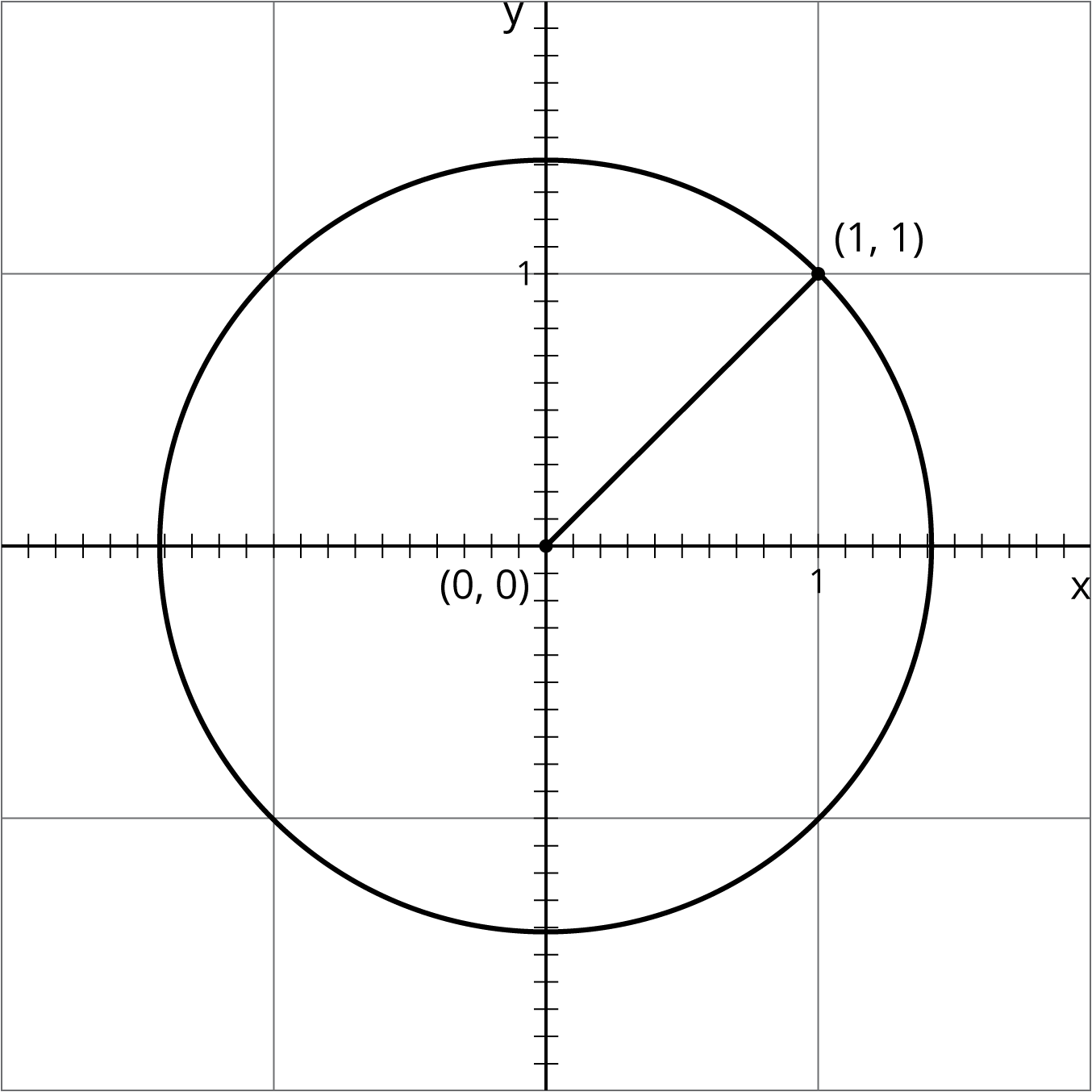
## Unit 8 Lesson 4: Square Roots on the Number line

