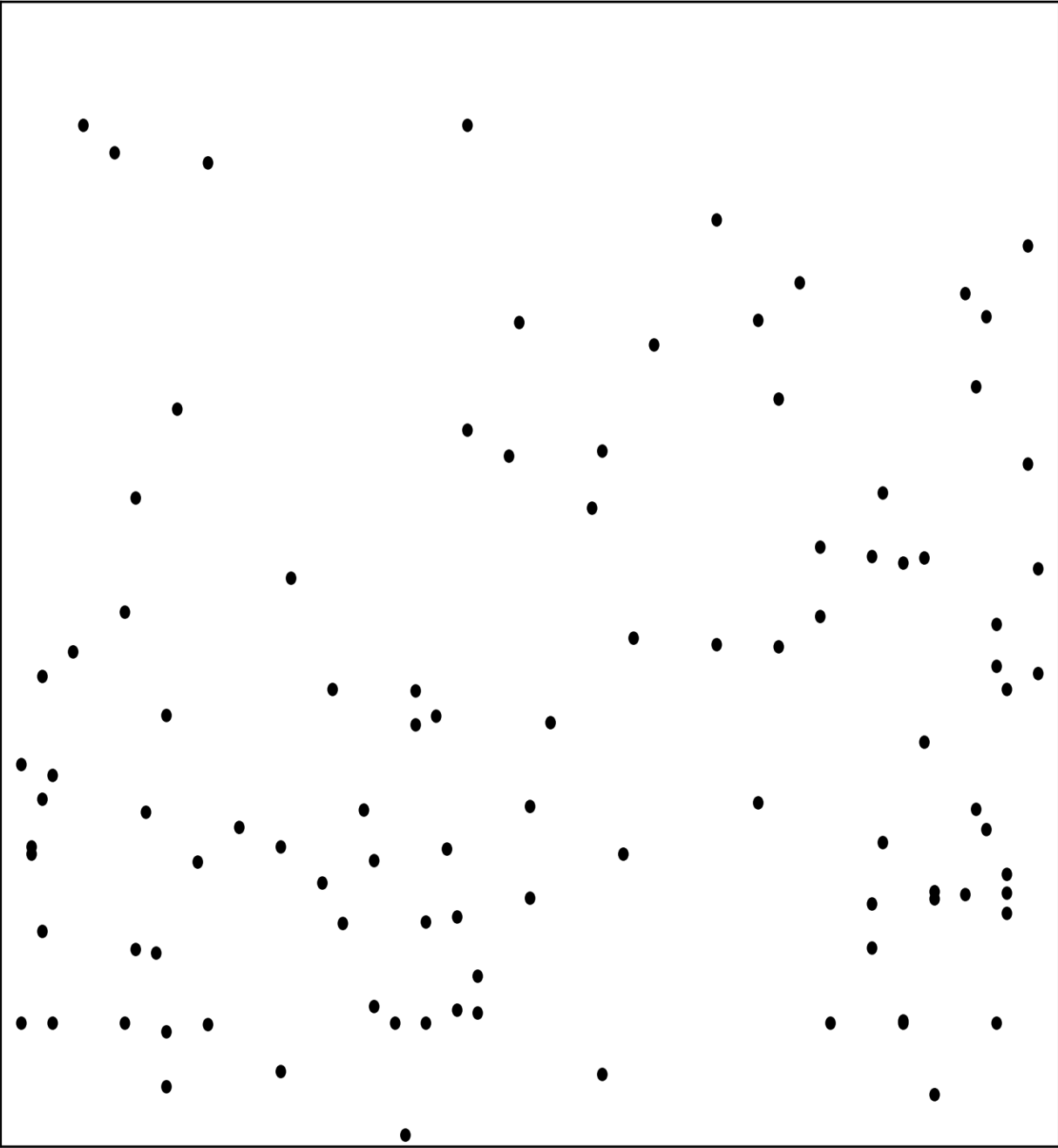
*

Please indicate the average height of the scatterplot.



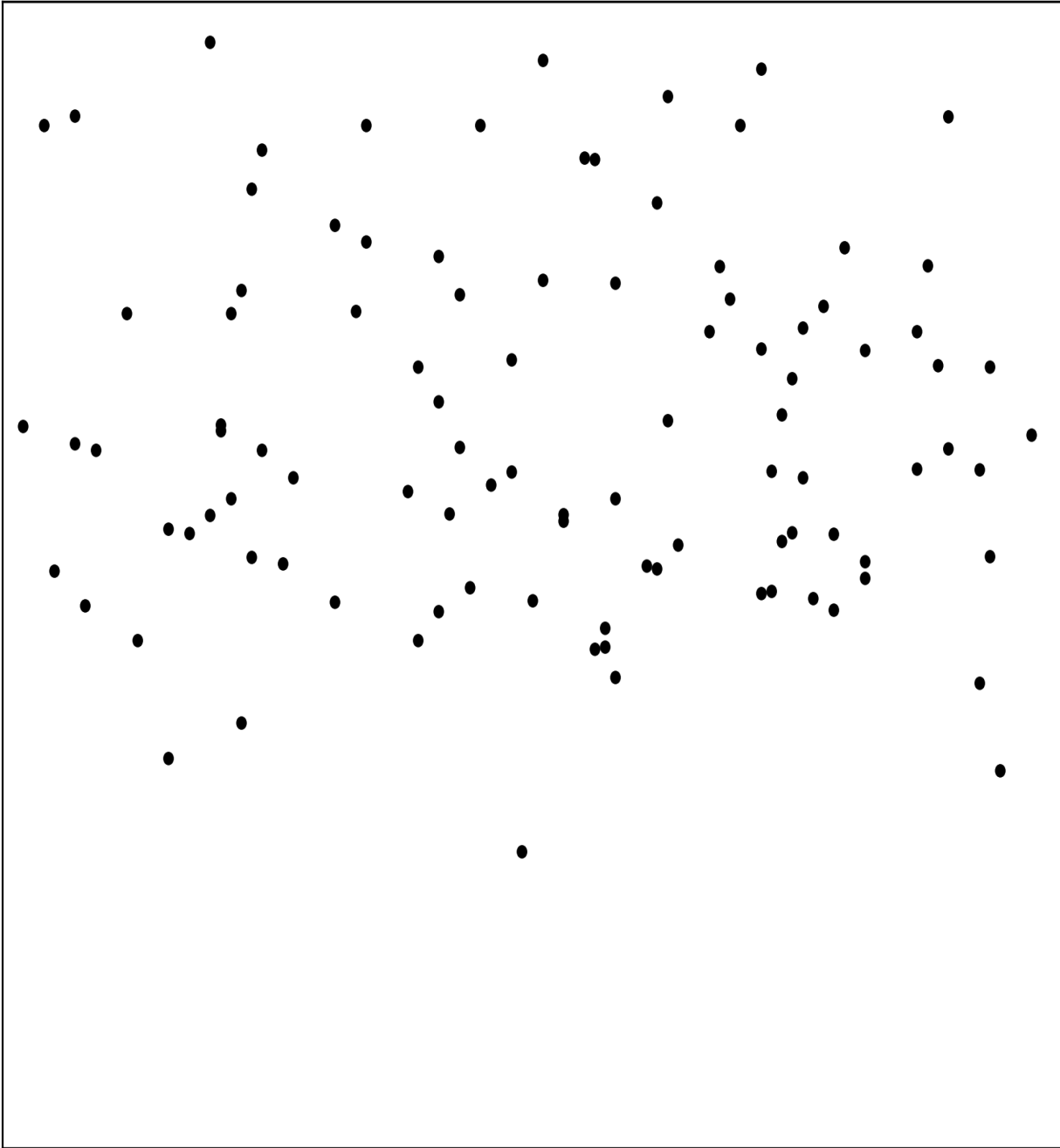
*

Please indicate the average height of the scatterplot.



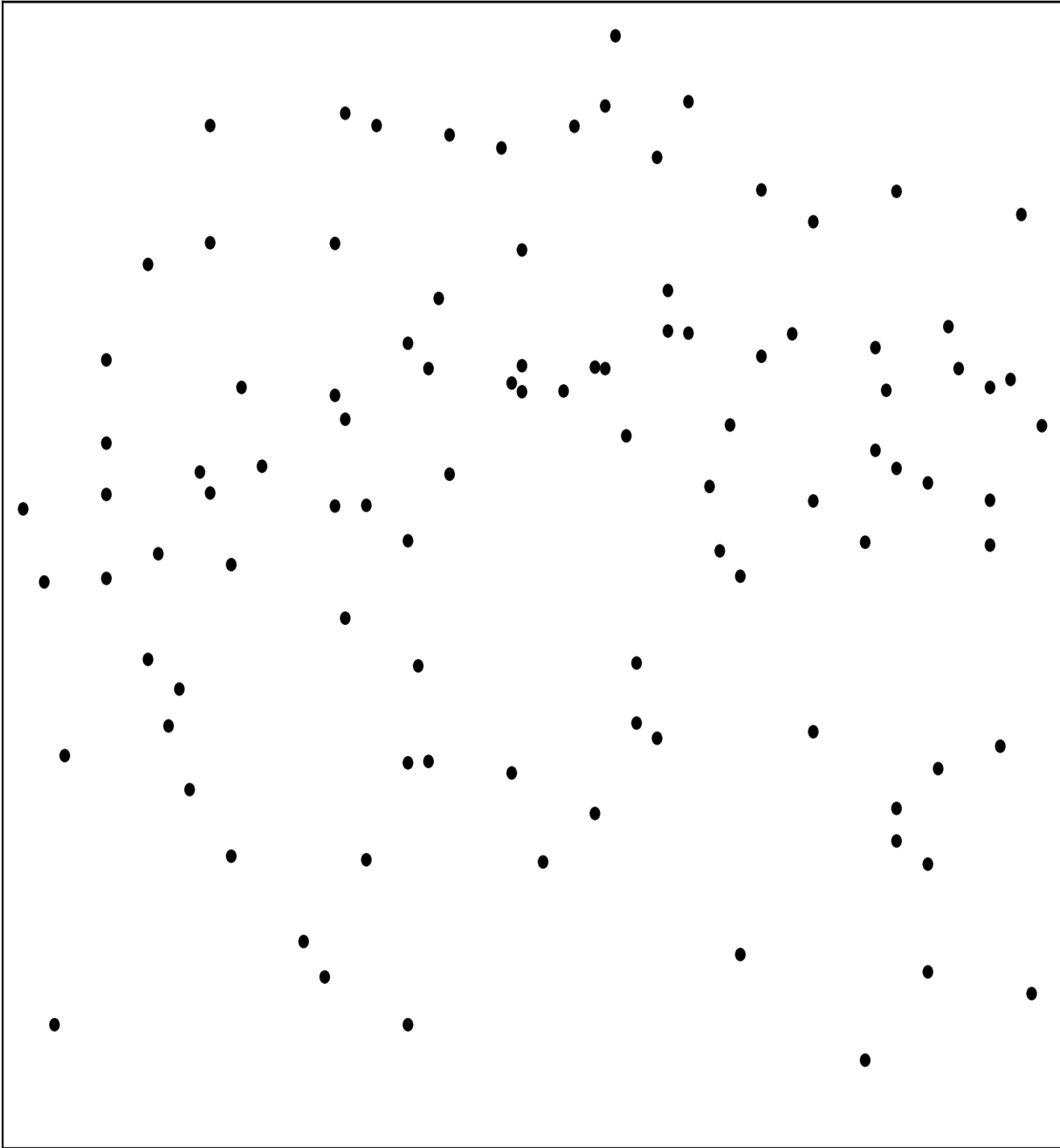
*

Please indicate the average height of the scatterplot.



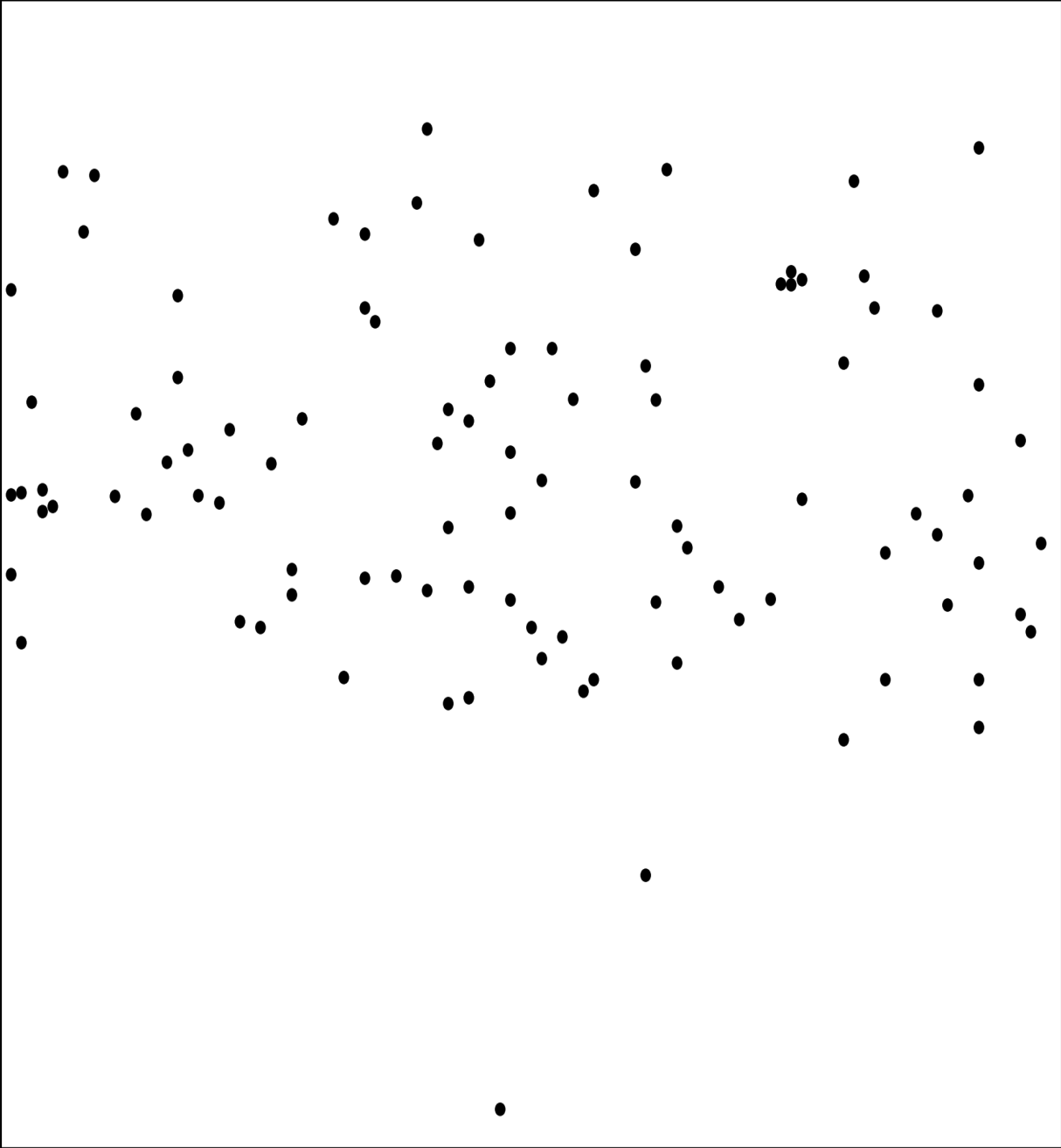
*

Please indicate the average height of the scatterplot.



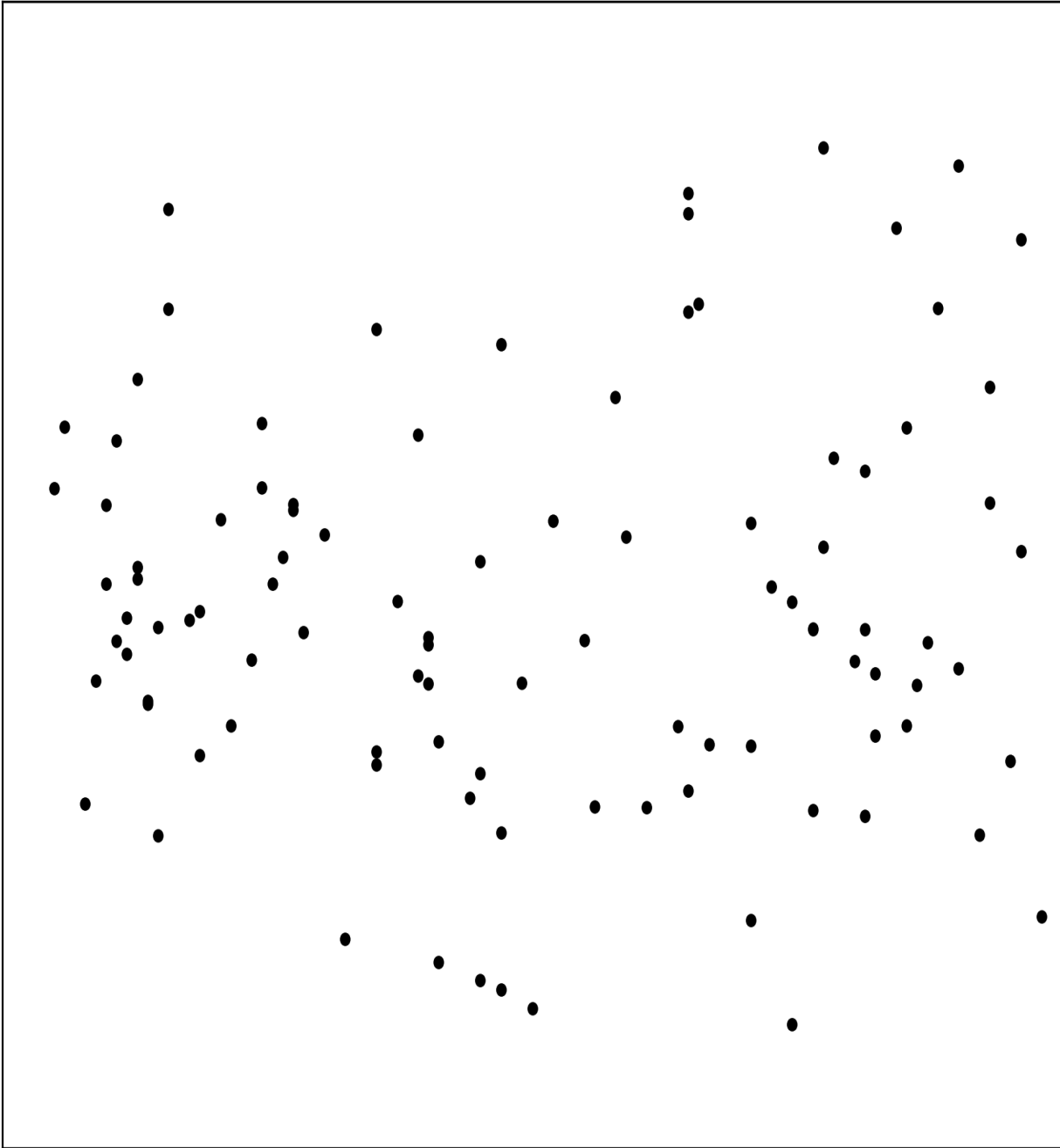
*

Please indicate the average height of the scatterplot.



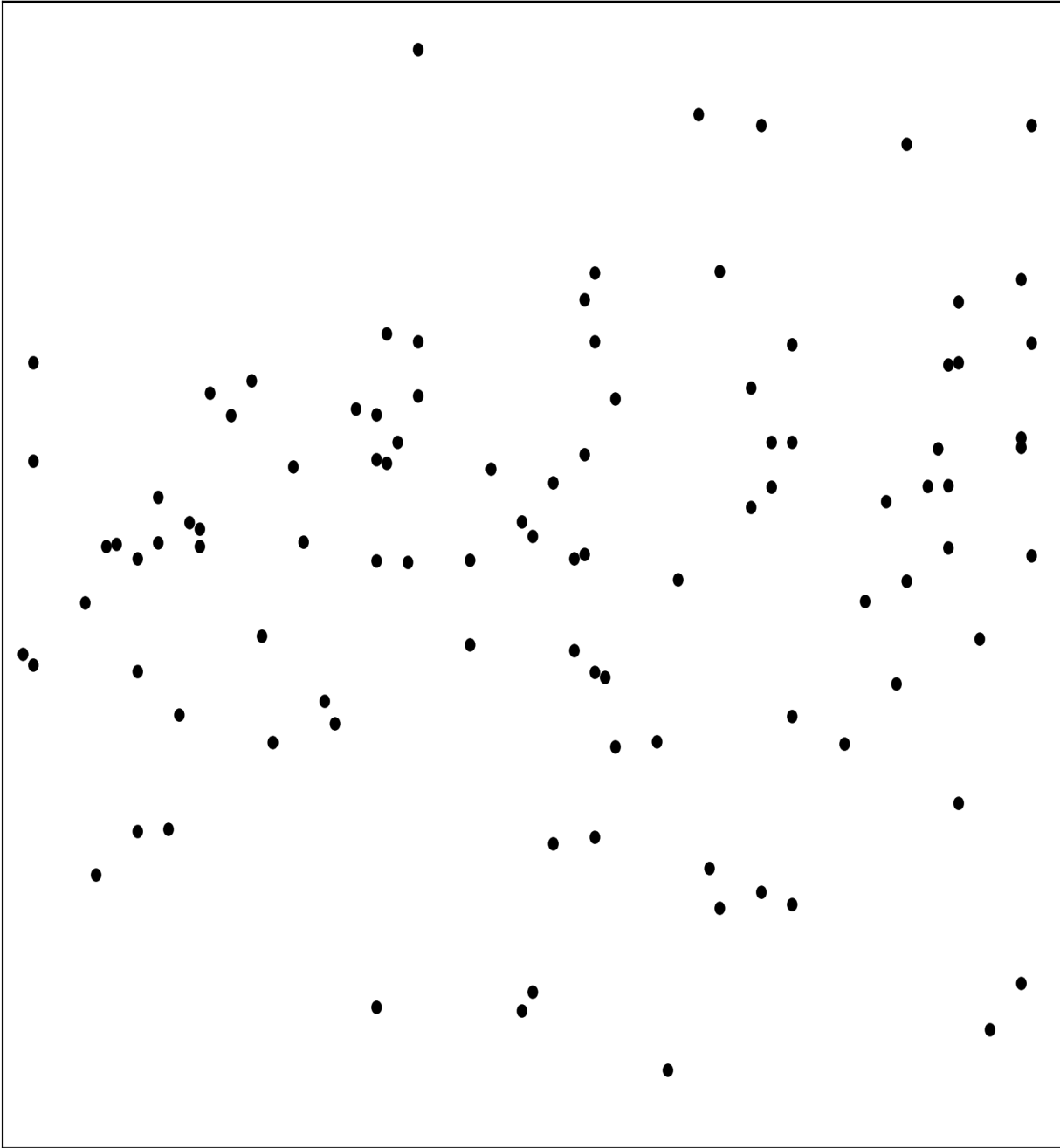
*

Please indicate the average height of the scatterplot.



