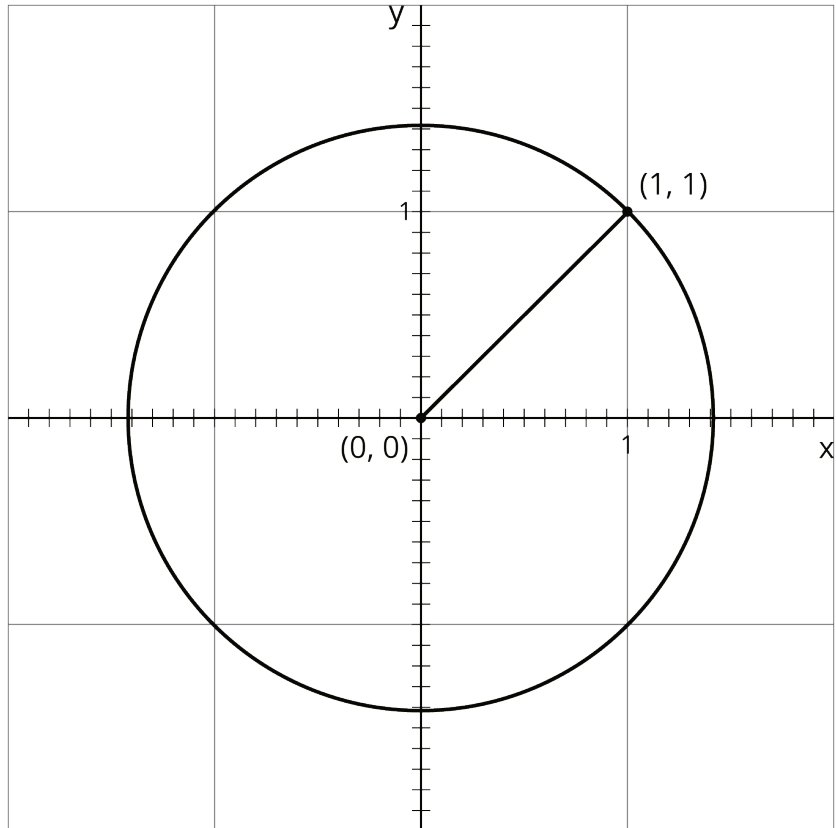


Unit 8 Lesson 4: Square Roots on the Number Line

1 Notice and Wonder: Diagonals (Warm up)

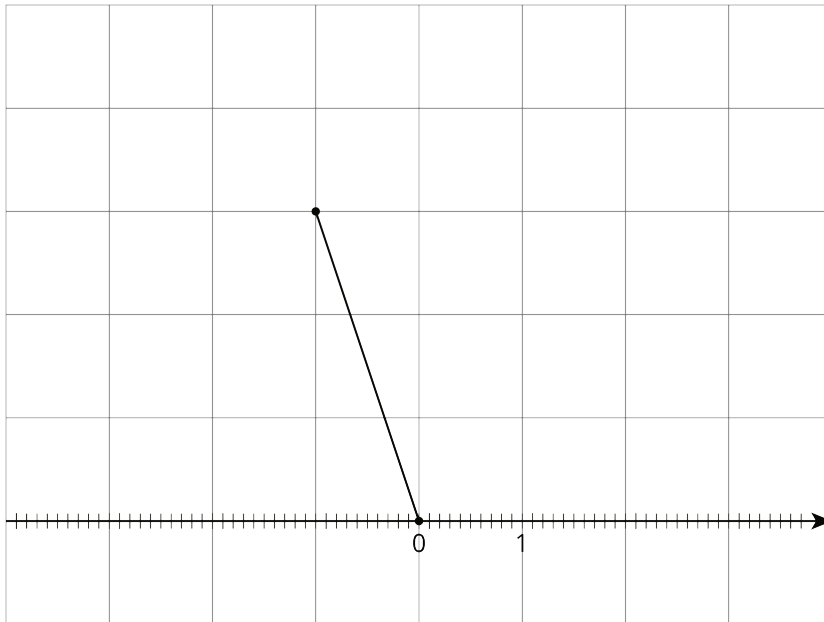
Student Task Statement

What do you notice? What do you wonder?