### 1 Notice and Wonder: Diagonals (Warm up)

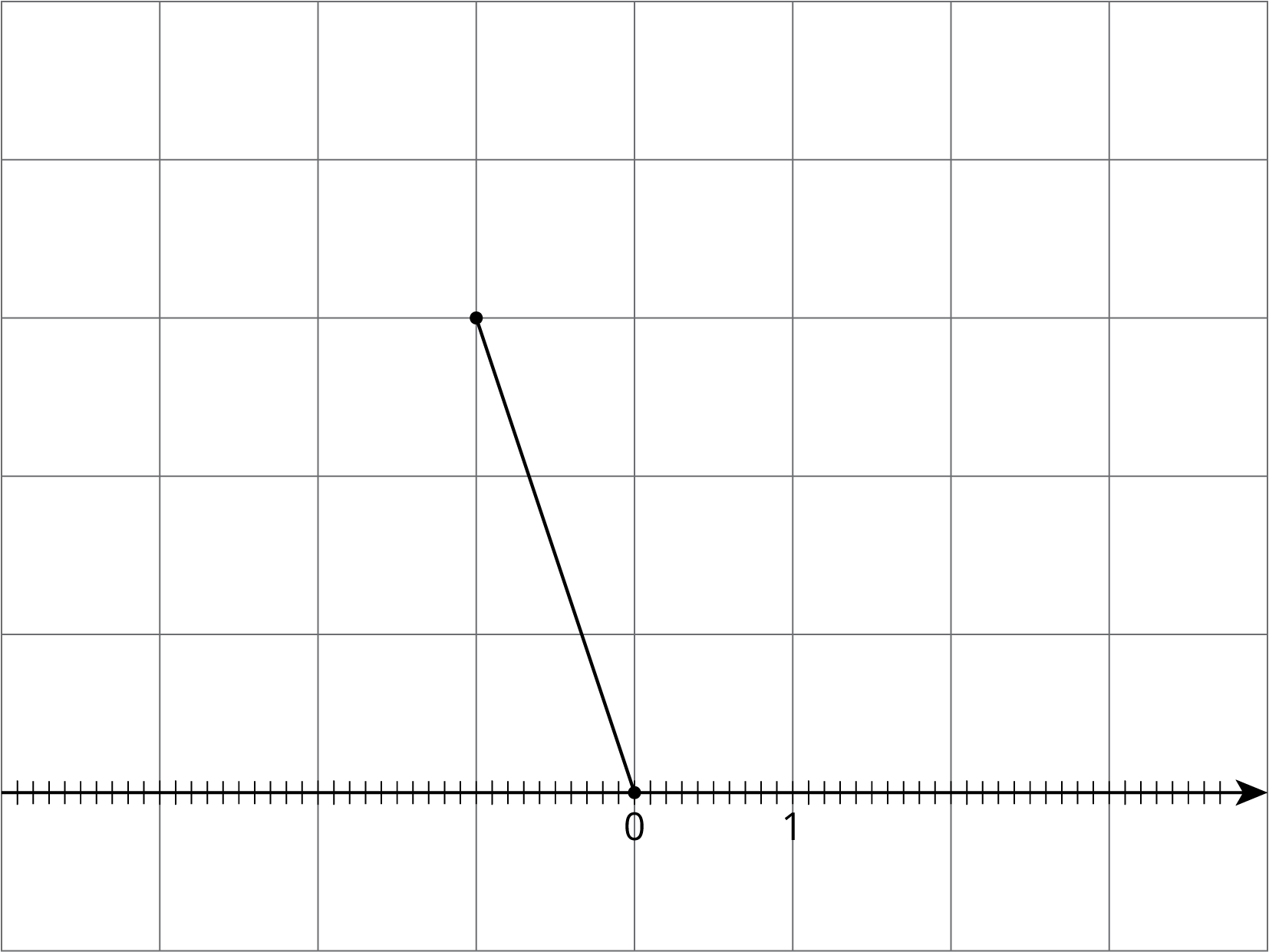
#### Student Task Statement

What do you notice? What do you wonder?