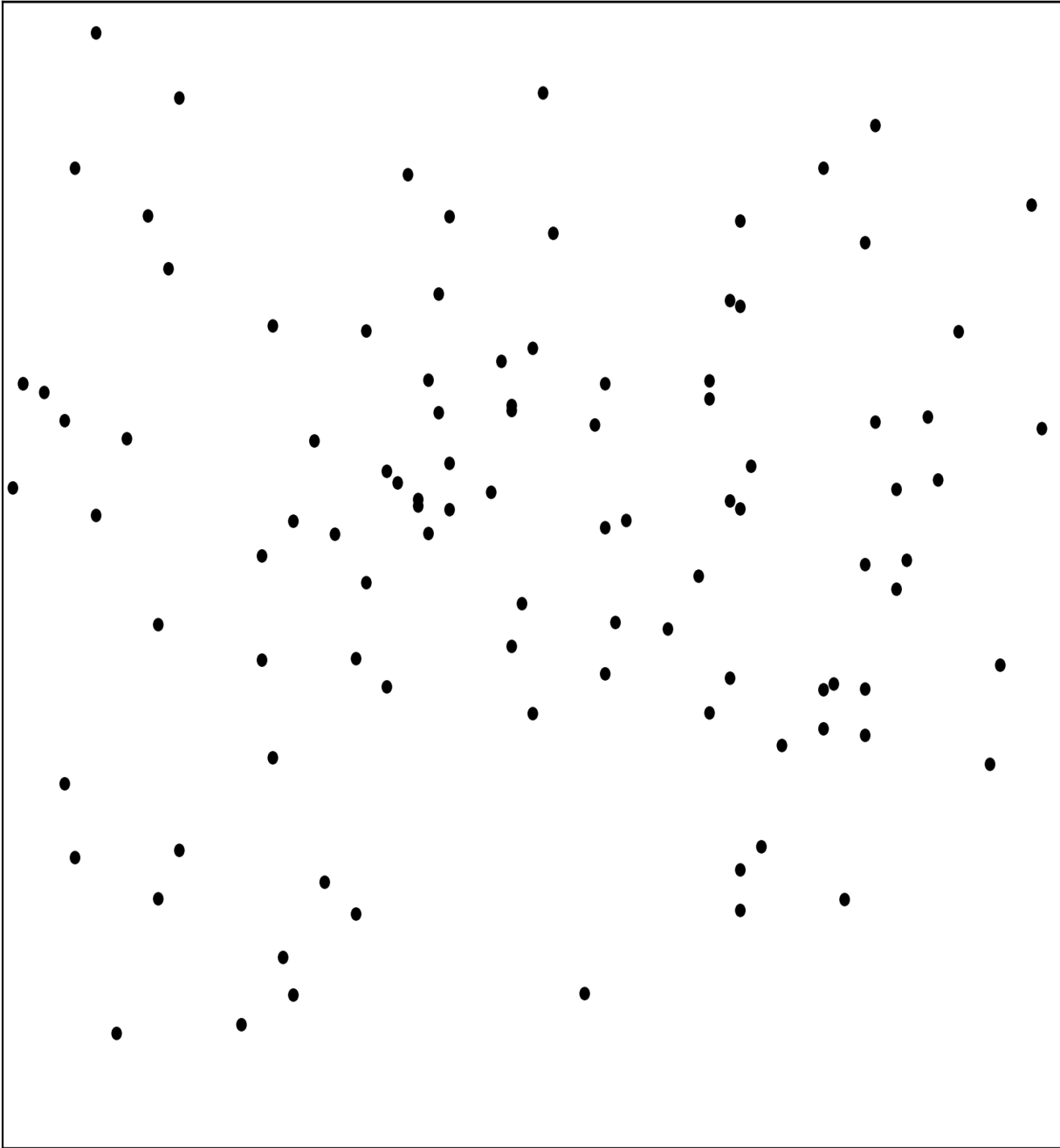
*

Please indicate the average height of the scatterplot.



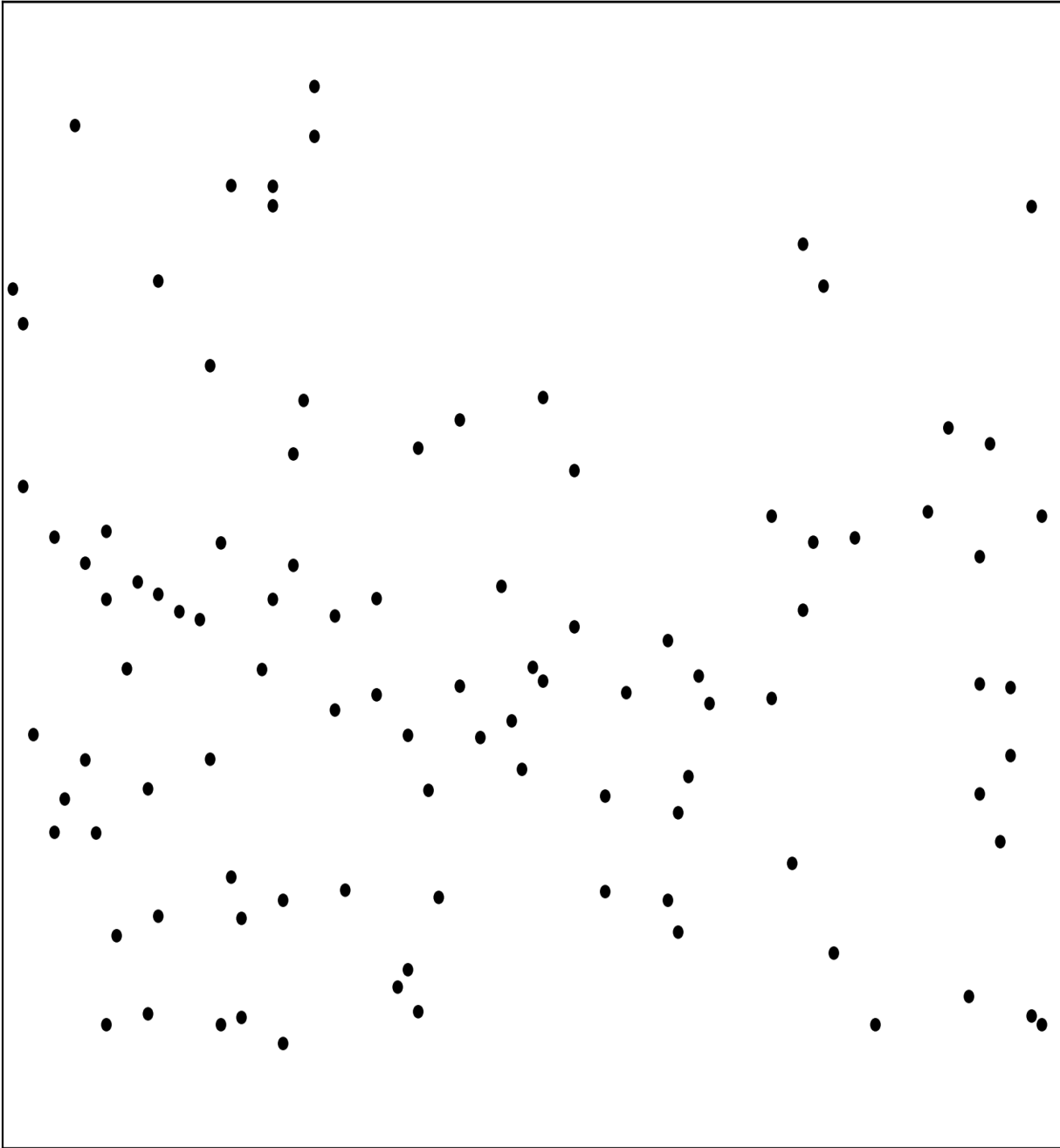
*

Please indicate the average height of the scatterplot.



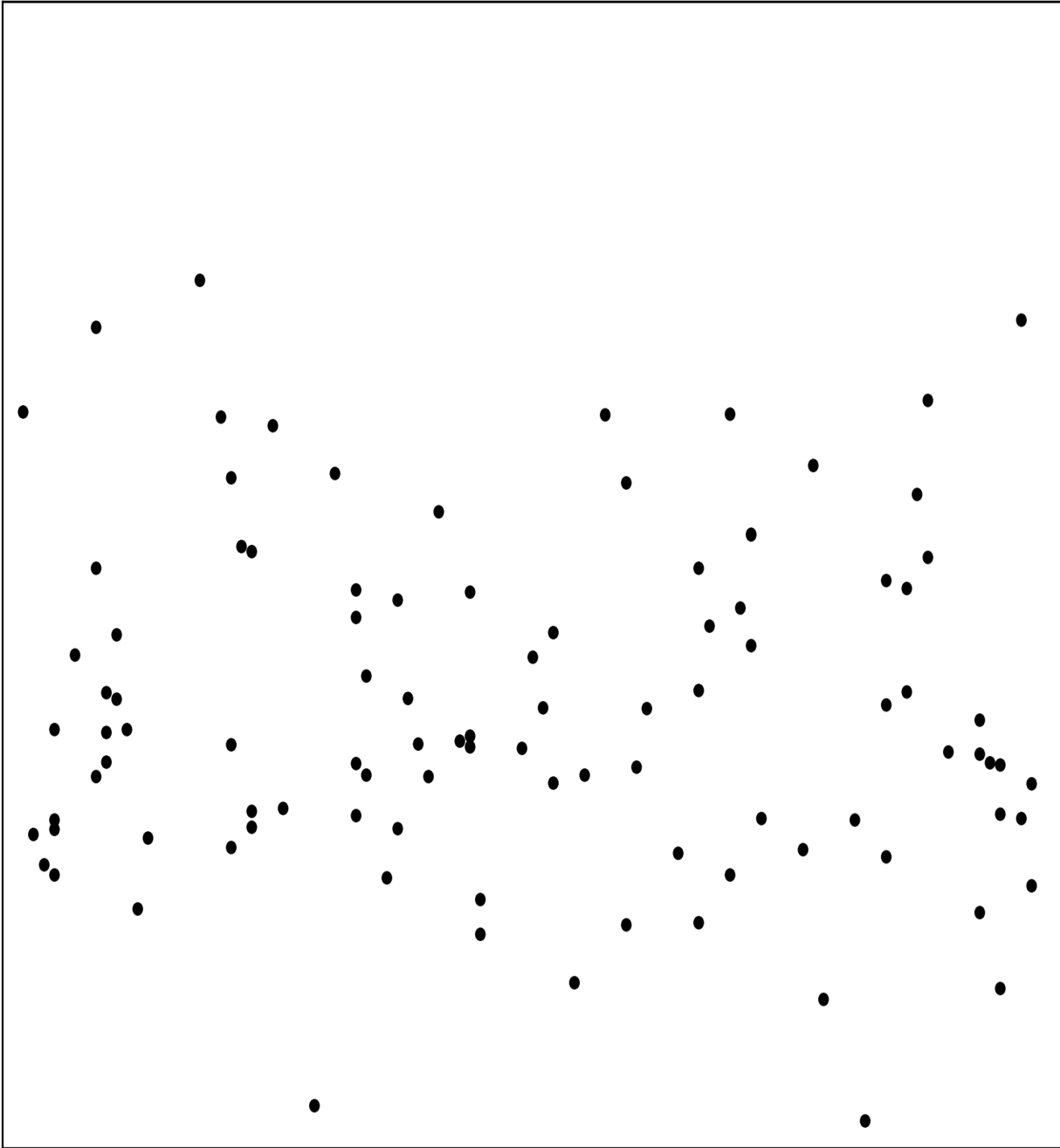
*

Please indicate the average height of the scatterplot.



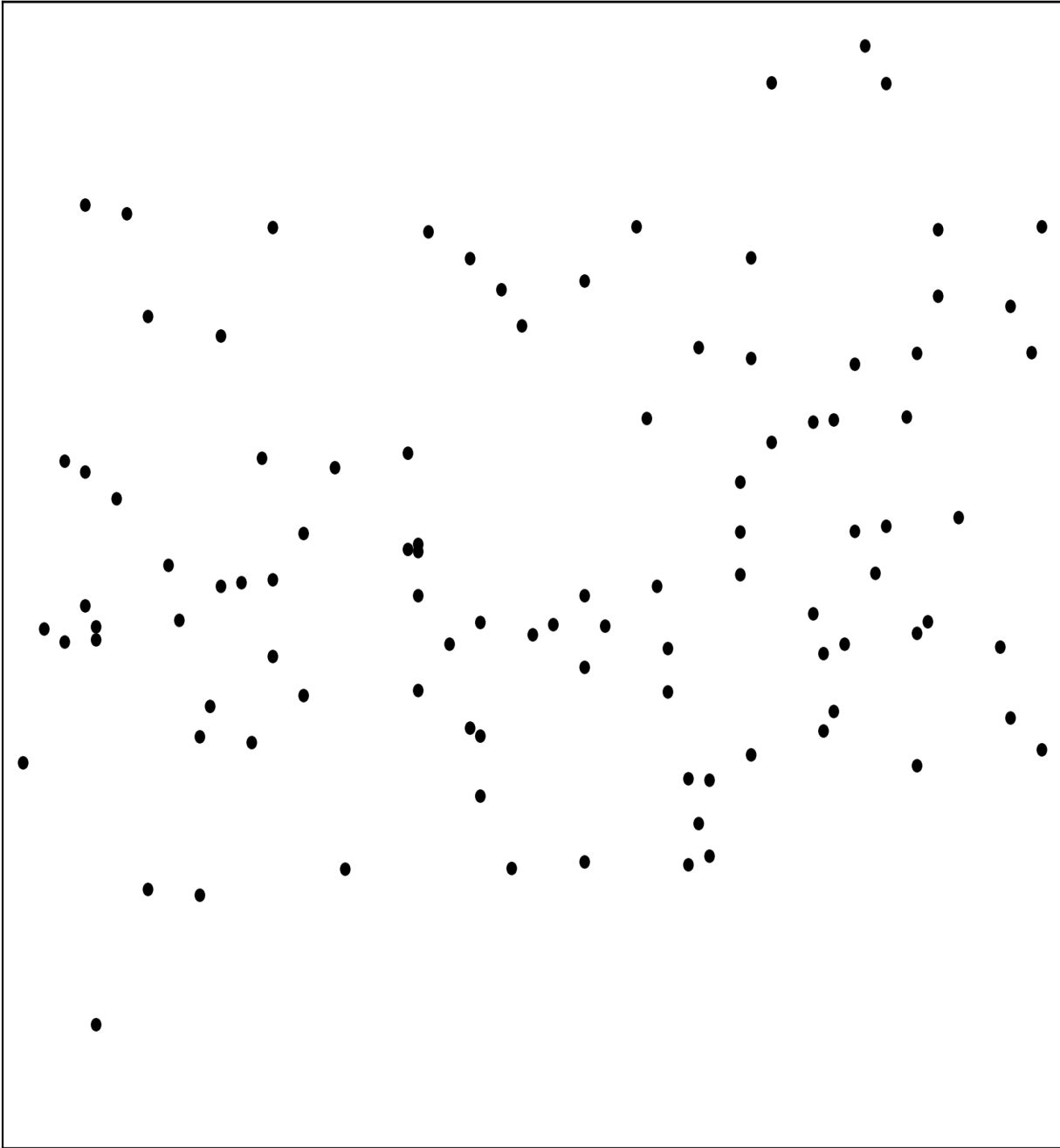
*

Please indicate the average height of the scatterplot.



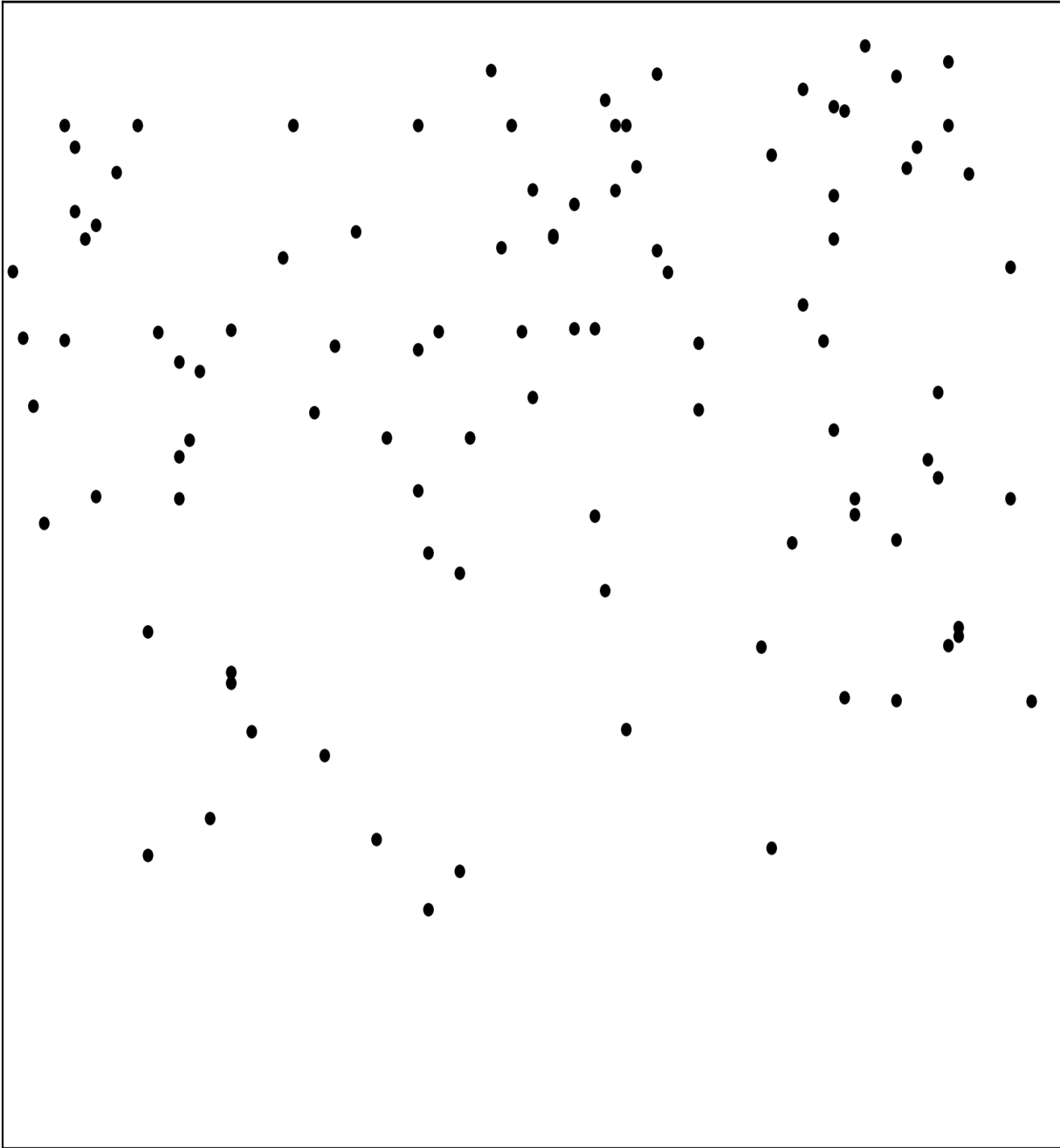
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Please indicate the average height of the scatterplot.



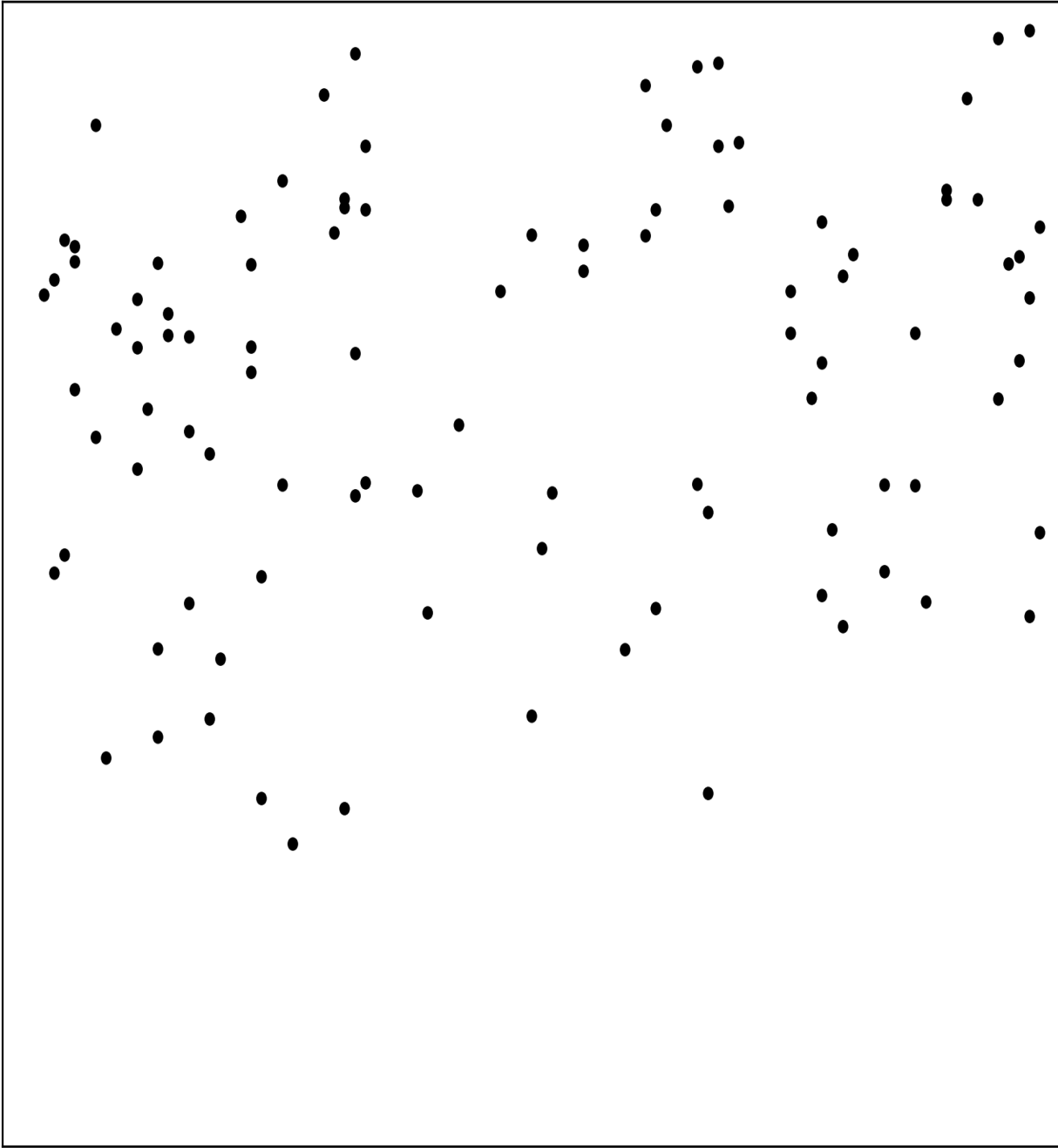
*

Please indicate the average height of the scatterplot.



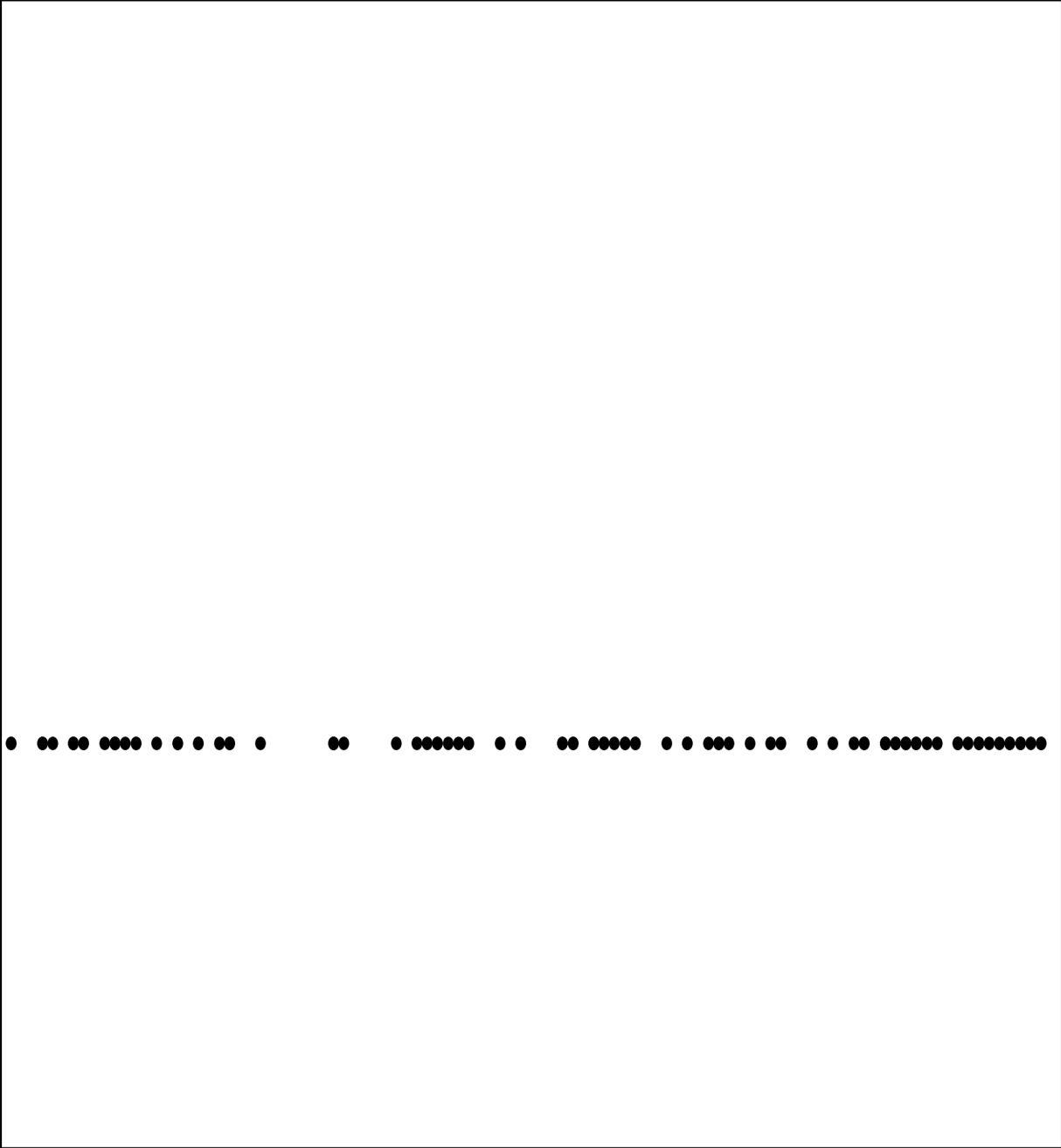
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Please indicate the average height of the scatterplot.