2 Squaring Lines

Student Task Statement

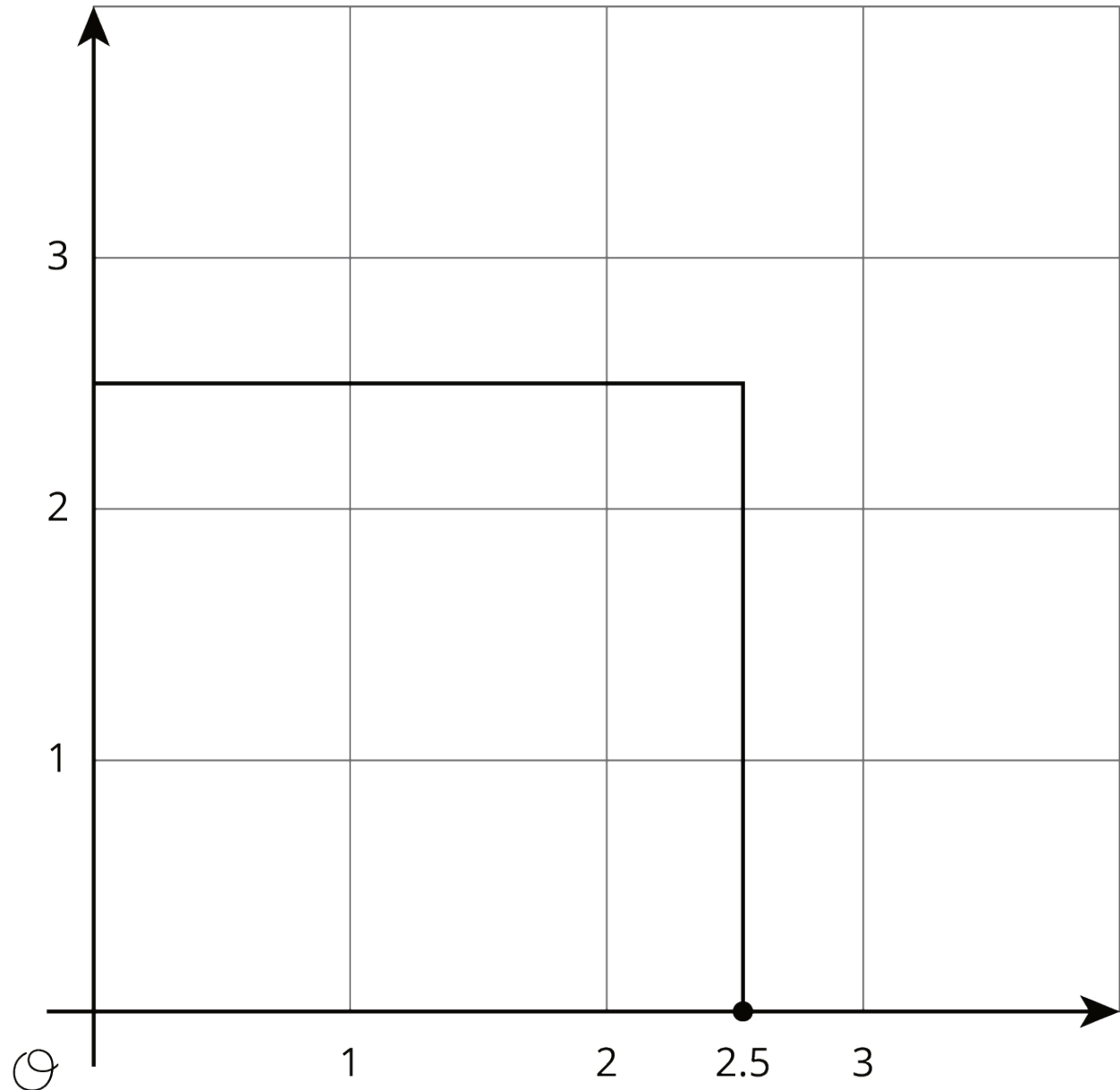


1. Estimate the length of the line segment to the nearest tenth of a unit (each grid square is 1 square unit).
2. Find the exact length of the segment.

3 Square Root of 3

Student Task Statement

Diego said that he thinks that $\sqrt{3} \approx 2.5$.

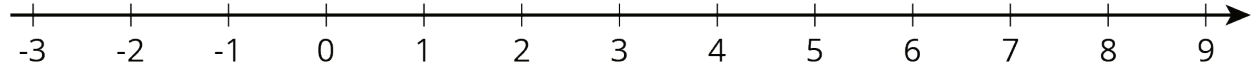


1. Use the square to explain why 2.5 is not a very good approximation for $\sqrt{3}$. Find a point on the number line that is closer to $\sqrt{3}$. Draw a new square on the axes and use it to explain how you know the point you plotted is a good approximation for $\sqrt{3}$.
2. Use the fact that $\sqrt{3}$ is a solution to the equation $x^2 = 3$ to find a decimal approximation of $\sqrt{3}$ whose square is between 2.9 and 3.1.

4 Solutions on a Number Line

Student Task Statement

The numbers x , y , and z are positive, and $x^2 = 3$, $y^2 = 16$, and $z^2 = 30$.



1. Plot x , y , and z on the number line. Be prepared to share your reasoning with the class.
2. Plot $-\sqrt{2}$ on the number line.