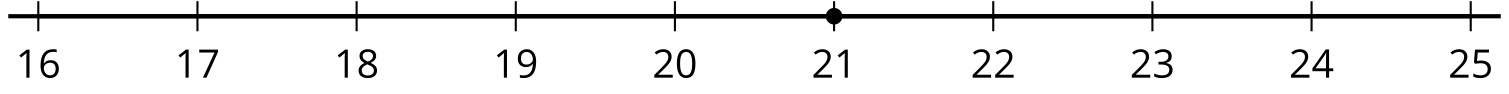
## Lesson 20: Quadratics and Irrationals

* Let’s explore irrational numbers.

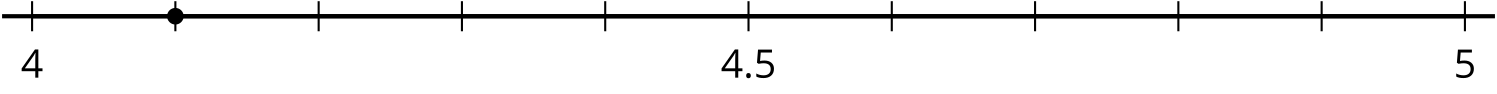
### 20.1: Where is ?

Which number line accurately plots the value of ? Explain your reasoning.

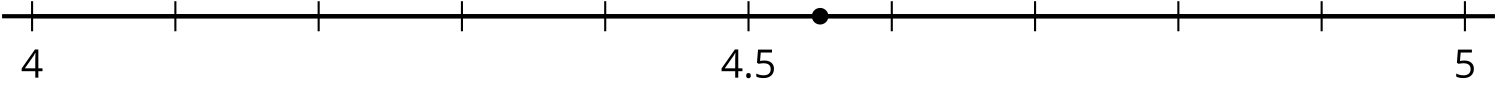
A



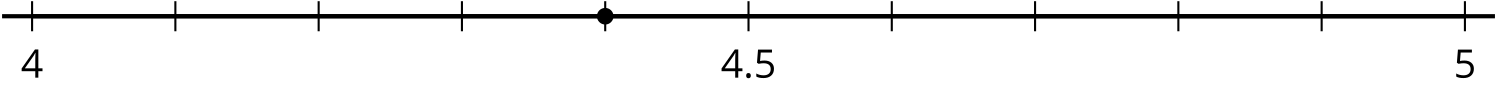
B



C



D



### 20.2: Some Rational Properties

Rational numbers are fractions and their opposites.

1. All of these numbers are rational numbers. Show that they are rational by writing them in the form or for integers and .
   1. 6.28
   2. -7.1234
2. All rational numbers have decimal representations, too. Find the decimal representation of each of these rational numbers.
3. What do you notice about the decimal representations of rational numbers?

### 20.3: Approximating Irrational Values

Although is irrational, we can approximate its value by considering values near it.

1. How can we know that is between 1 and 2?
2. How can we know that is between 1.4 and 1.5?
3. Approximate the next decimal place for .
4. Use a similar process to approximate the to the thousandths place.



© CC BY 2019 by Illustrative Mathematics®