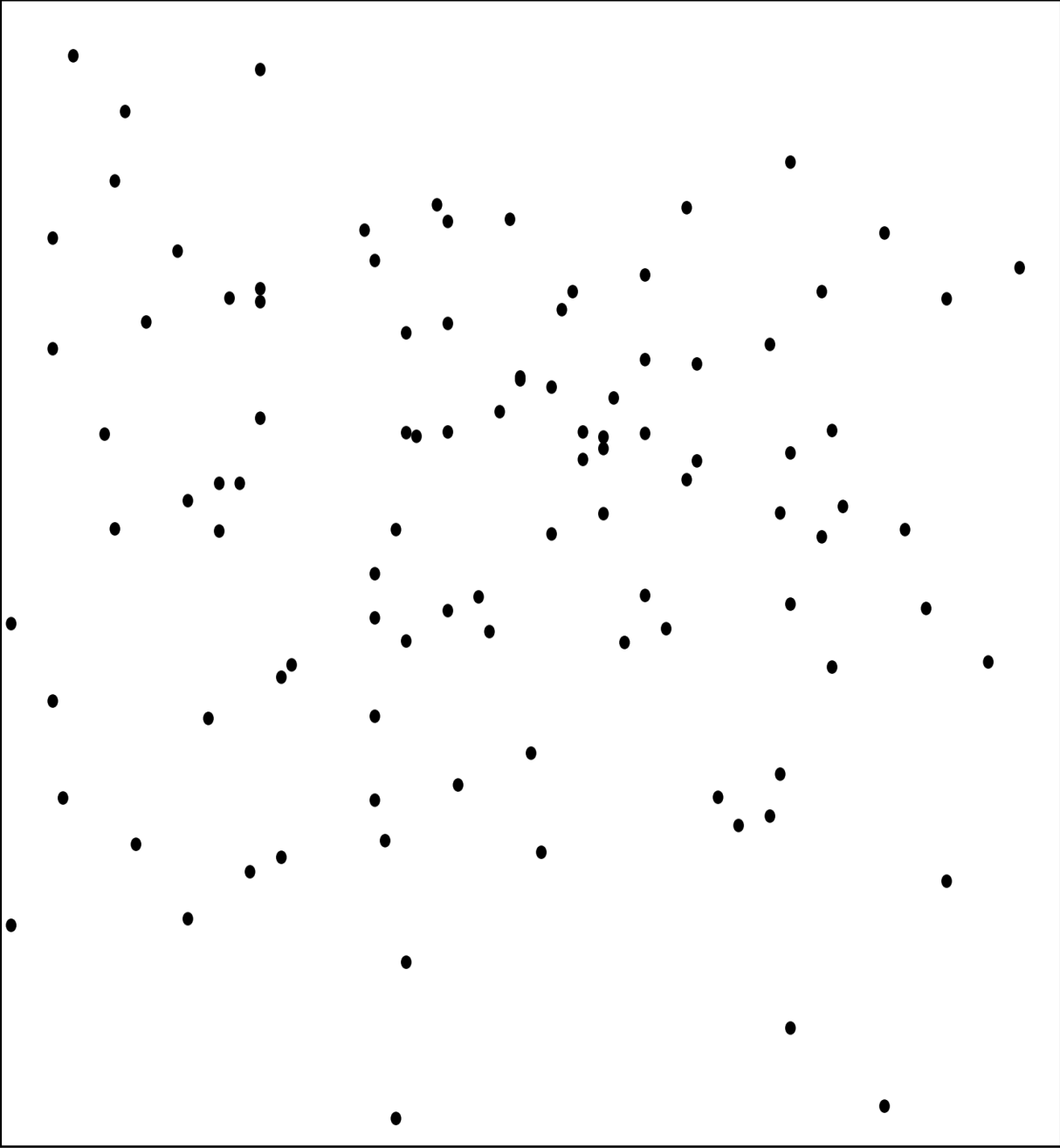
*

Please indicate the average height of the scatterplot.



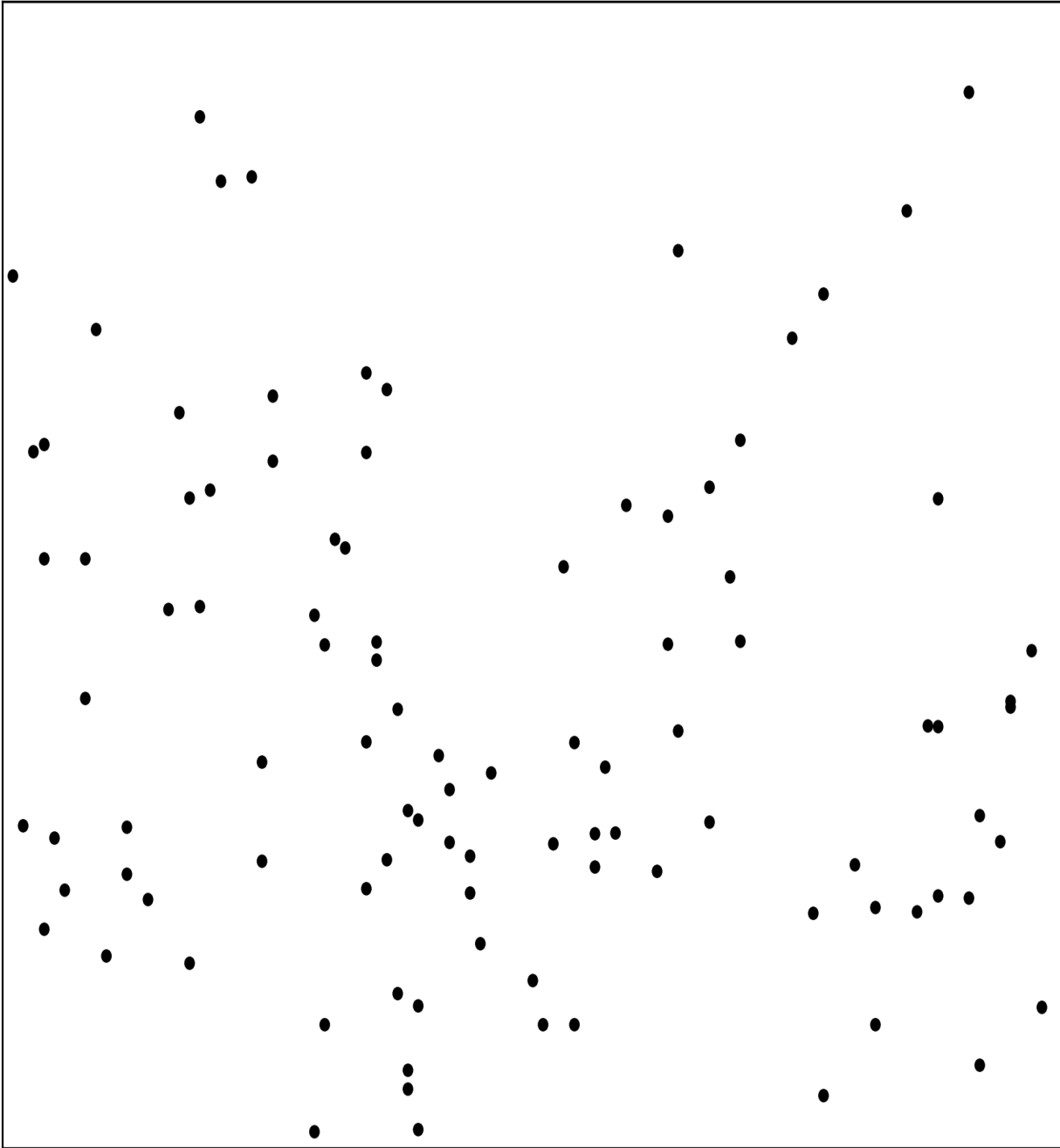
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Please indicate the average height of the scatterplot.



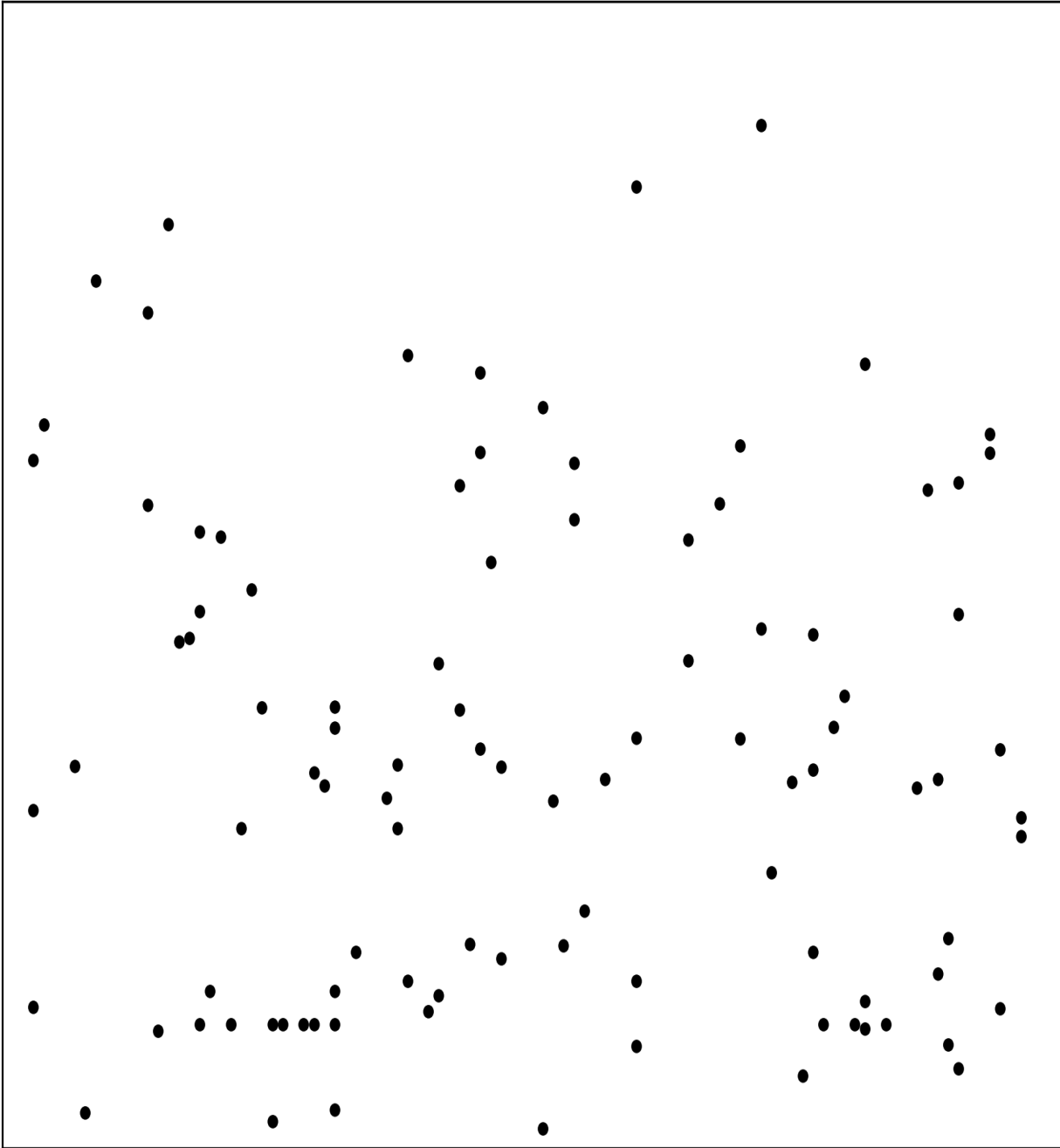
*

Please indicate the average height of the scatterplot.



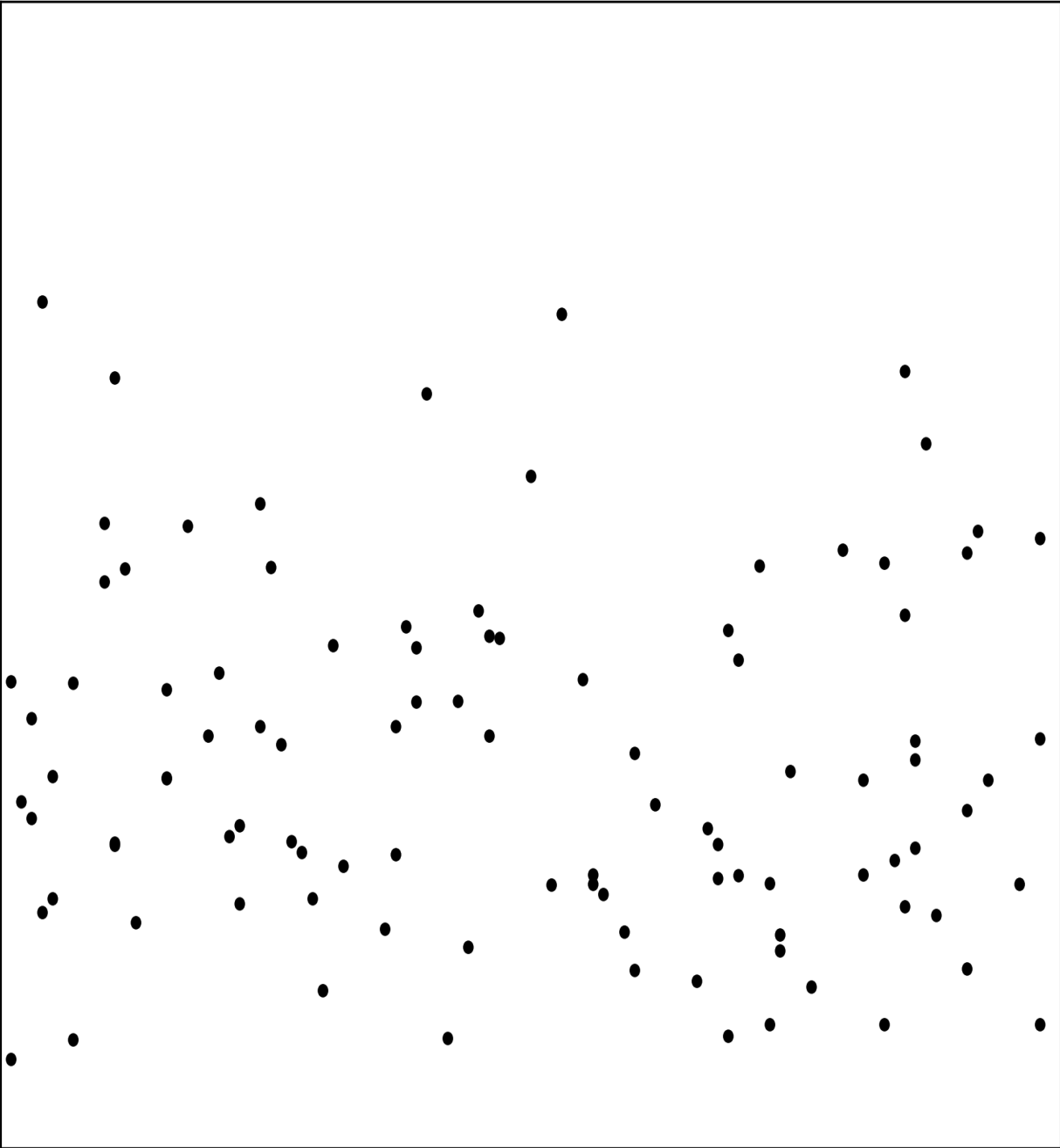
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Please indicate the average height of the scatterplot.



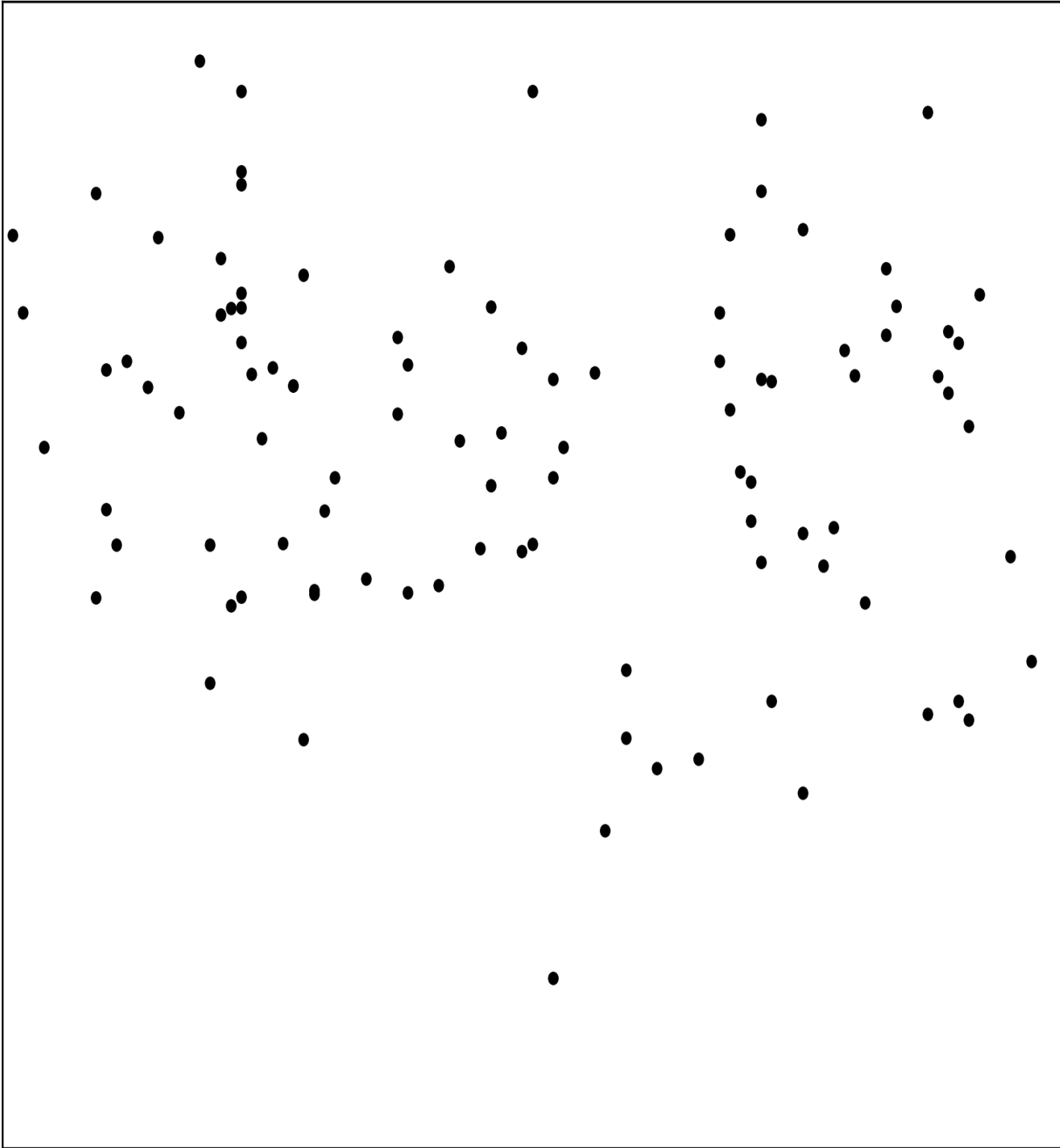
*

Please indicate the average height of the scatterplot.



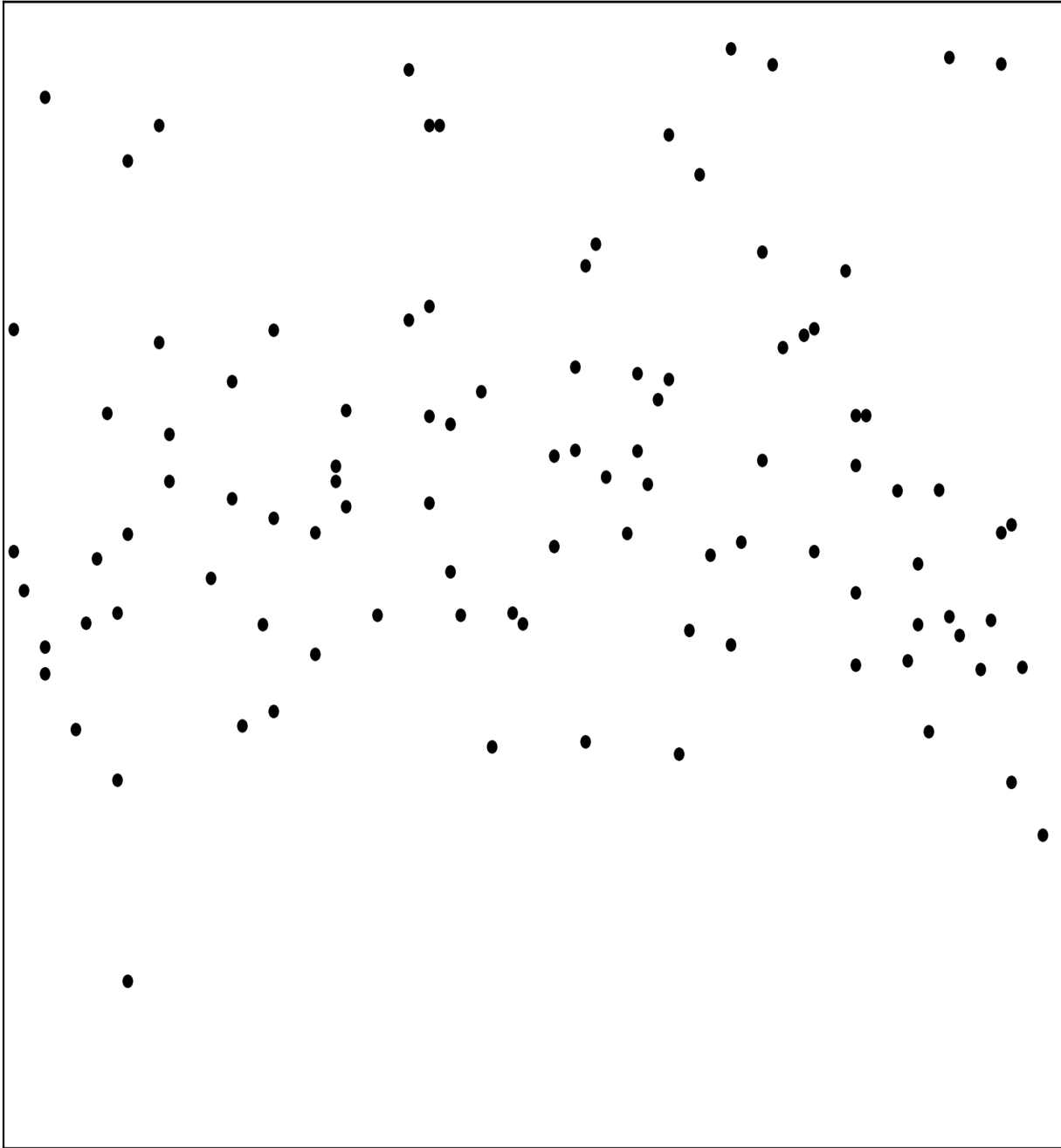
*

Please indicate the average height of the scatterplot.