### 2 Squaring Lines

#### Student Task Statement

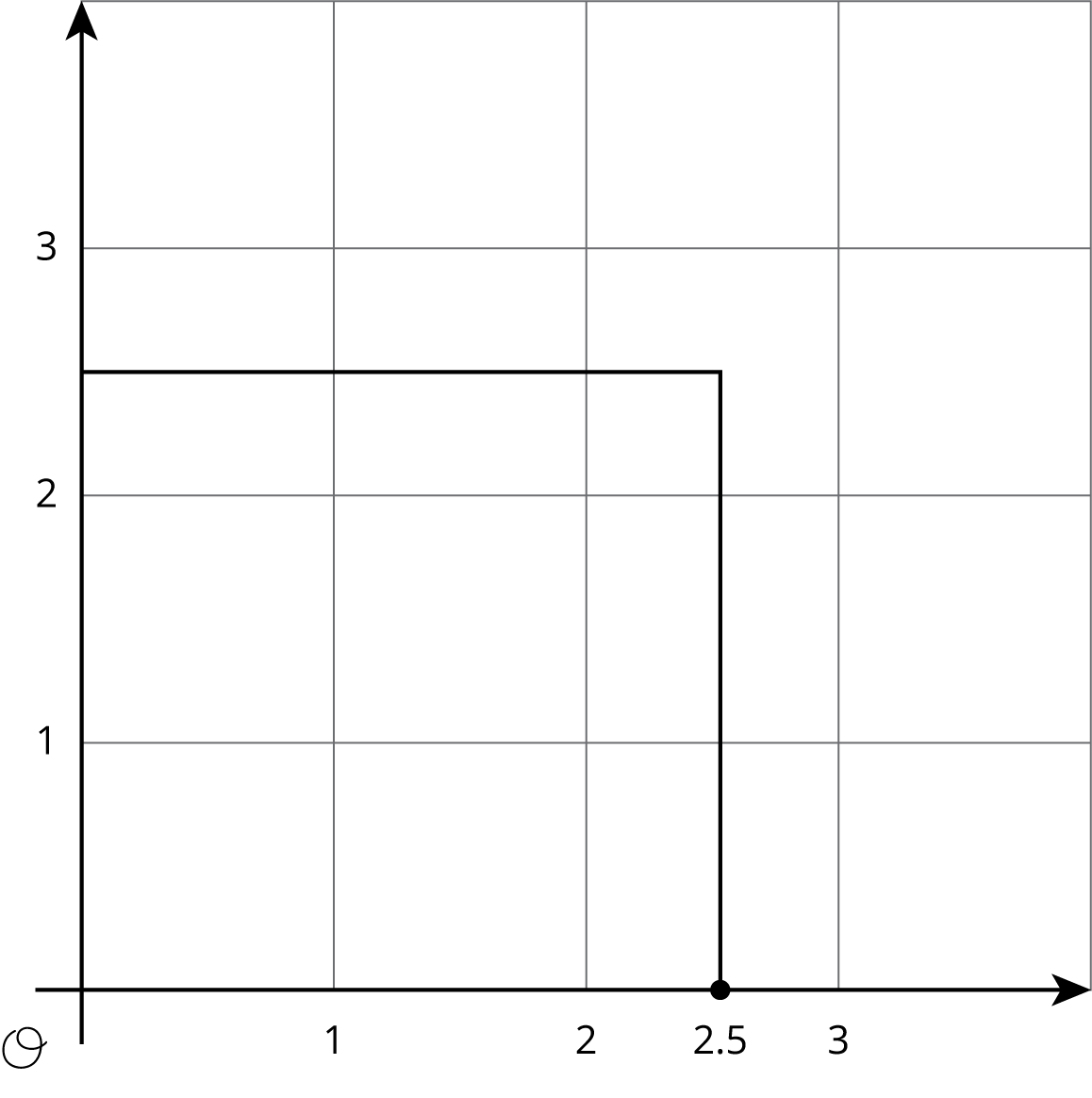


1. Estimate the length of the line segment to the nearest tenth of a unit (each grid square is 1 square unit).
2. Find the exact length of the segment.

### 3 Square Root of 3

#### Student Task Statement

Diego said that he thinks that .



1. Use the square to explain why 2.5 is not a very good approximation for . Find a point on the number line that is closer to . Draw a new square on the axes and use it to explain how you know the point you plotted is a good approximation for .
2. Use the fact that is a solution to the equation to find a decimal approximation of whose square is between 2.9 and 3.1.

### 4 Solutions on a Number Line

#### Student Task Statement

The numbers , , and are positive, and , , and .



1. Plot , , and on the number line. Be prepared to share your reasoning with the class.
2. Plot on the number line.



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