Task: The Difference between Rational and Irrational
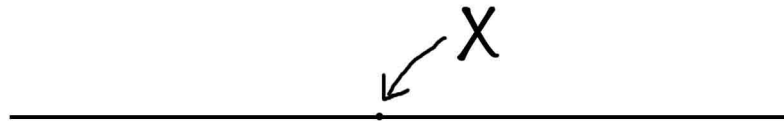
Tell Students:

After playing with the magnifying glass Interactive, maybe you're suspicious, and maybe you're wondering . . . If rational numbers (fractions) are so different from irrational numbers . . . how close can we get to an irrational point using only rational coordinates?
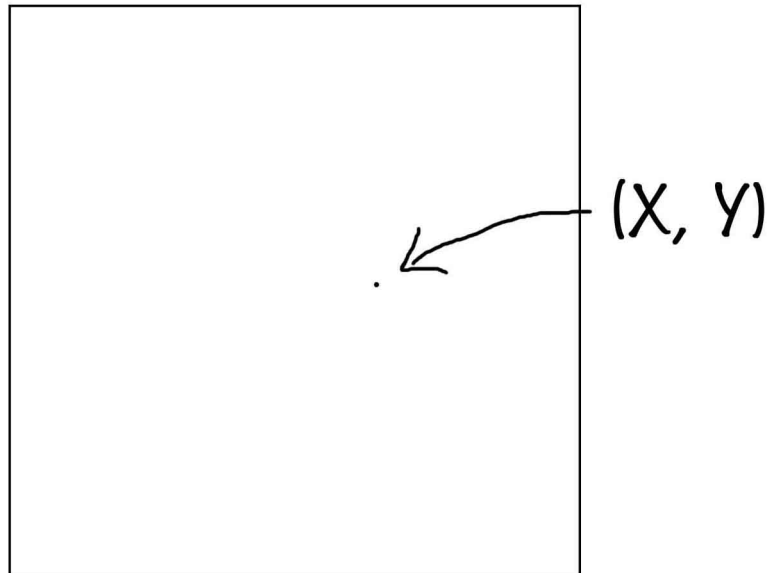
Lets start with just one number though:

Challenge:

1. If you have an irrational number X, how close can you get to it with a rational number (ie. a fraction)? Answer: You can't hit it, but you can get as close as you like. The picture to think about looks something like this (but let them tease this out):

2. How about a point in our square, with any coordinates (X, Y). How close can we get using rational coordinates (A, B)?

Answer: Again, as close as we like!