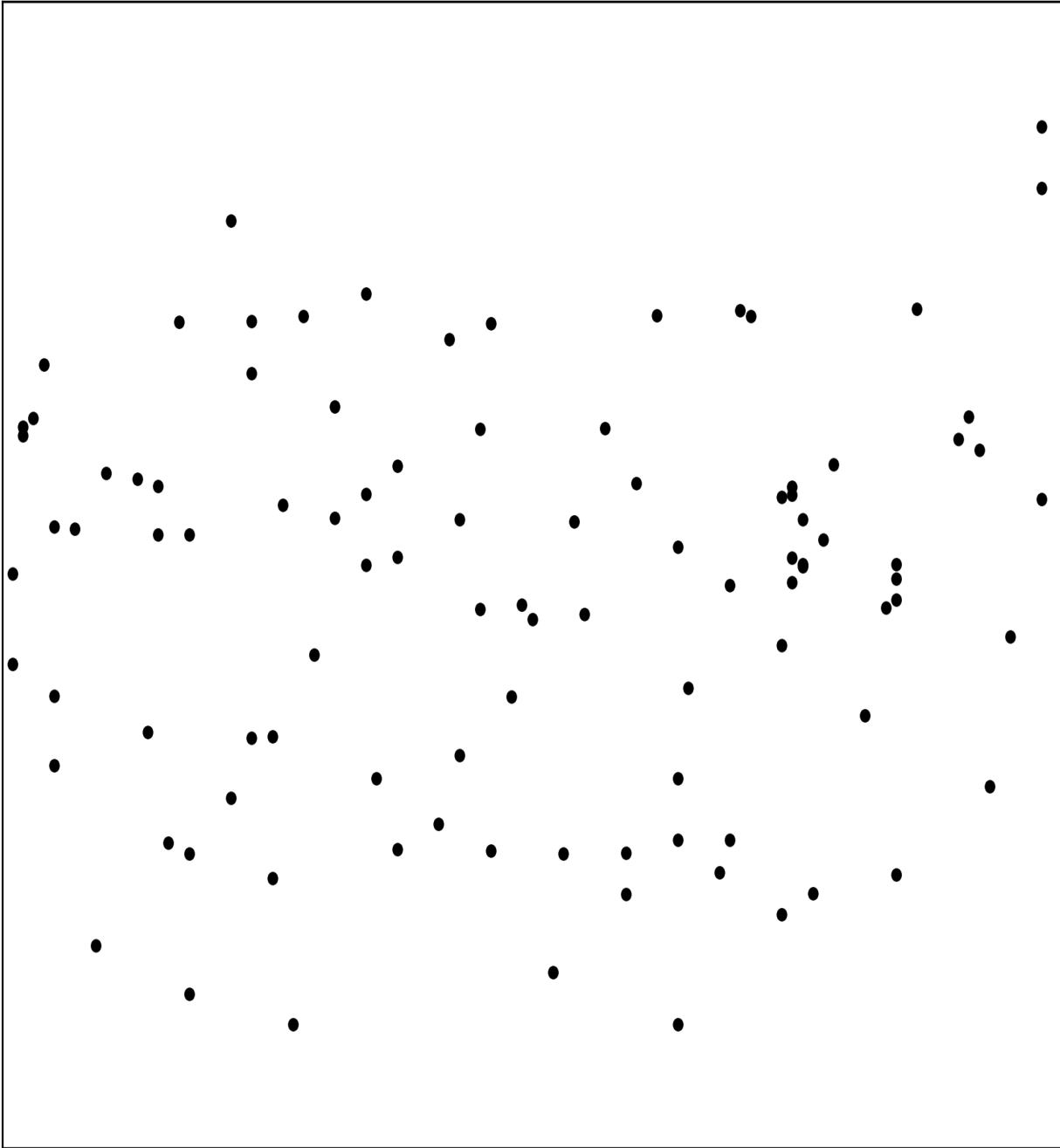
*

Please indicate the average height of the scatterplot.



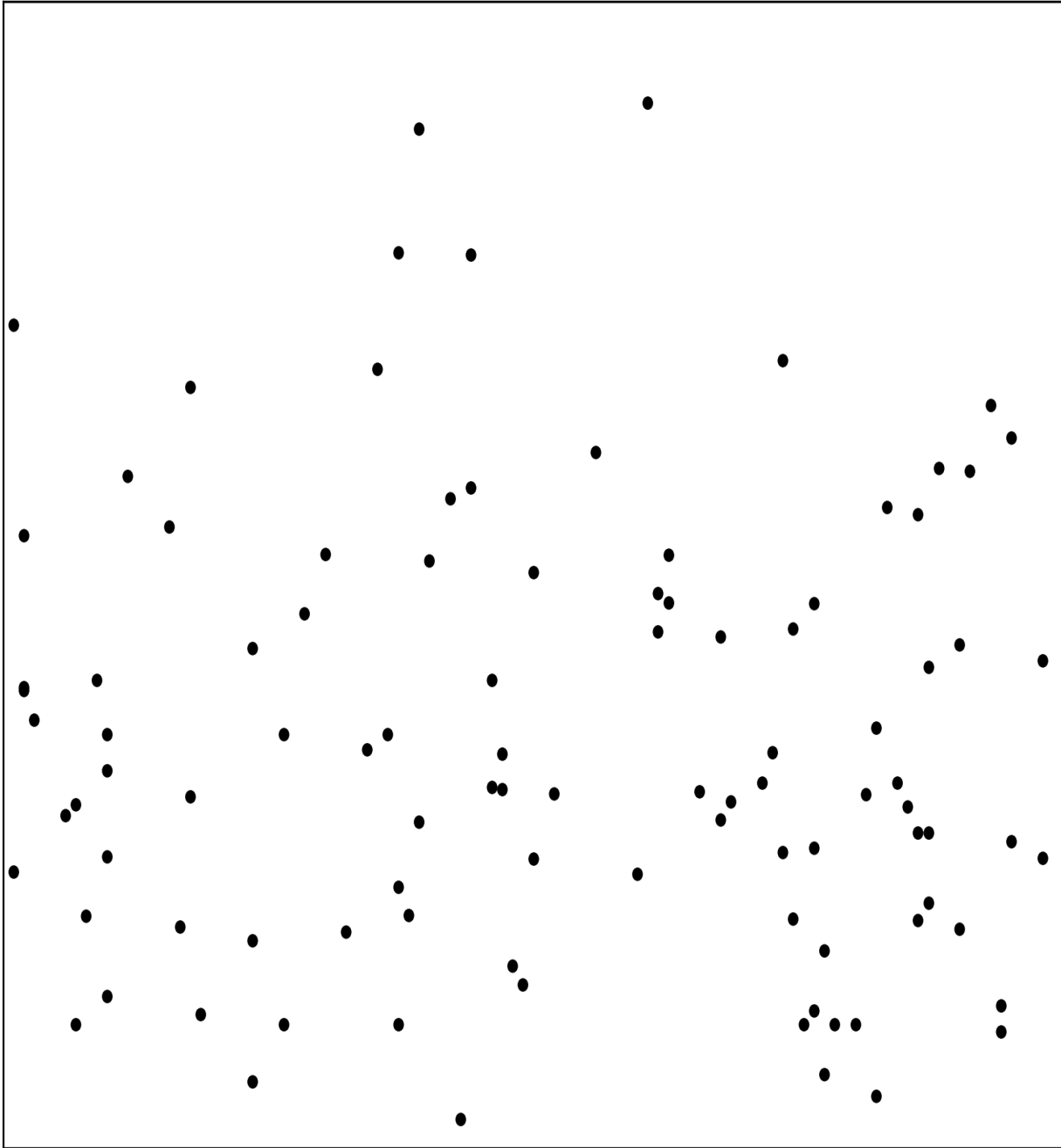
*

Please indicate the average height of the scatterplot.



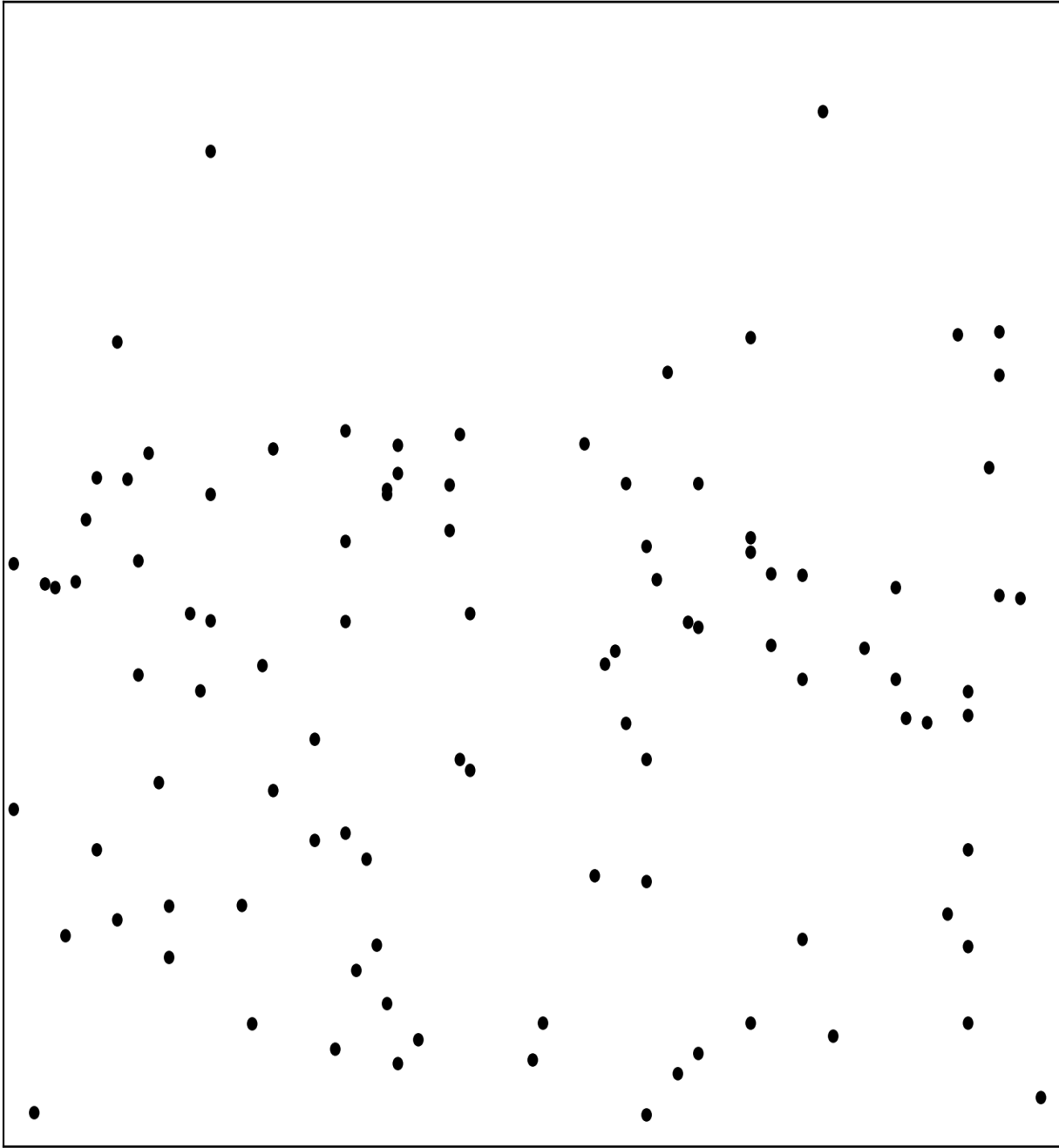
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Please indicate the average height of the scatterplot.



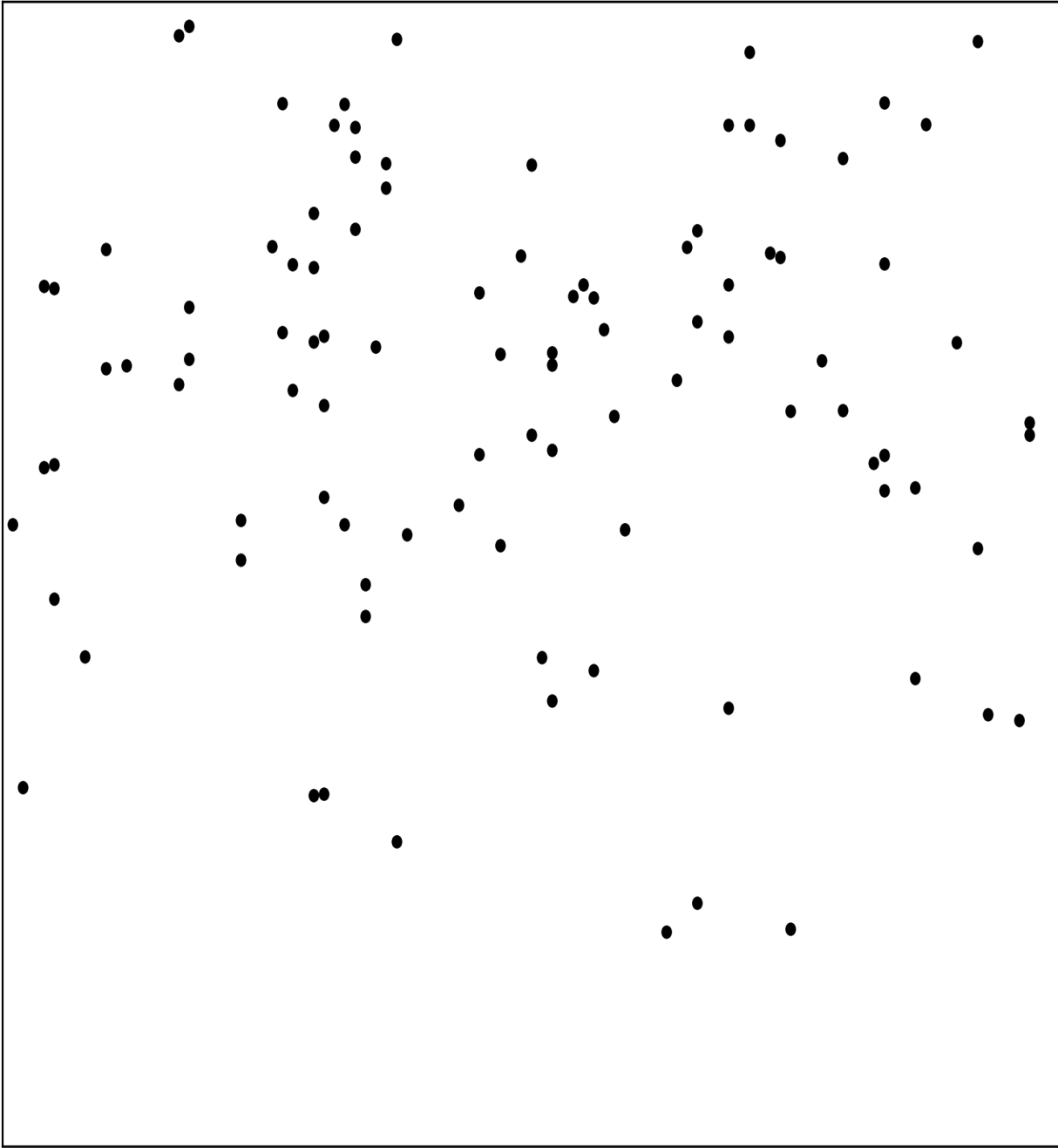
*

Please indicate the average height of the scatterplot.



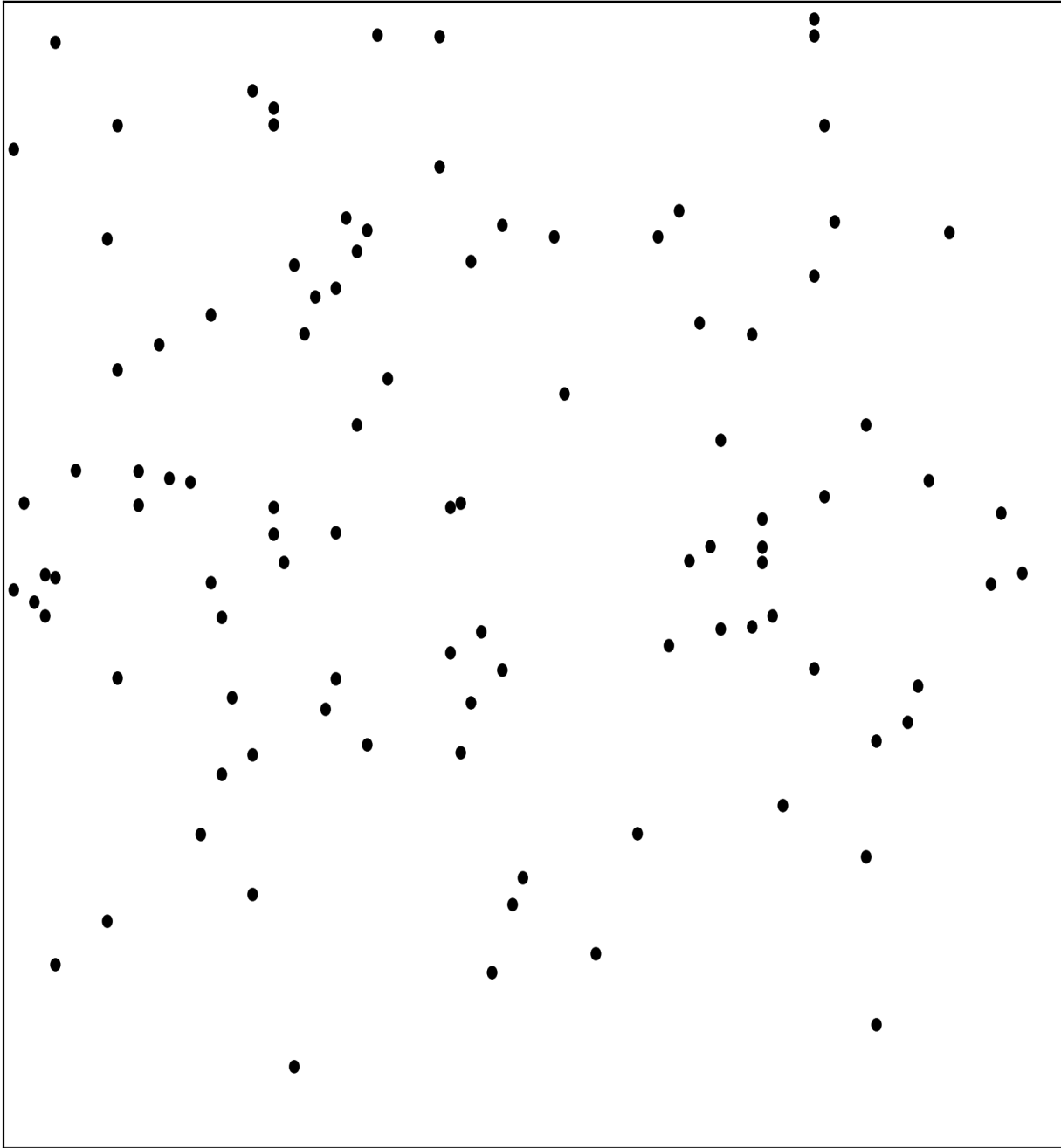
*

Please indicate the average height of the scatterplot.



*

Please indicate the average height of the scatterplot.

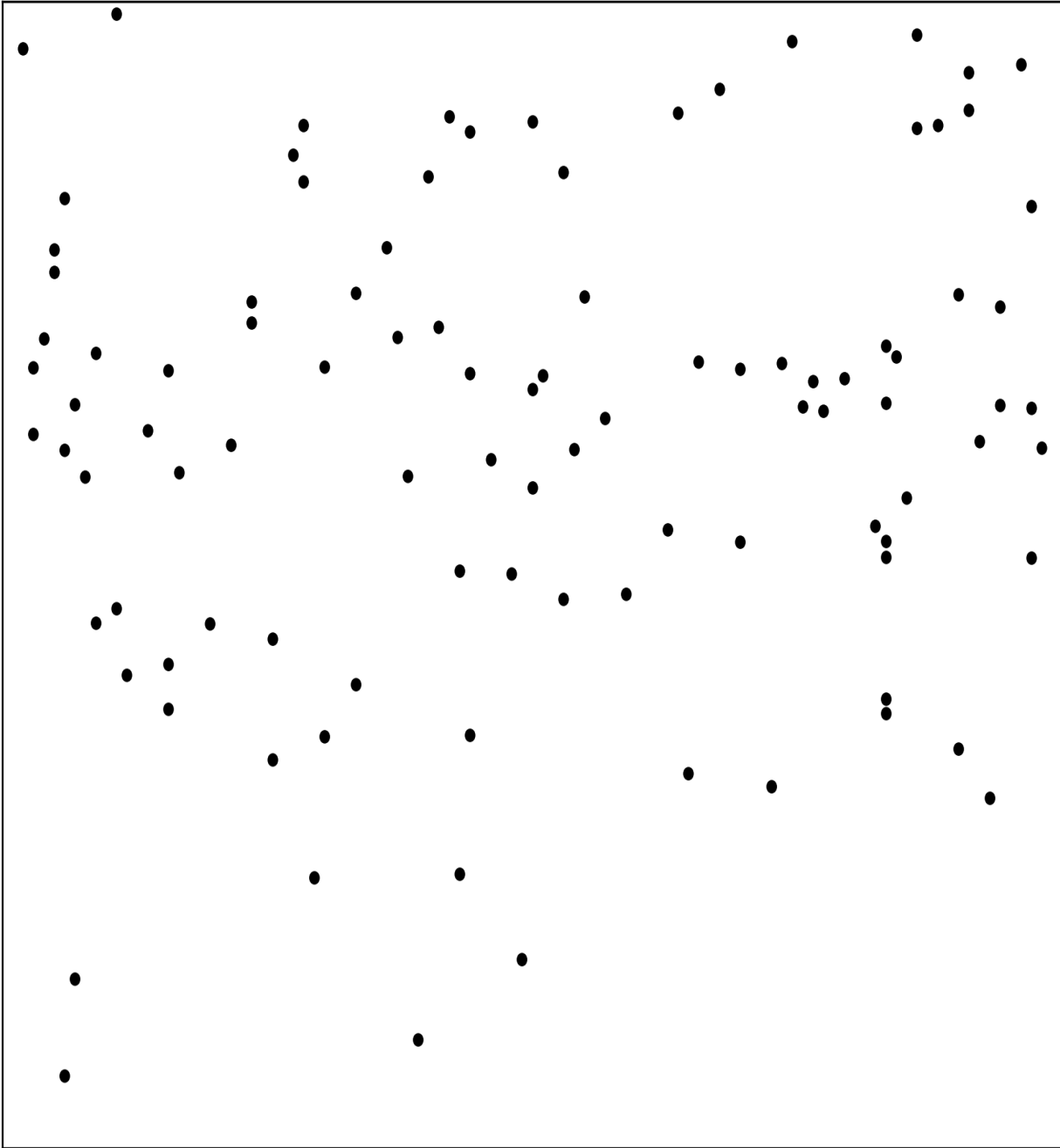


*

This is a short break. You have completed the first half of the tasks.

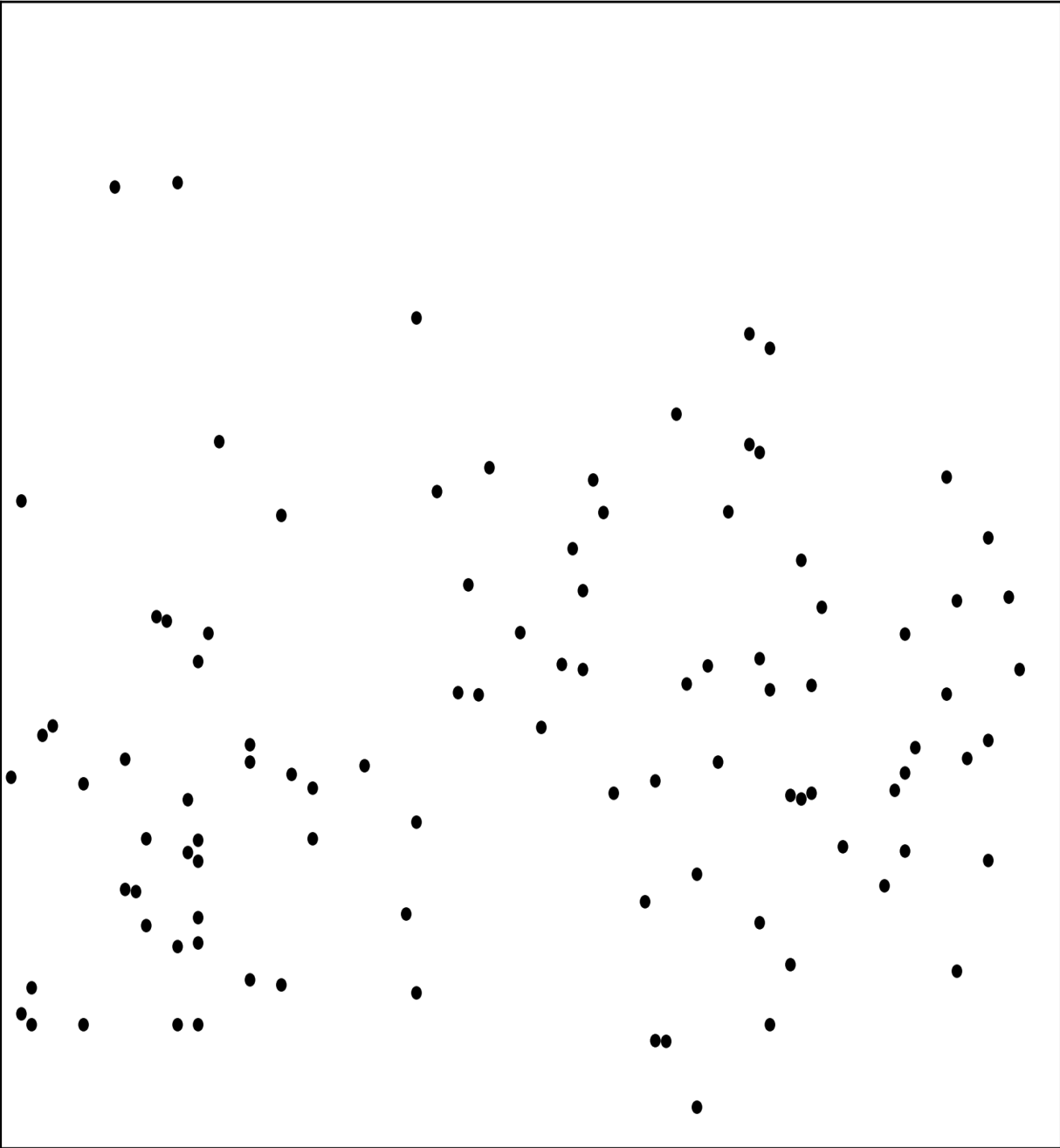
Take a moment to relax. You can proceed whenever you feel ready.

Please indicate the average height of the scatterplot.



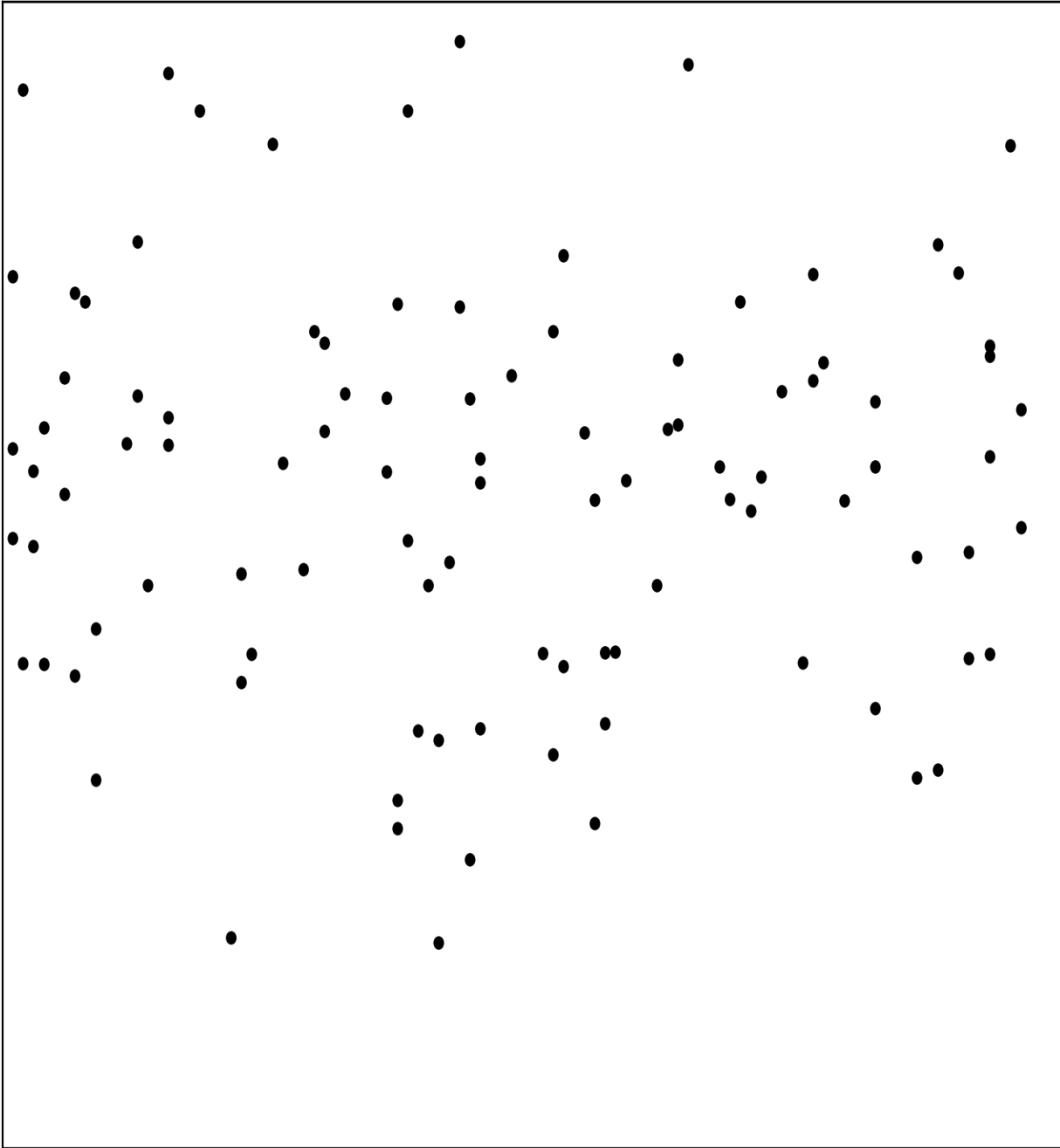
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Please indicate the average height of the scatterplot.



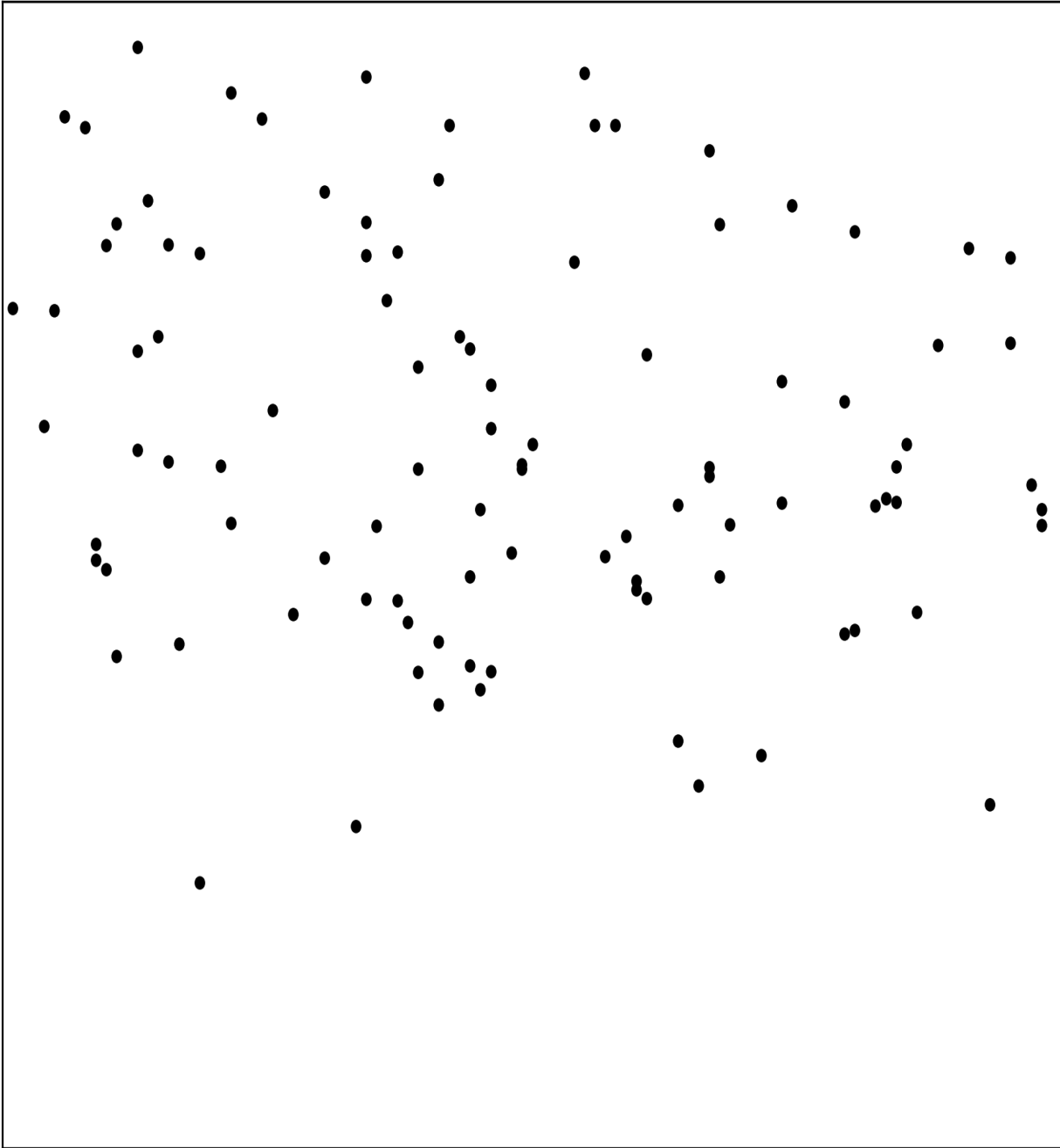
*

Please indicate the average height of the scatterplot.



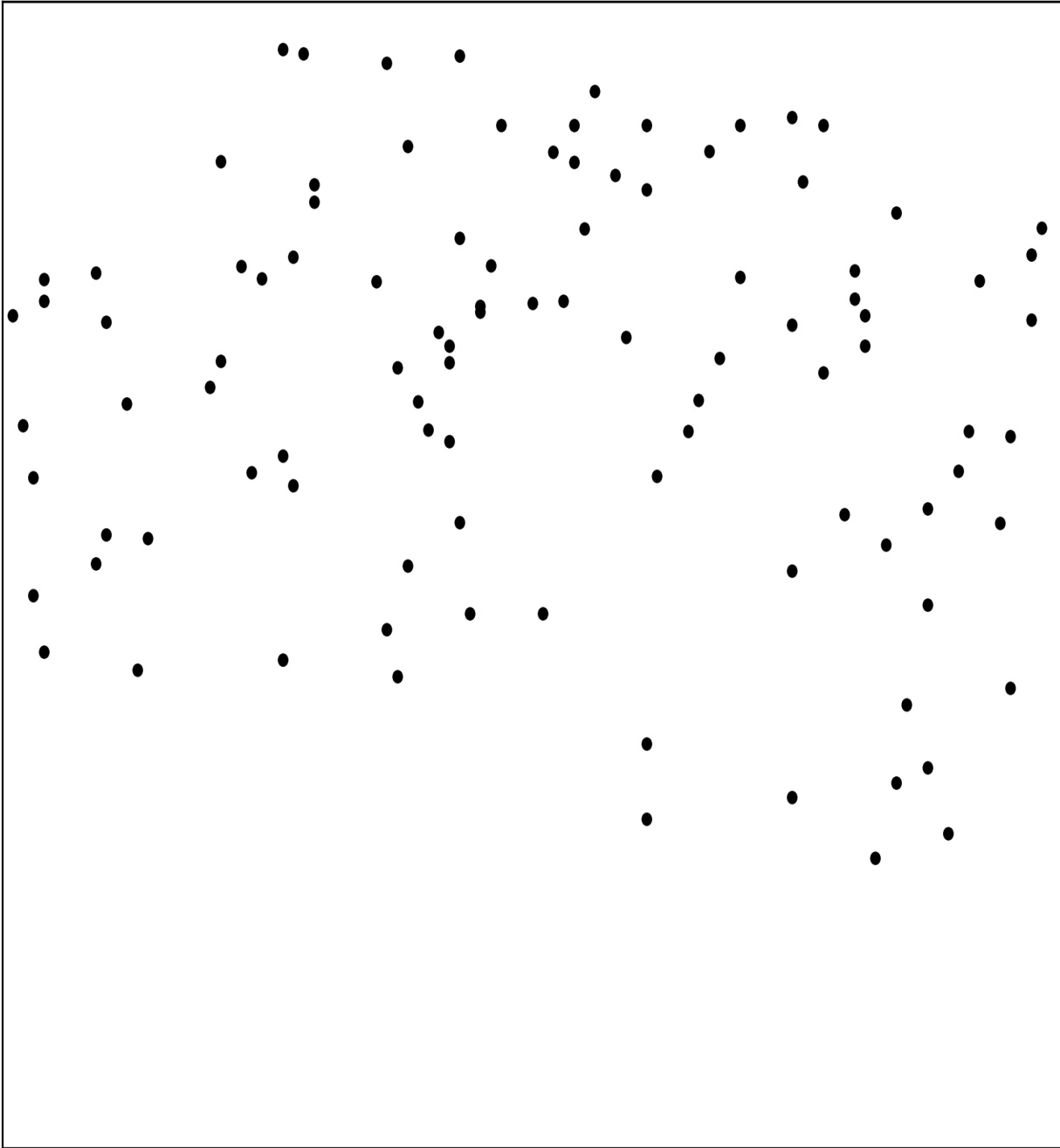
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Please indicate the average height of the scatterplot.



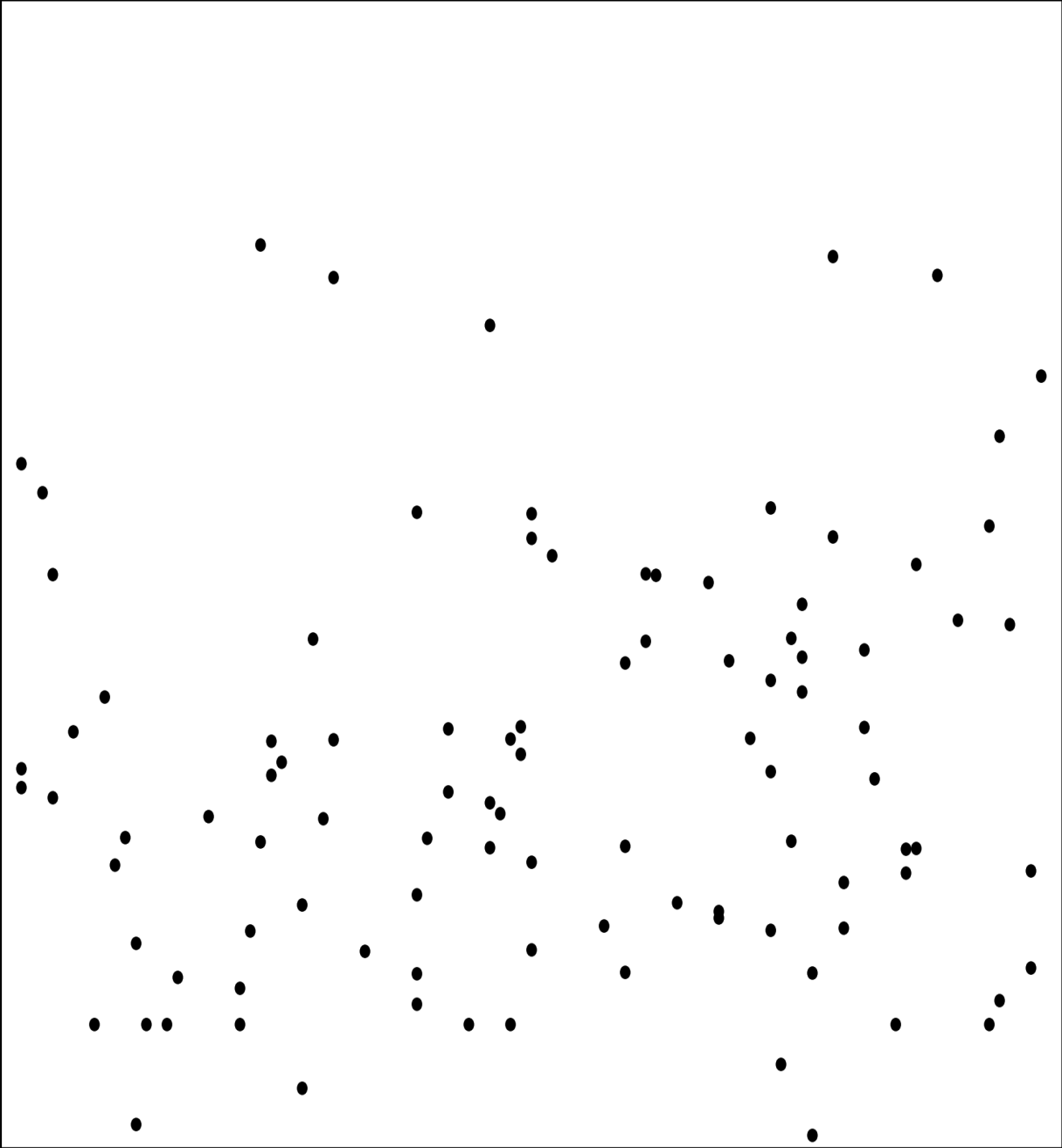
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Please indicate the average height of the scatterplot.



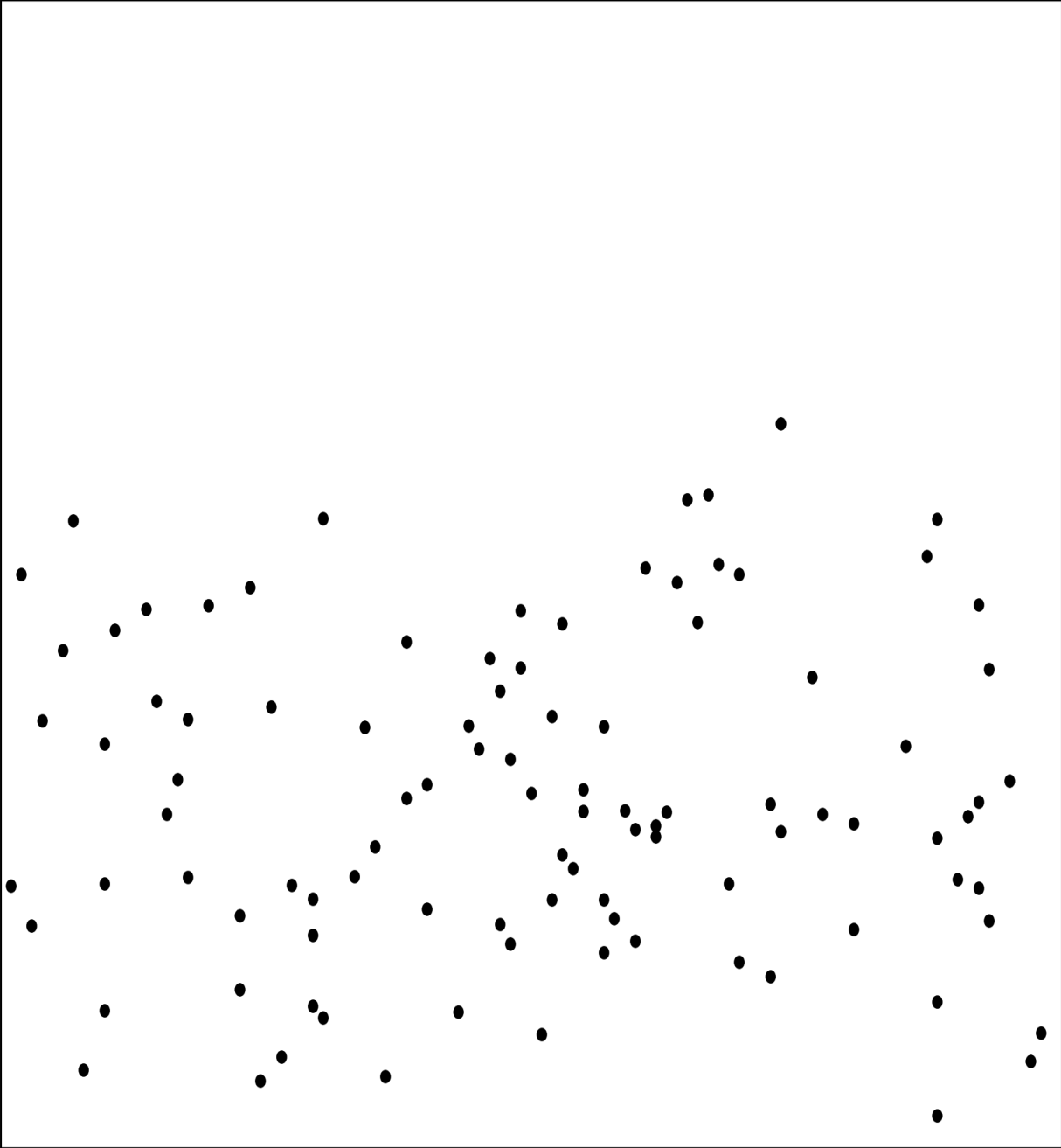
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Please indicate the average height of the scatterplot.



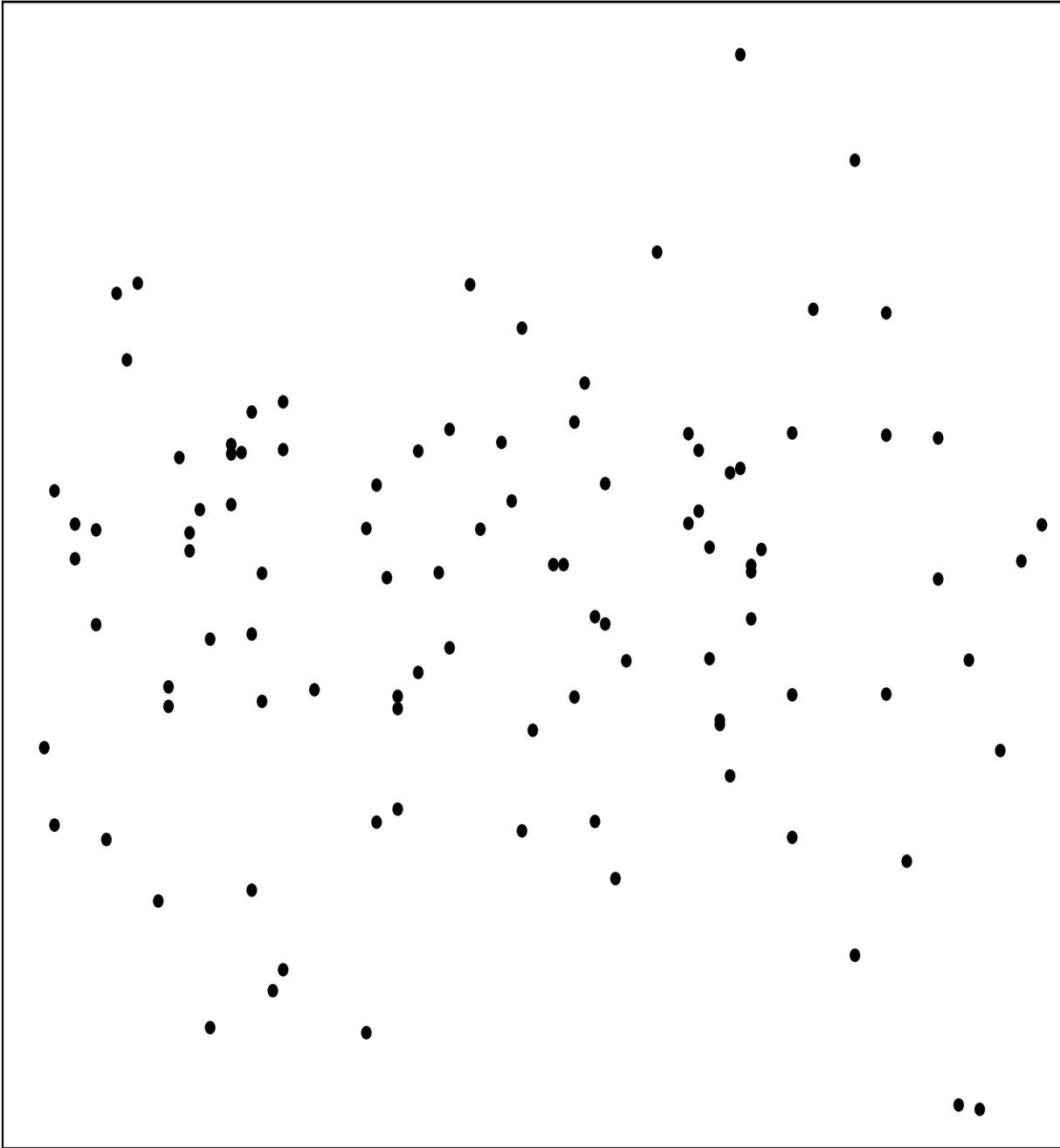
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Please indicate the average height of the scatterplot.



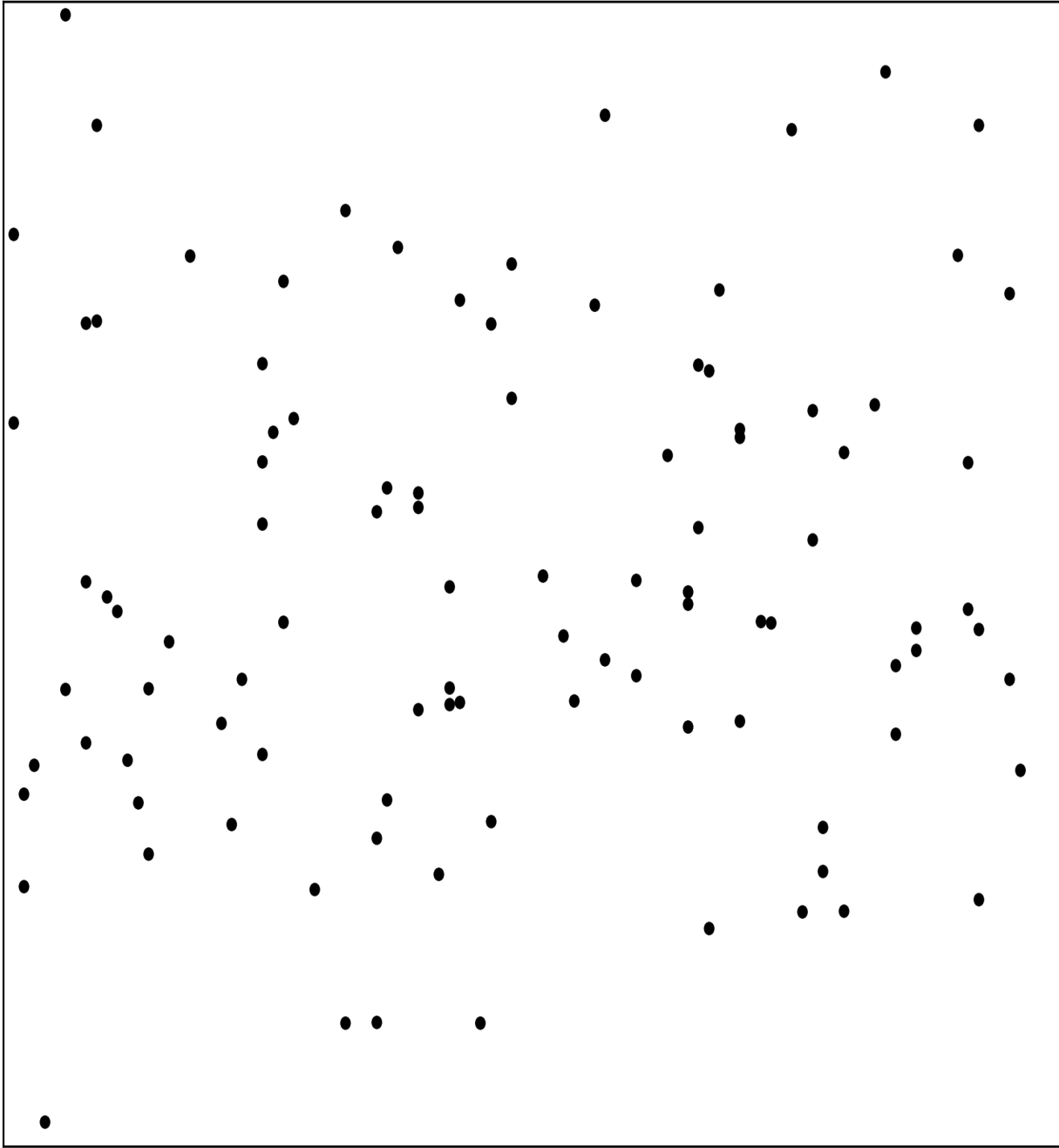
*

Please indicate the average height of the scatterplot.



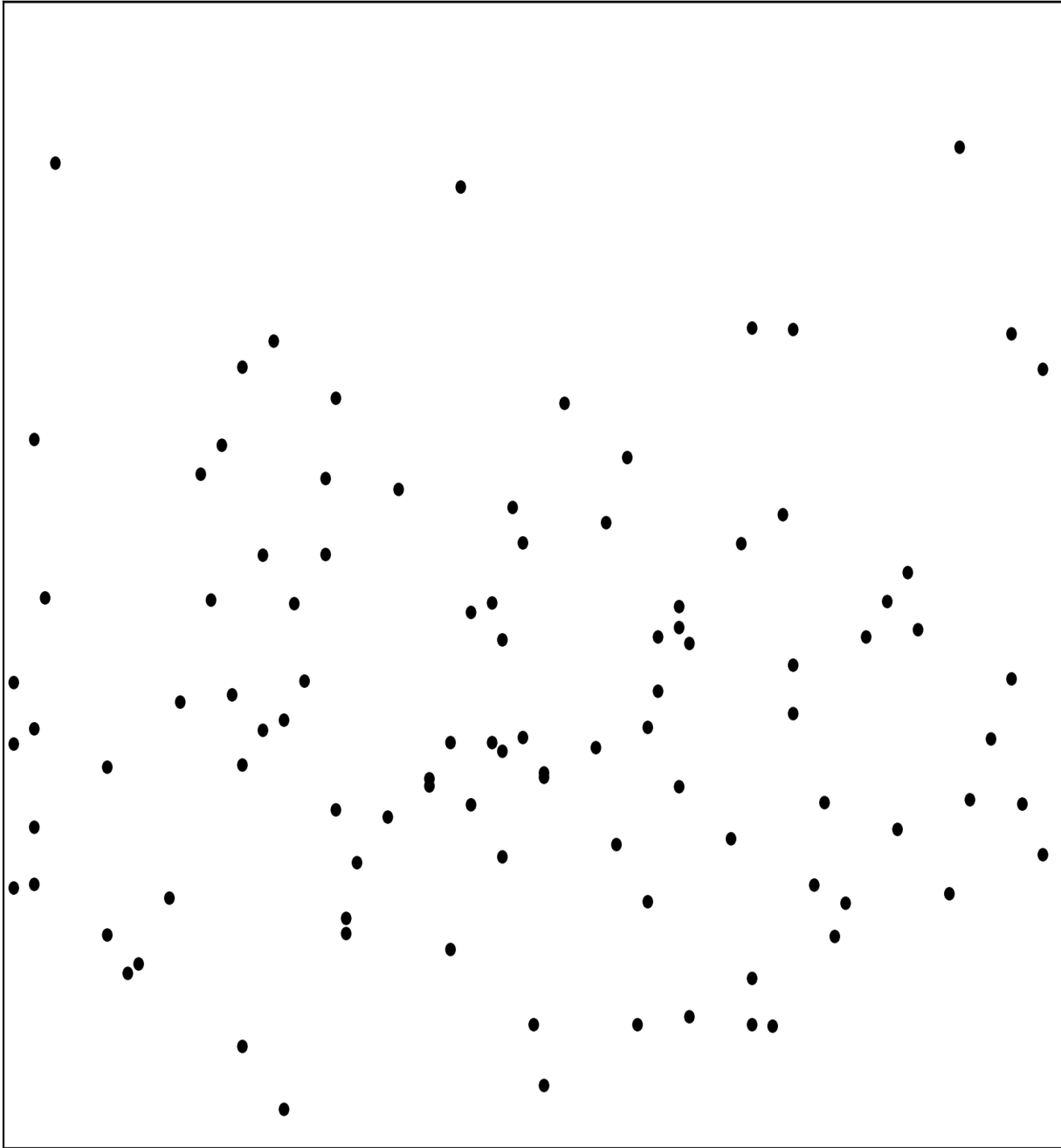
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Please indicate the average height of the scatterplot.



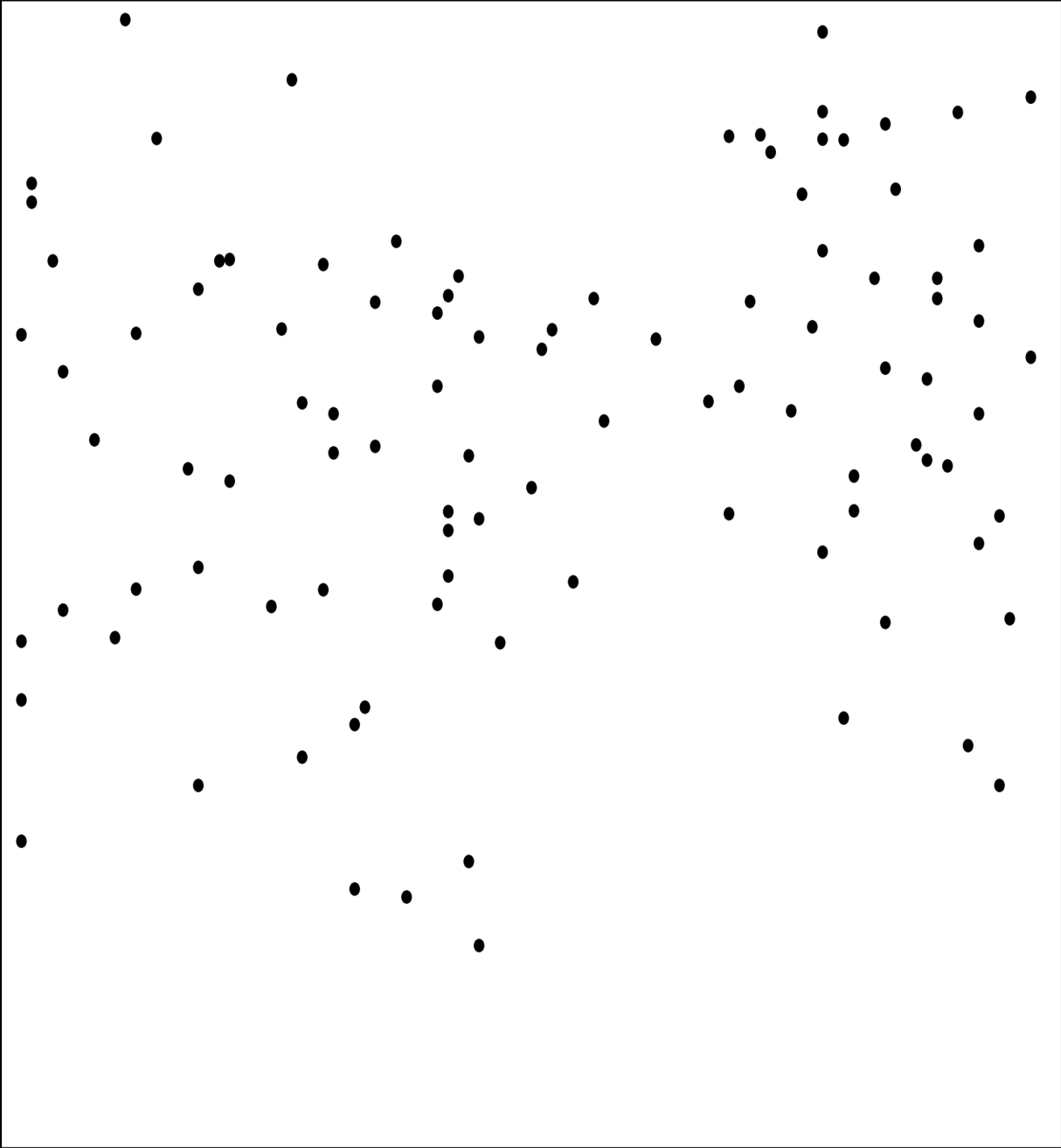
*

Please indicate the average height of the scatterplot.



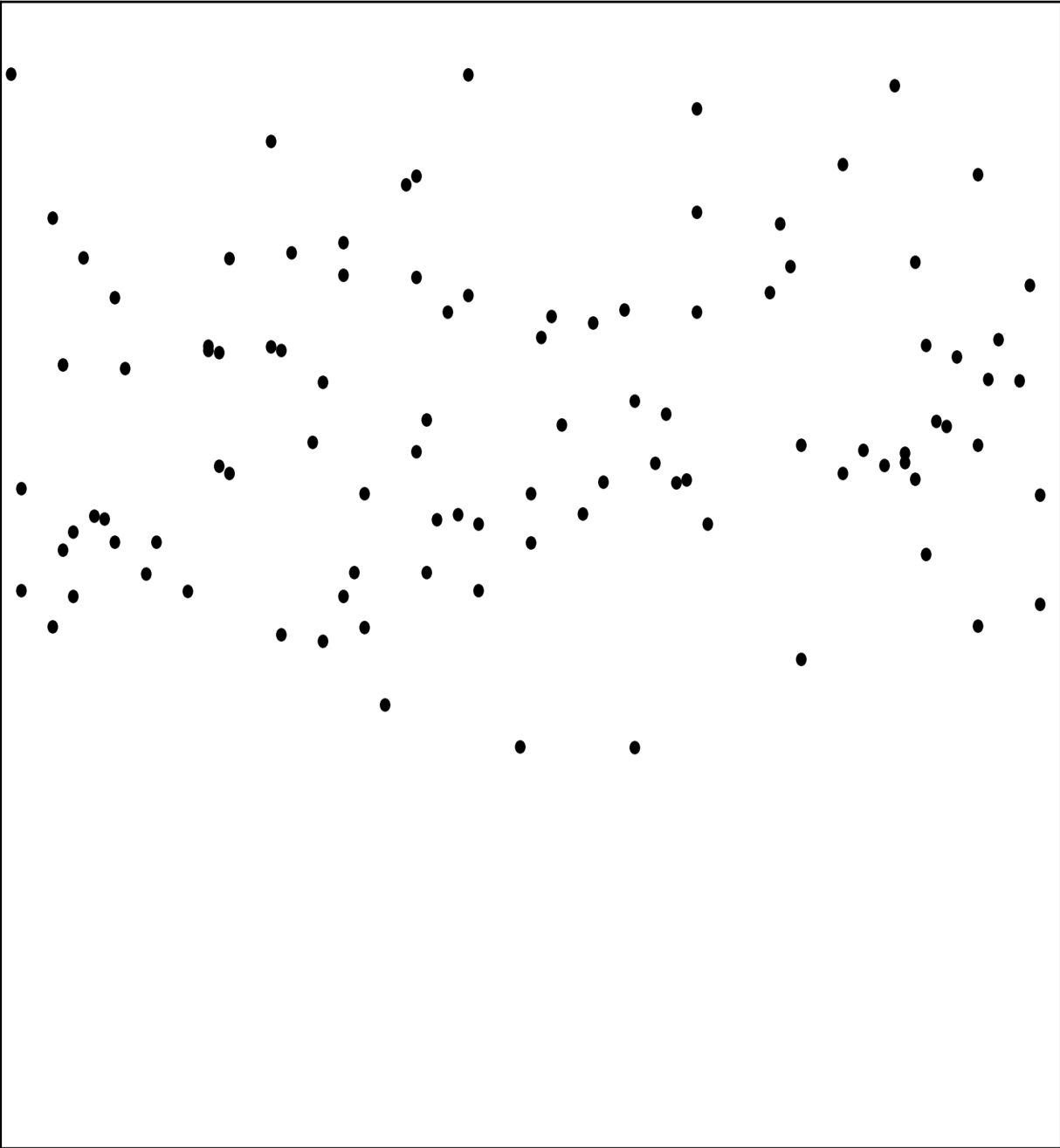
*

Please indicate the average height of the scatterplot.



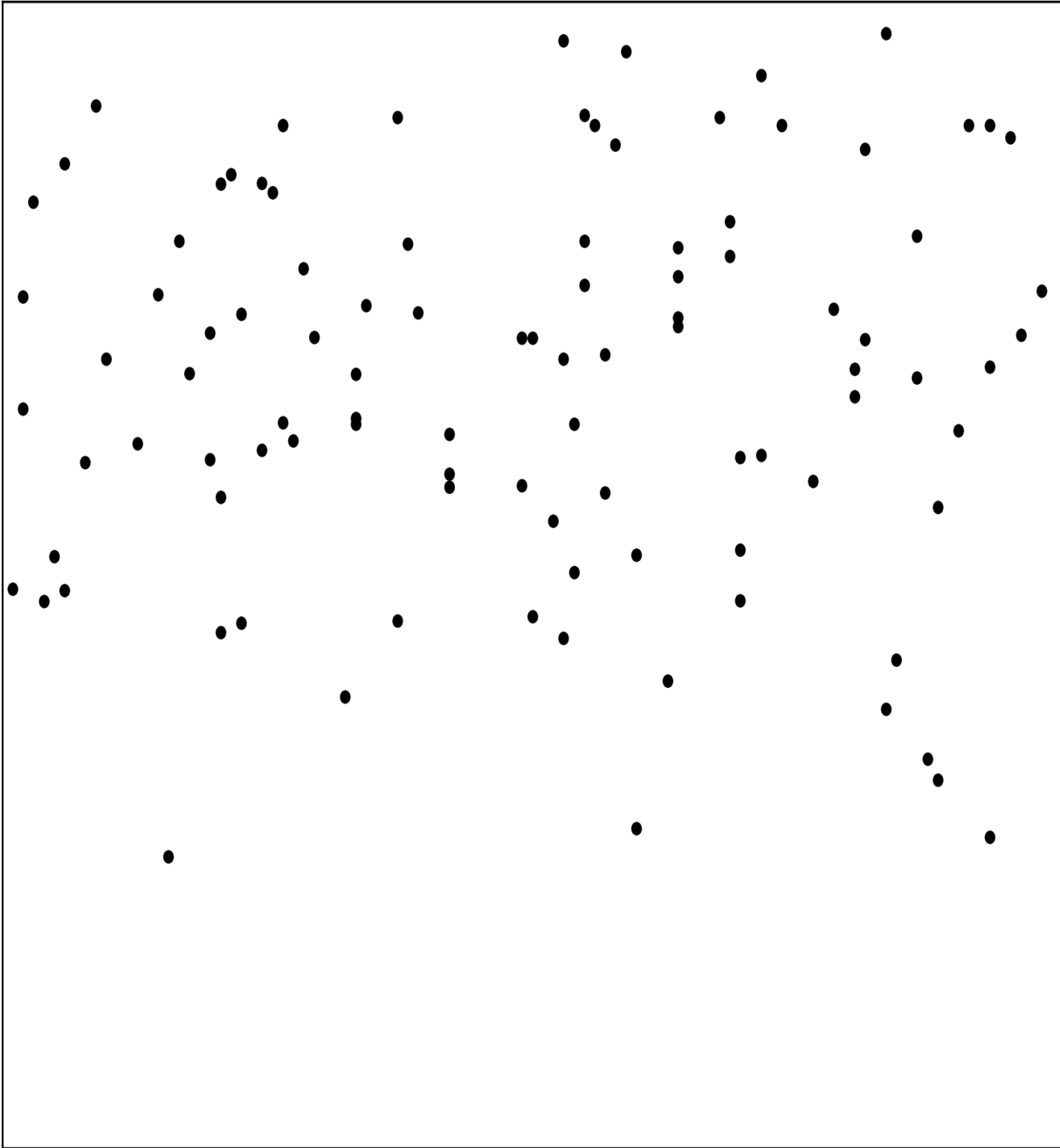
*

Please indicate the average height of the scatterplot.



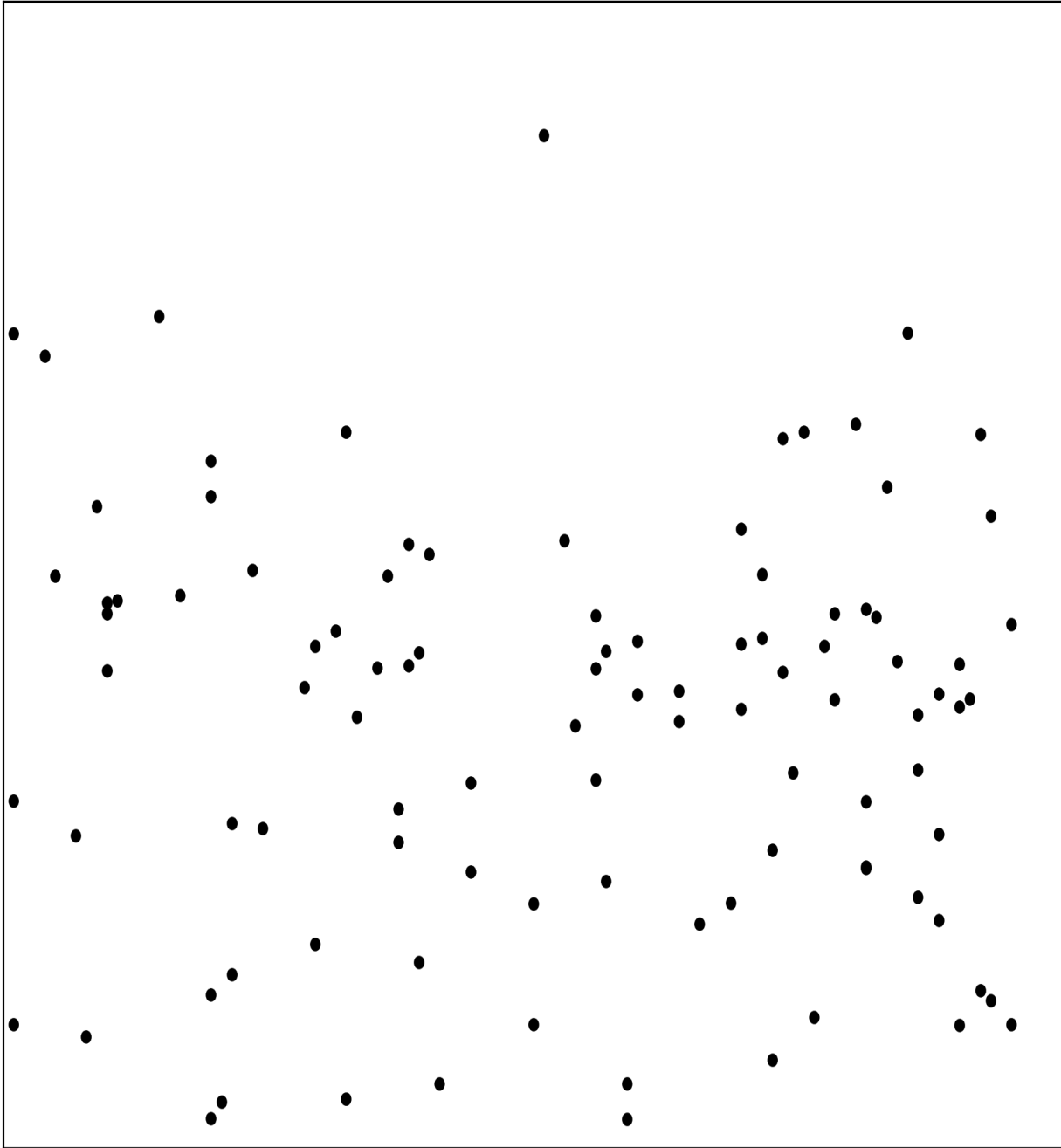
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Please indicate the average height of the scatterplot.



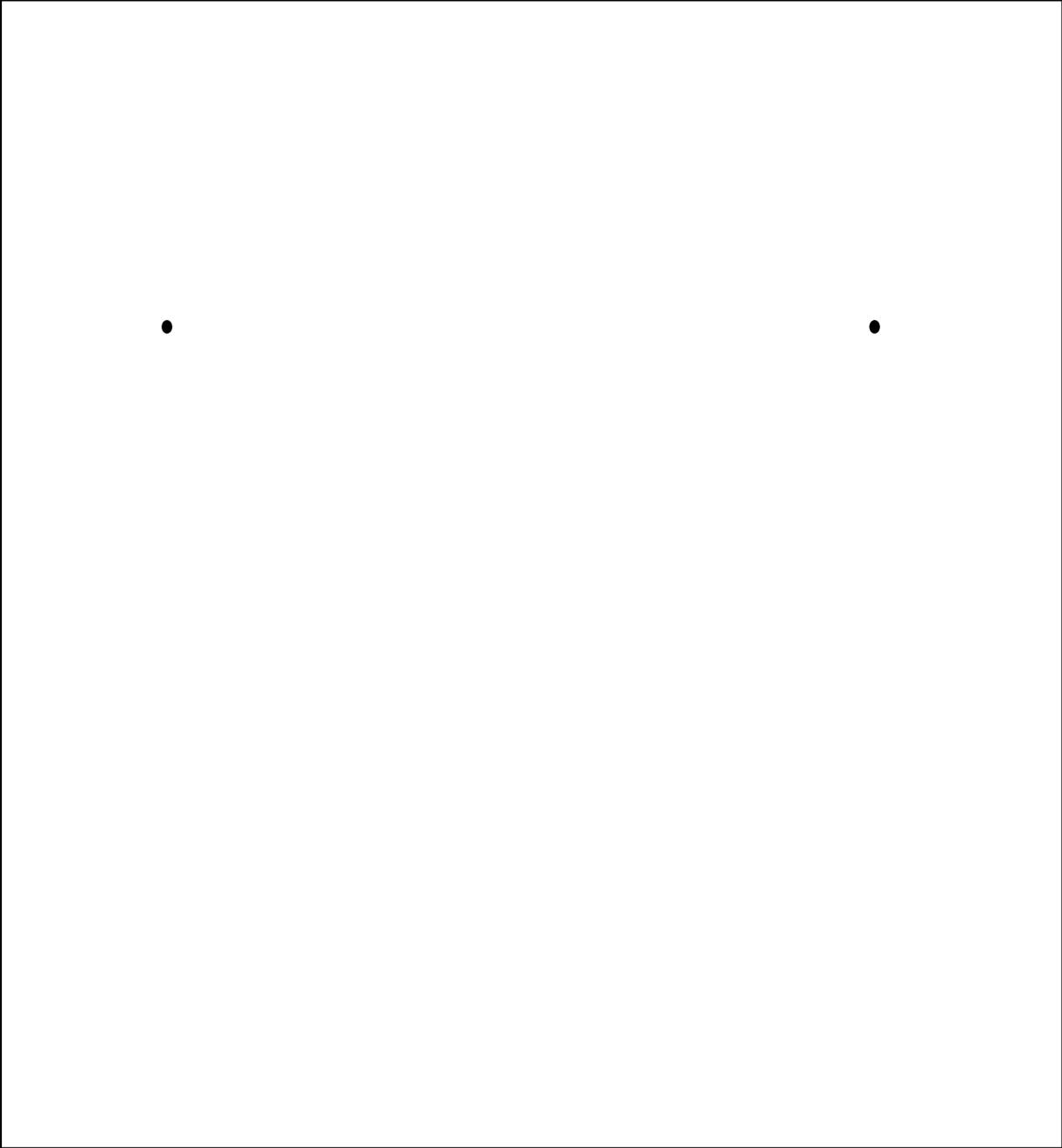
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Please indicate the average height of the scatterplot.



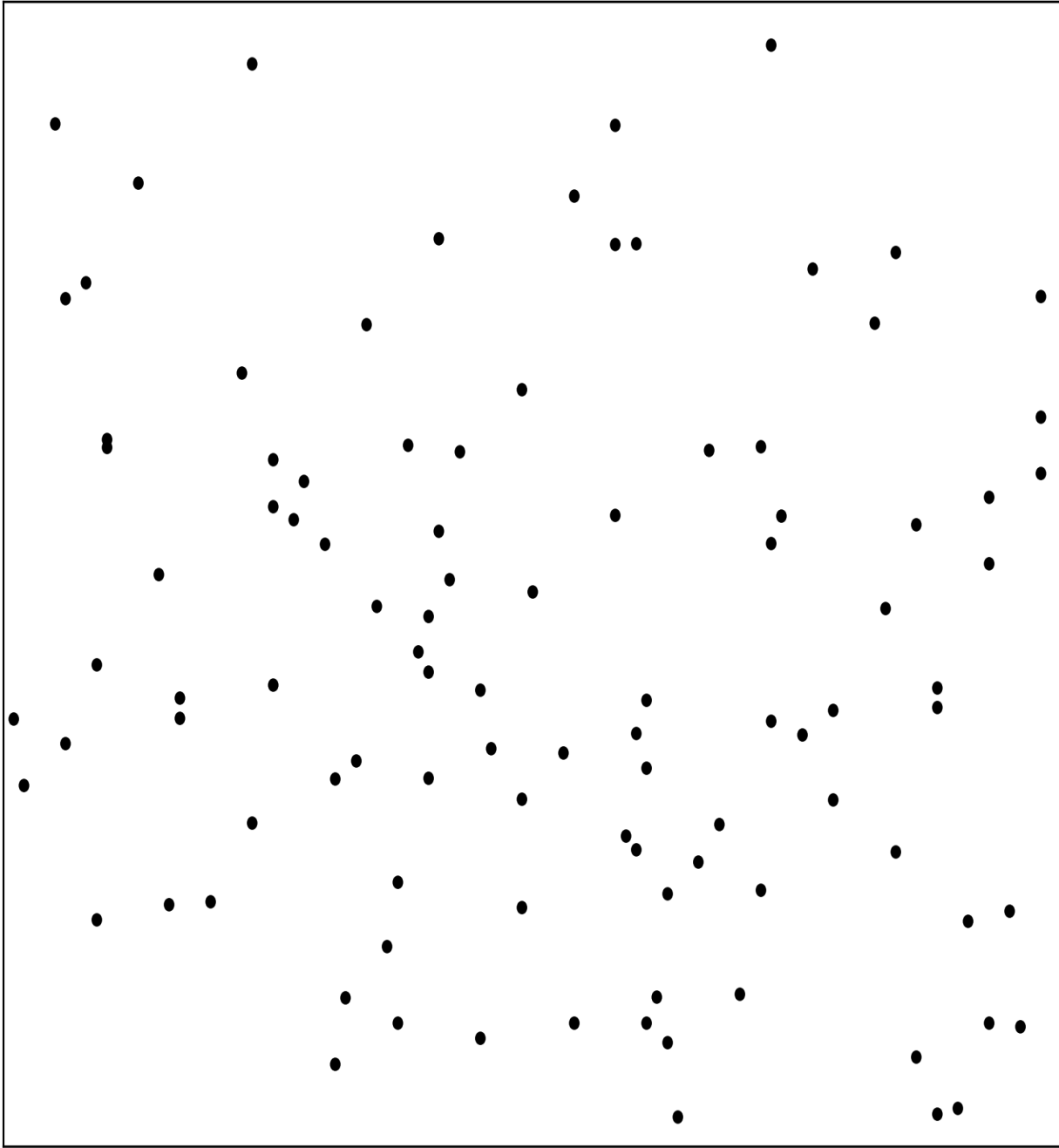
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Please indicate the average height of the scatterplot.



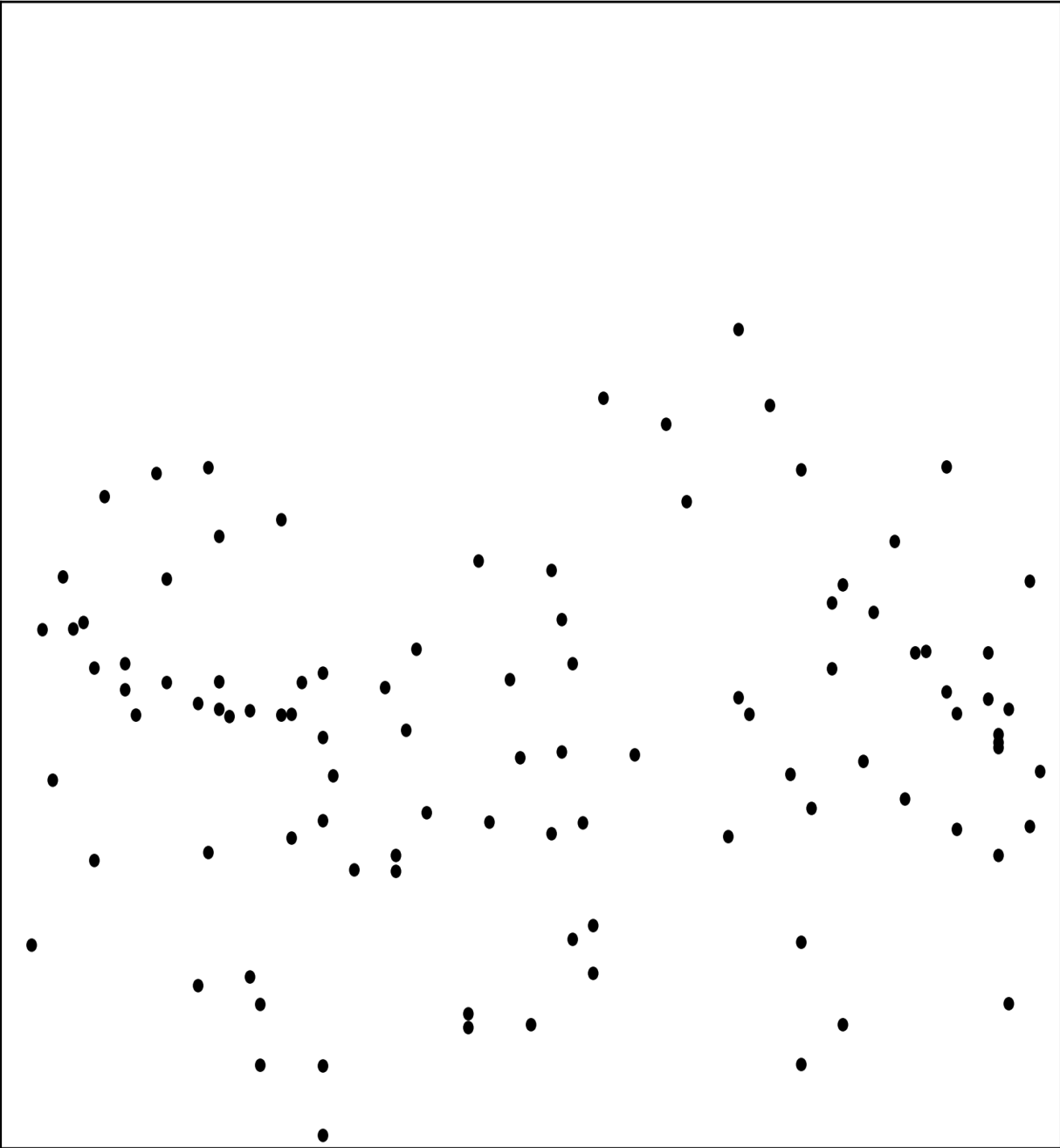
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Please indicate the average height of the scatterplot.



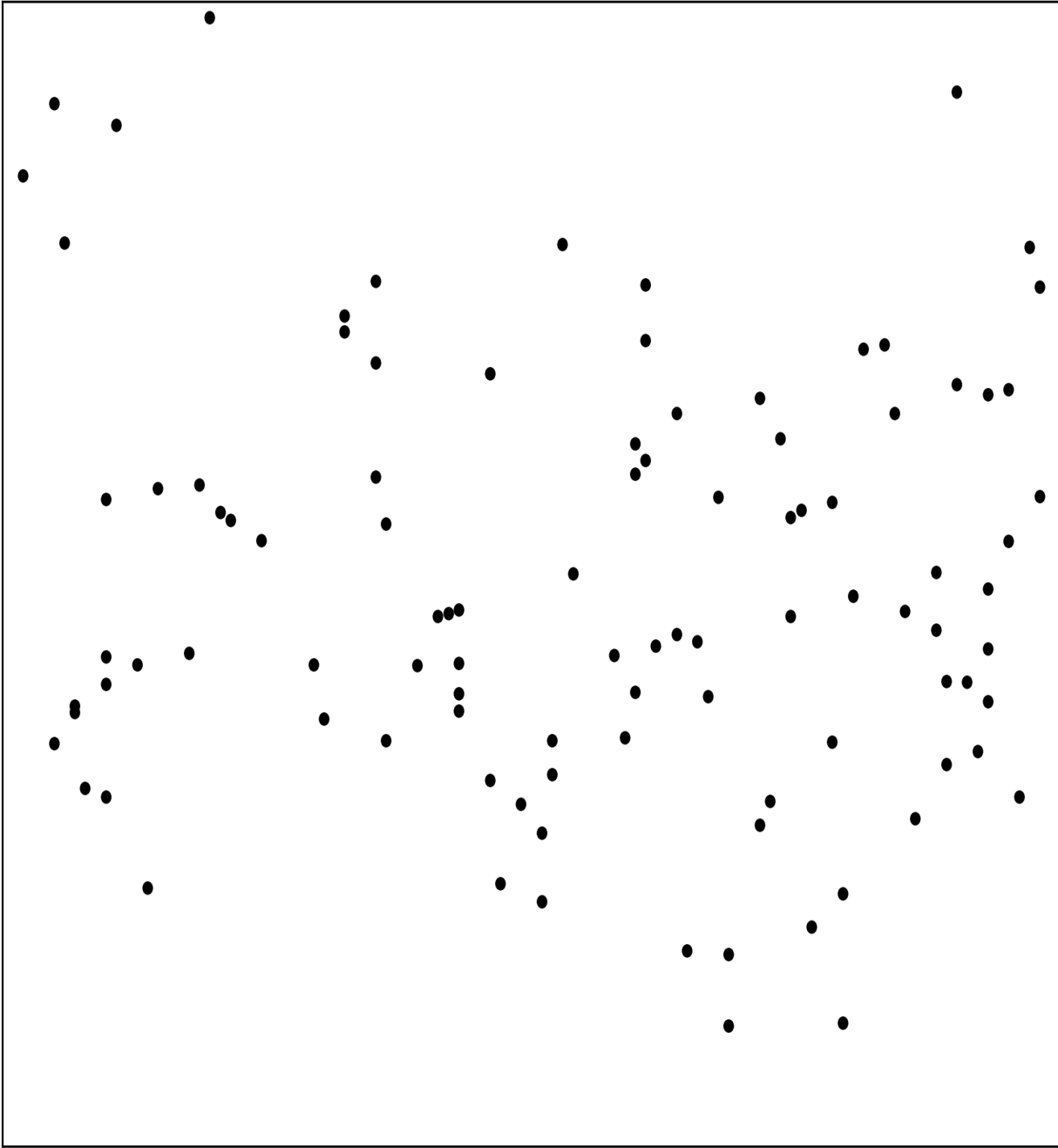
*

Please indicate the average height of the scatterplot.



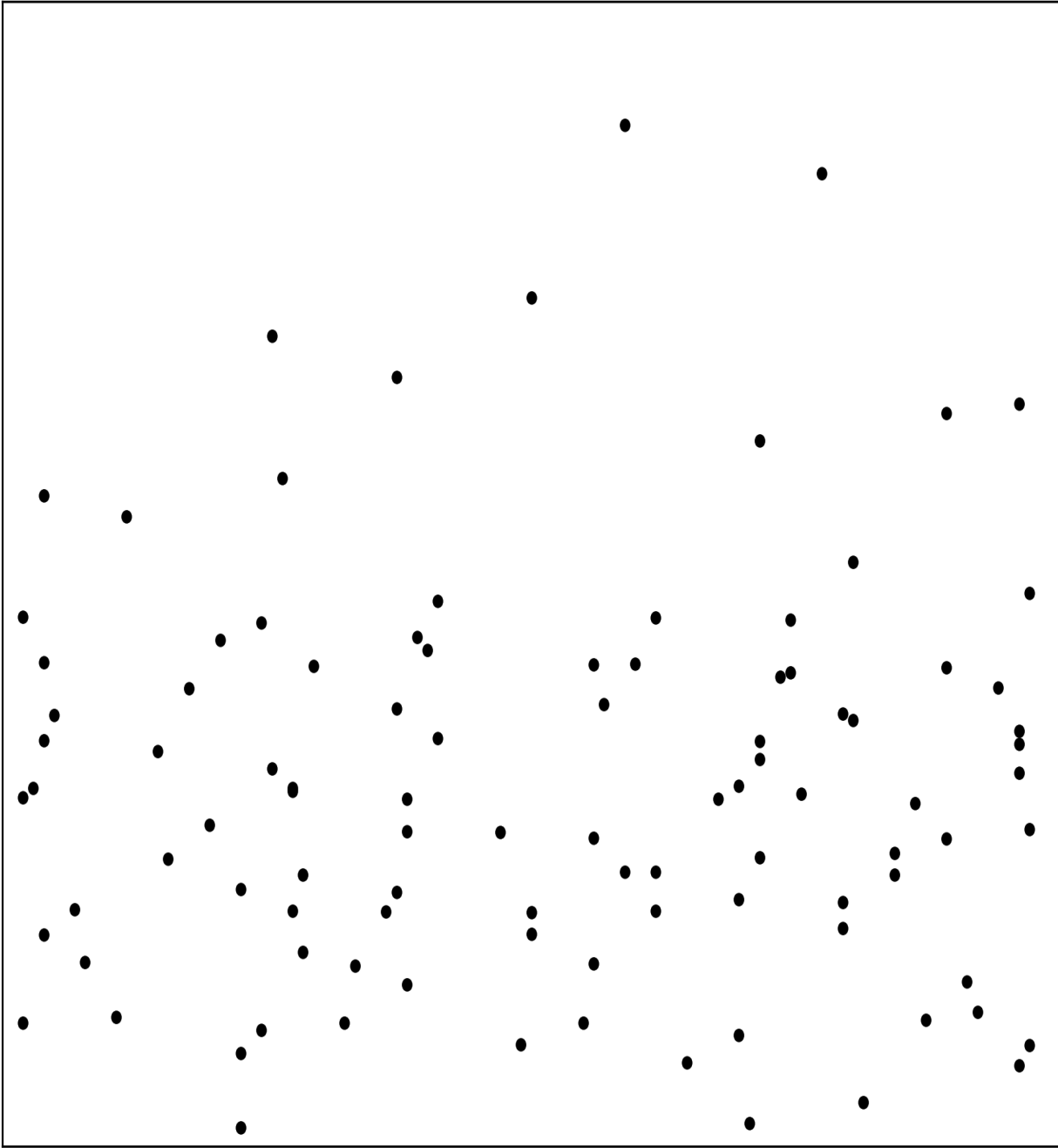
*

Please indicate the average height of the scatterplot.



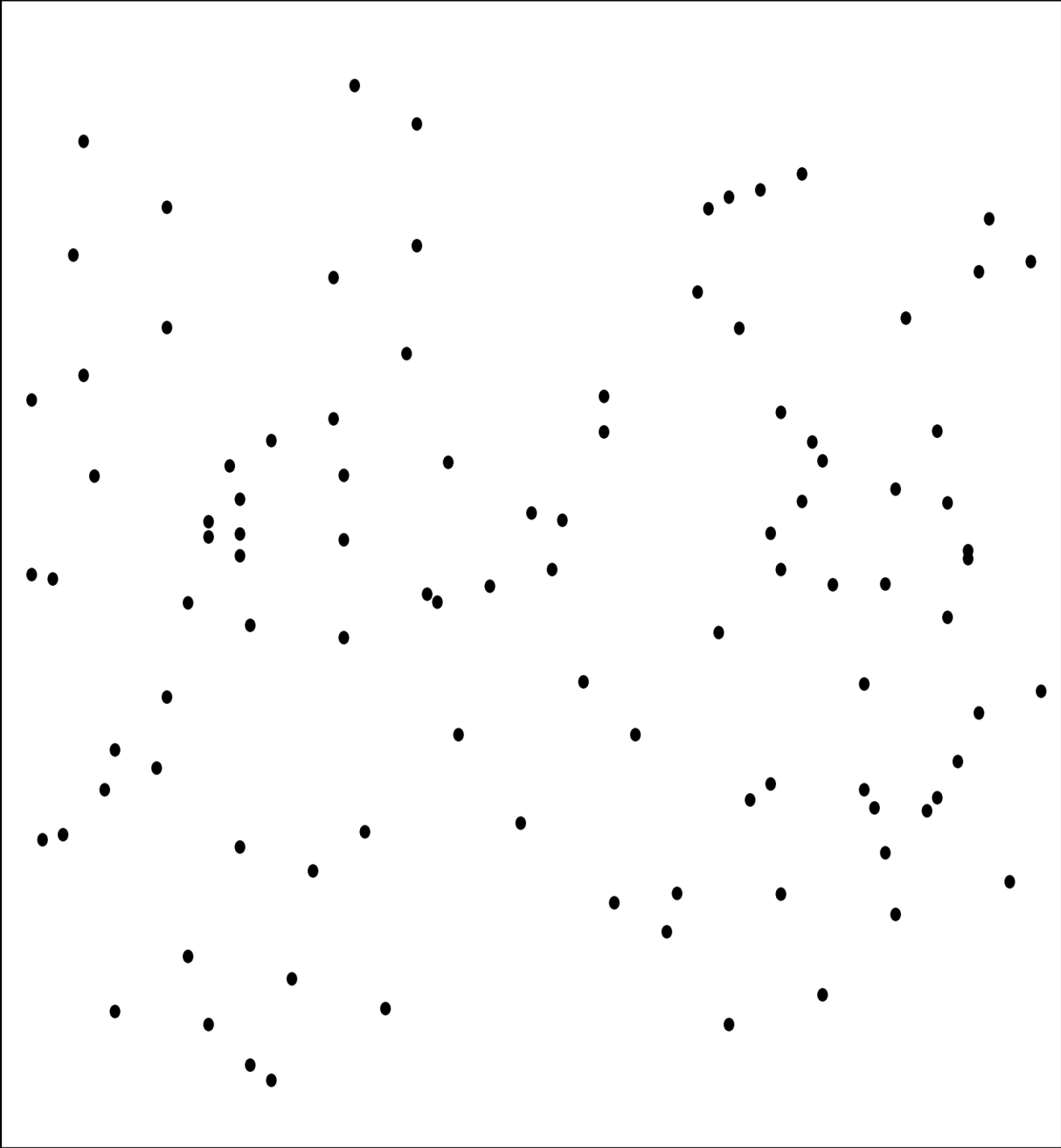
*

Please indicate the average height of the scatterplot.



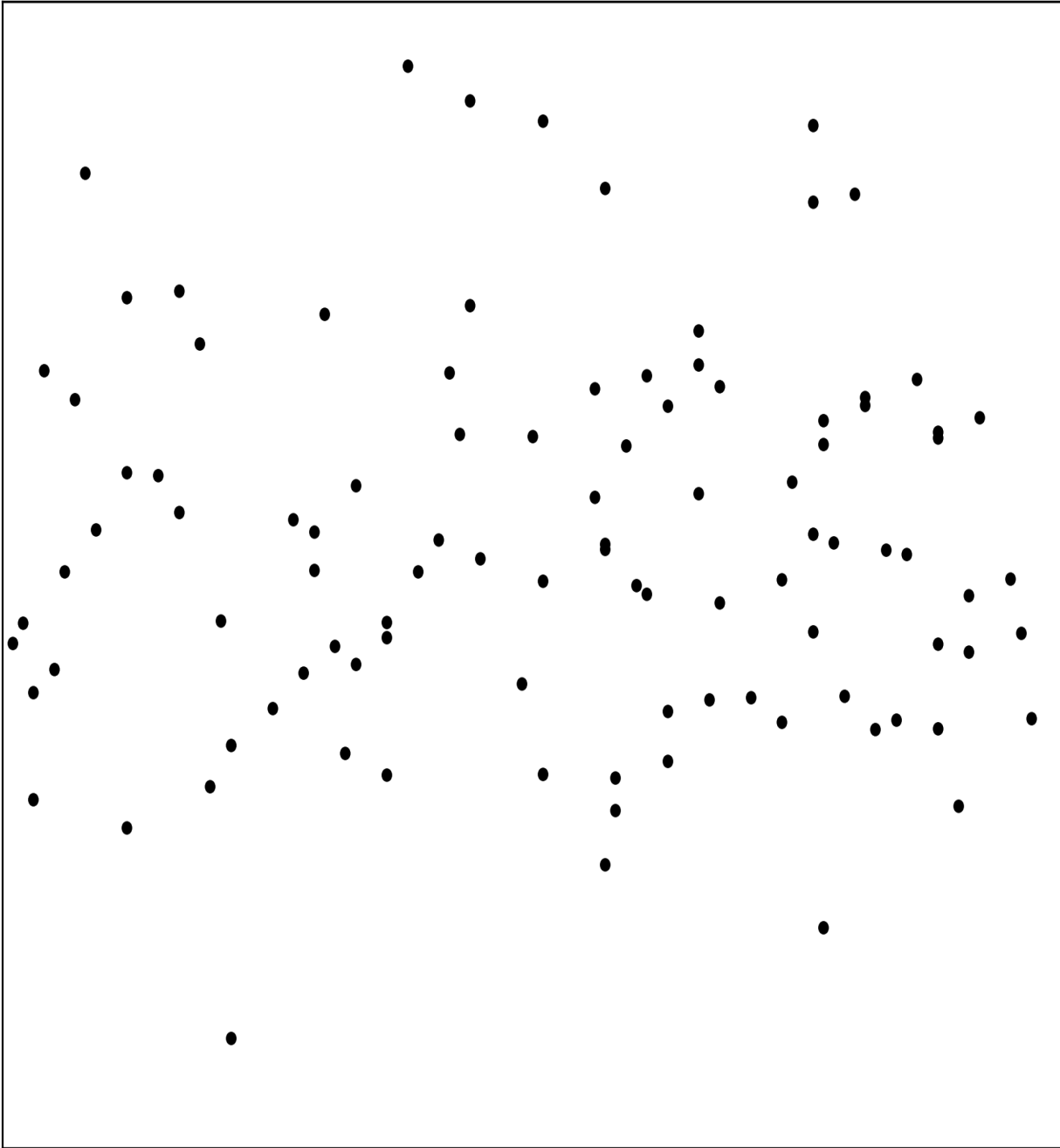
*

Please indicate the average height of the scatterplot.



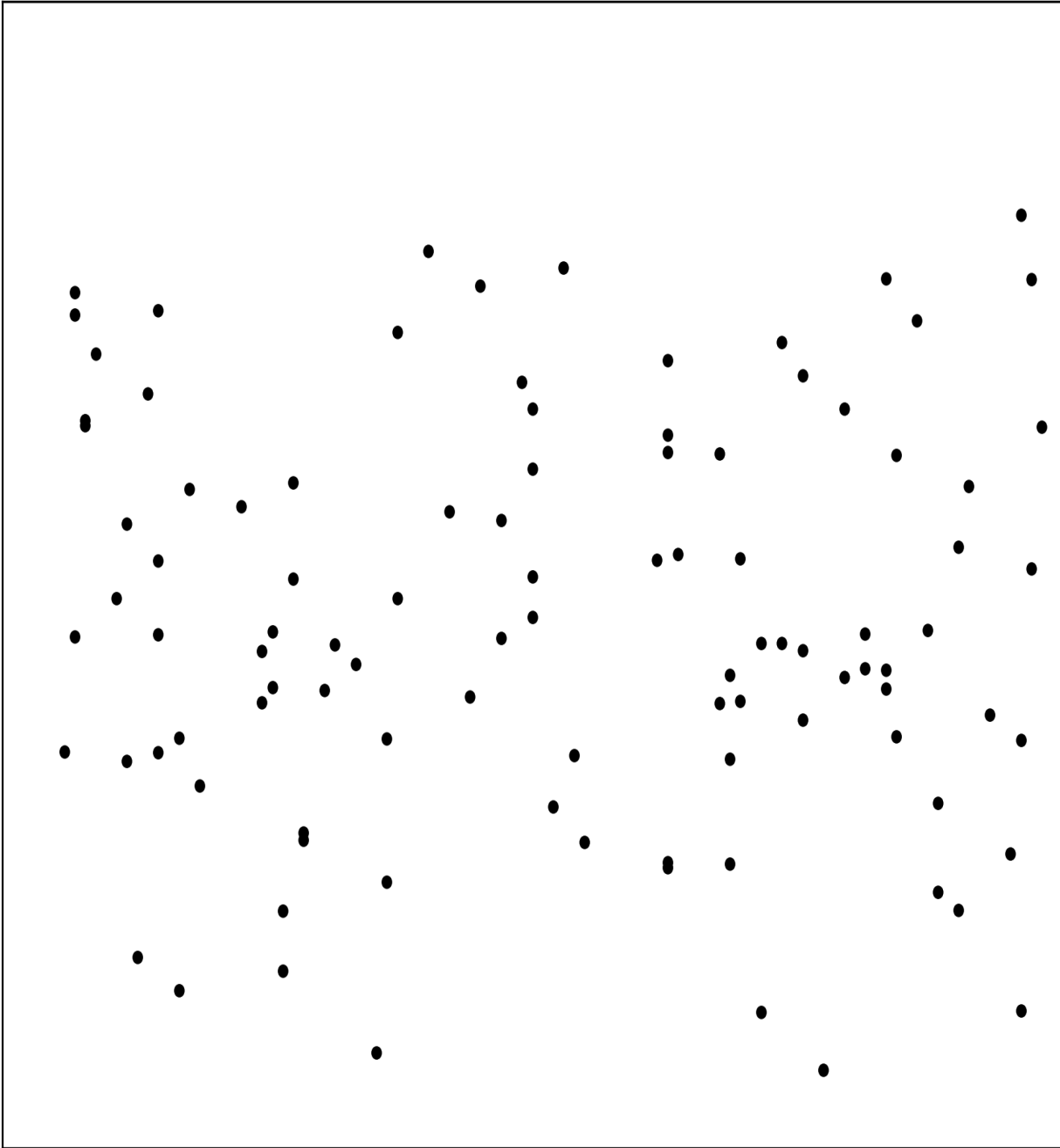
*

Please indicate the average height of the scatterplot.



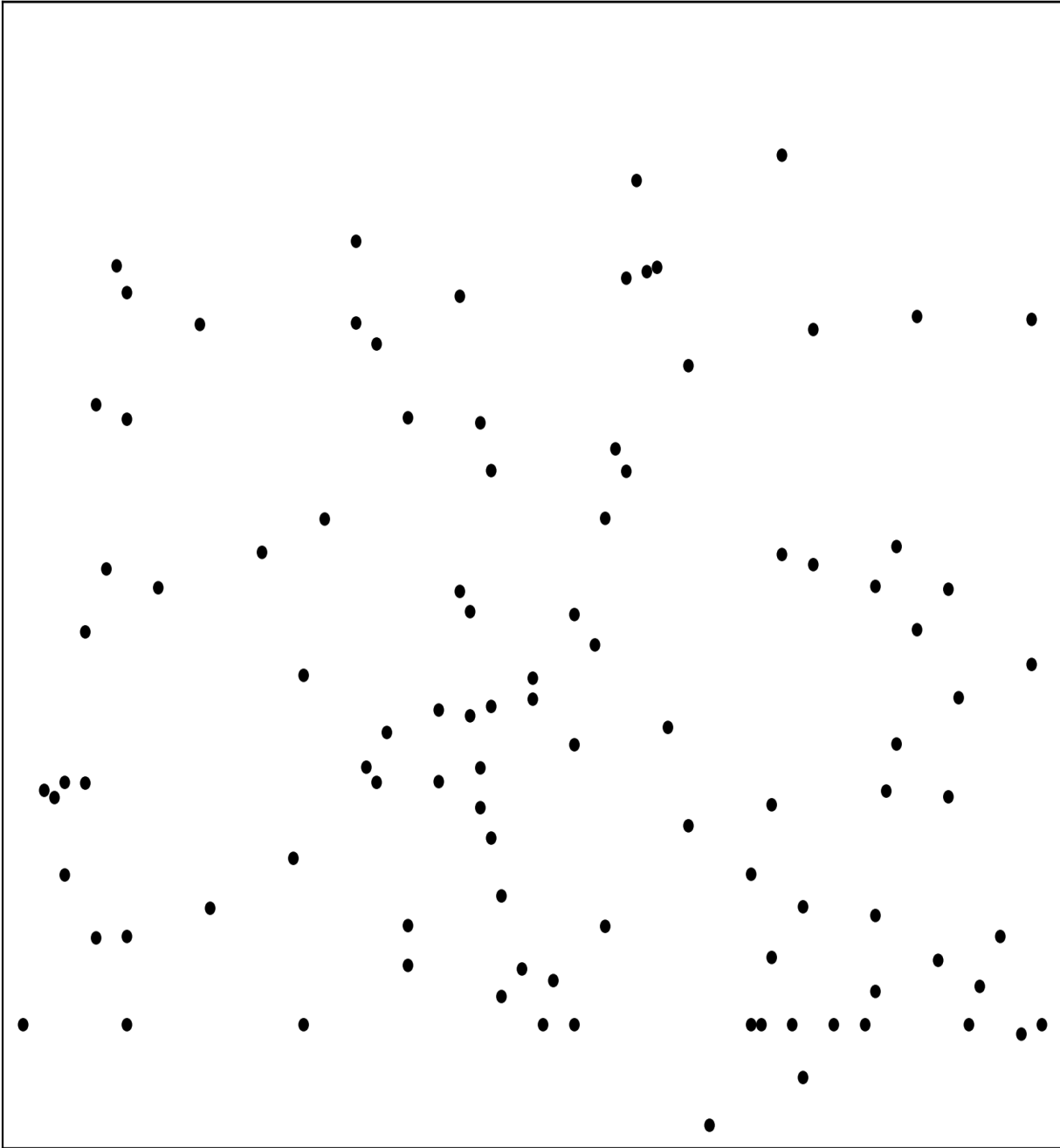
*

Please indicate the average height of the scatterplot.



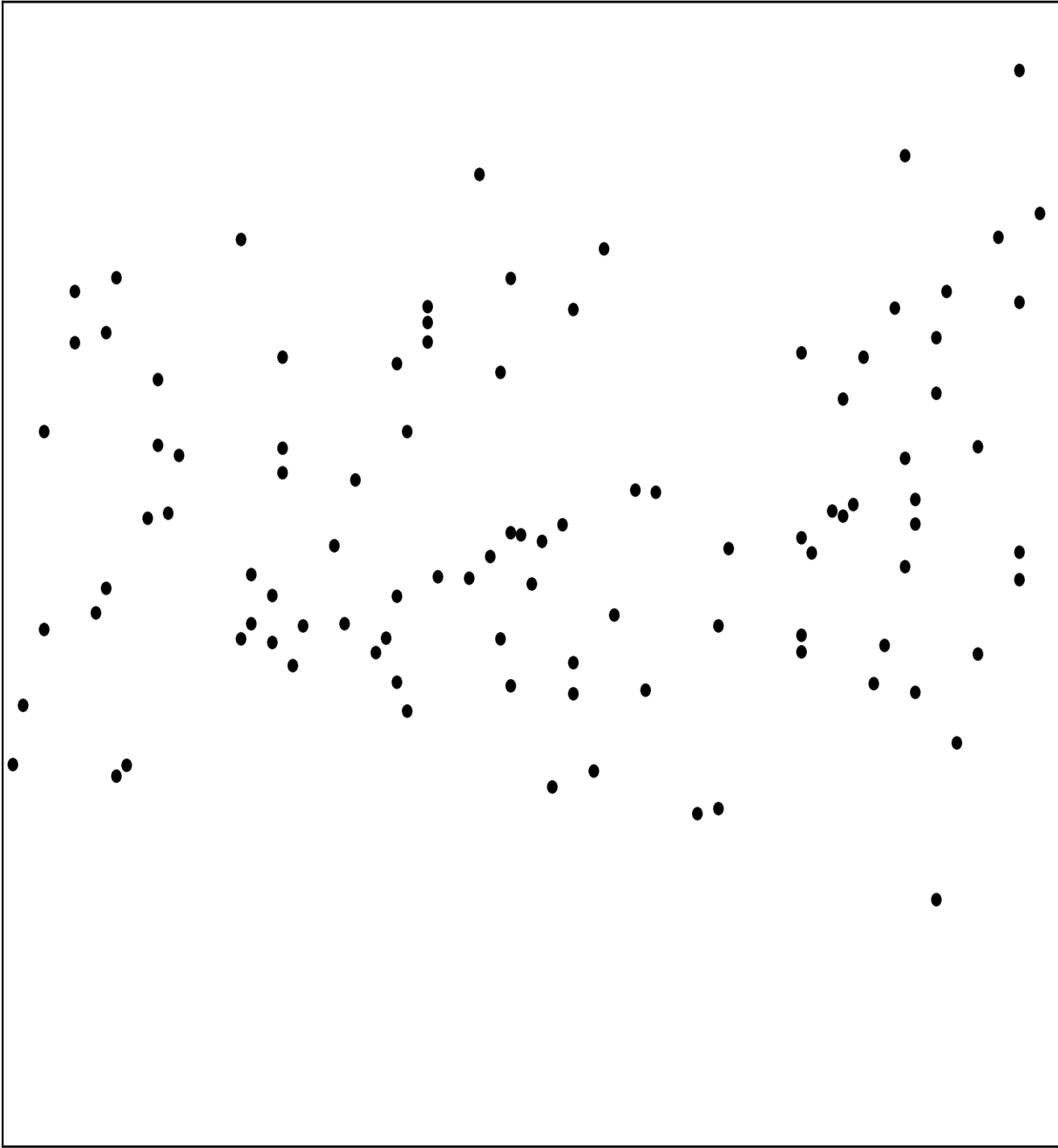
*

Please indicate the average height of the scatterplot.



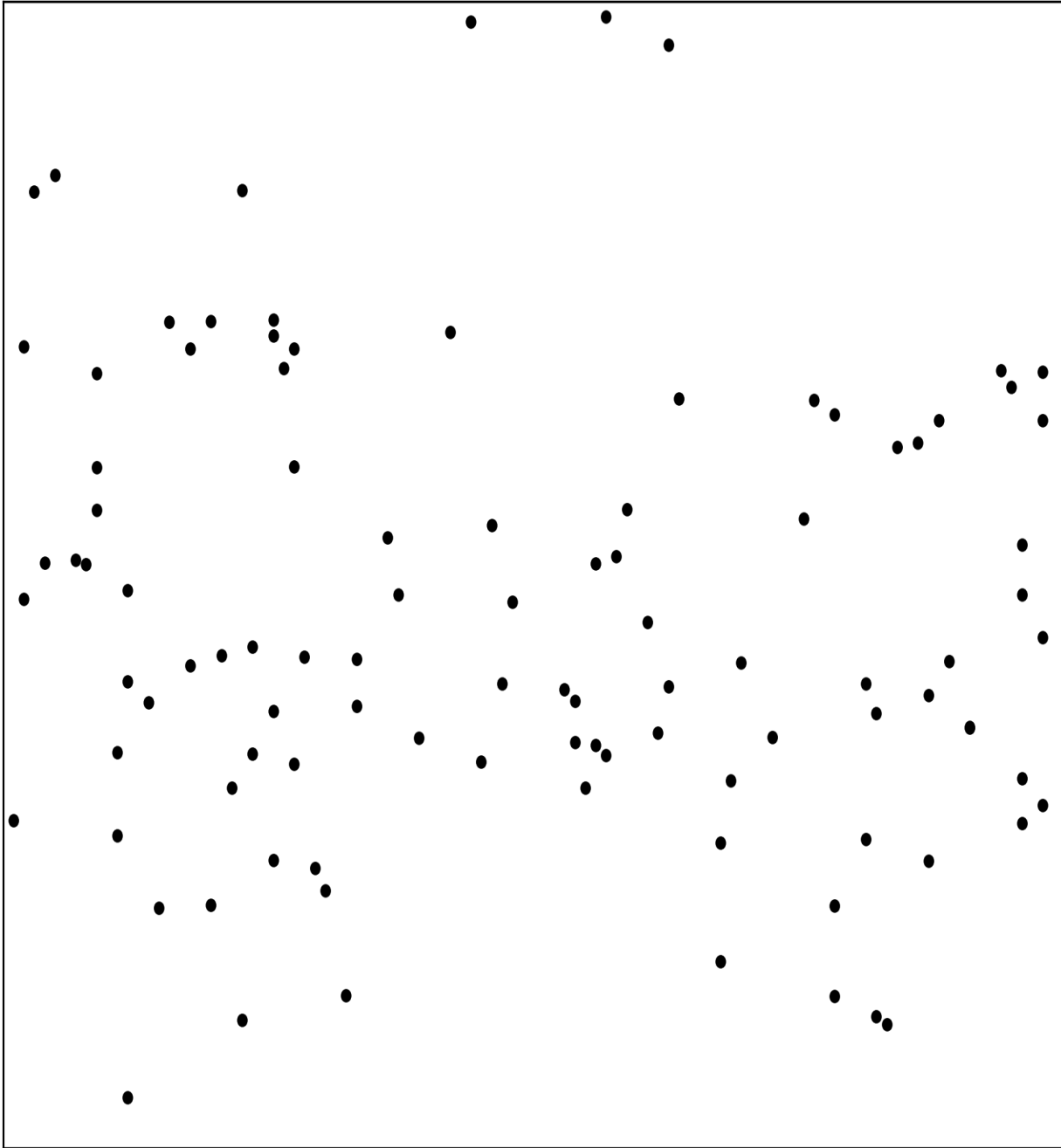
*

Please indicate the average height of the scatterplot.



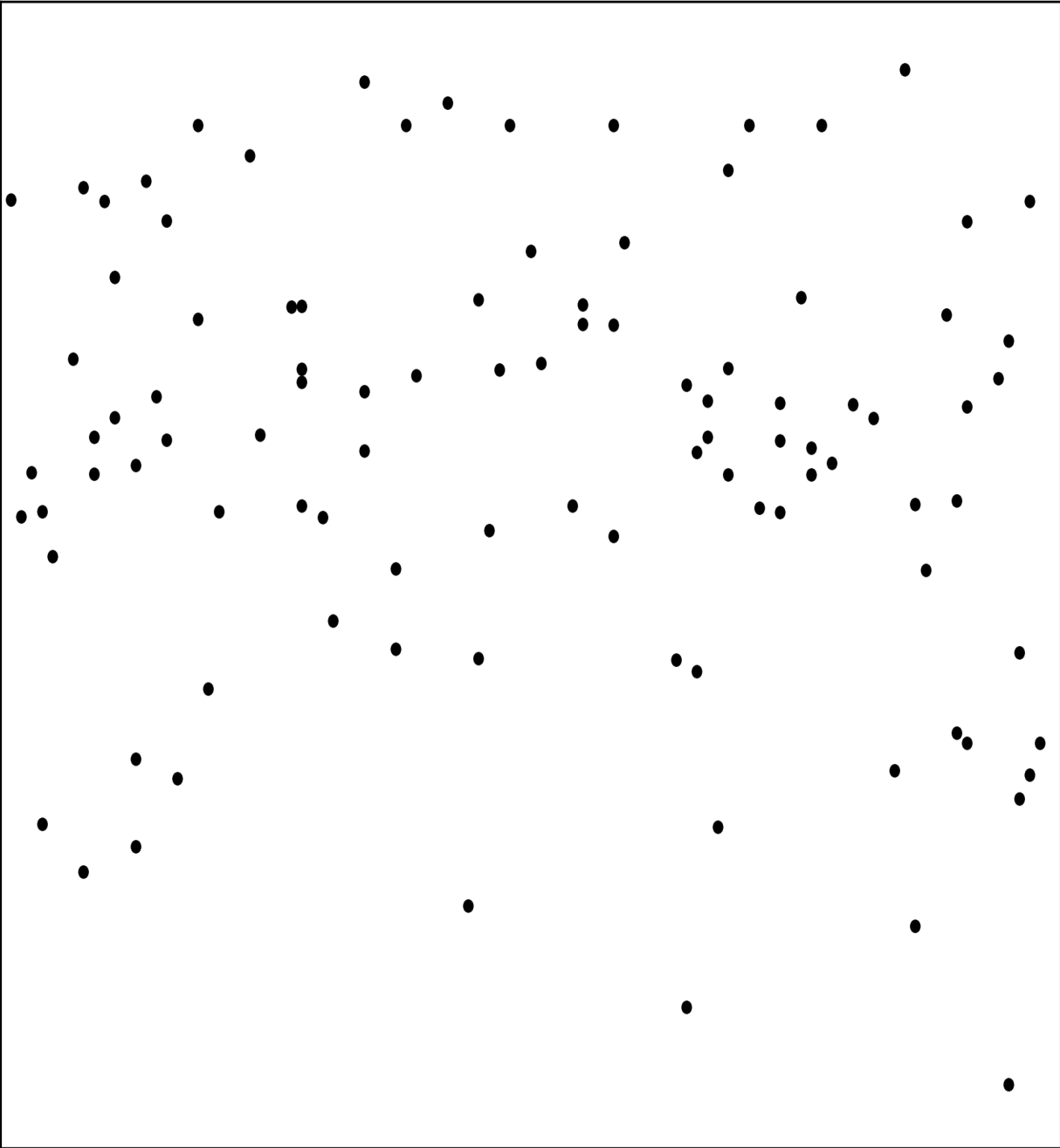
*

Please indicate the average height of the scatterplot.



*

Please indicate the average height of the scatterplot.



*

How difficult did you find the study tasks? *

Please choose **only one** of the following:

- 1 - Very difficult
- 2 - Difficult
- 3 - Neutral
- 4 - Easy
- 5 - Very easy

Feedback

This was the last task of this study. Thank you very much for taking the time and supporting our research.

On the following pages you have the opportunity to leave us feedback on the study.

What was your strategy when working on the tasks?

Please write your answer here:

If you have any feedback or comments about the study, we would appreciate it if you would share them with us here.

Please write your answer here:

Thank you for participating in this study!

03-20-2023 – 08:31

Submit your survey.

Thank you for completing this survey.