

Is $2.626262\dots$ a rational or
irrational number?

In this lesson you will learn how
to tell the difference between
rational and irrational numbers
by looking for repeating decimals.

Let's Review

5: Whole Number

-12: Integer

0.386: Decimal

$\frac{1}{2}$: Fraction

Let's Review

There are more irrational numbers than rational numbers.

Core Lesson

Rational Numbers

5: Whole Number

-12: Integer

0.386: Decimal $0.386 = .38600.$

$\frac{1}{2}$: Fraction $\frac{1}{2} = .5000. .$

$.3333. . .$

Irrational Numbers

$\pi = 3.14159. . .$
 $.2478395723. . .$

$\sqrt{2}$

~~$\sqrt{5}$~~

Core Lesson

3.004. . . 3.9492. . . 3.392. . .
3.911. . . 3.832. . . 3.371. . . 3.361. . .
Whole Numbers 3 3.394. . . 3.708. . . 3.739. . .
3.1234. . . 3.739. . . 3.154. . . 3.412. . . 3.2921. . .
Decimals 3.724. . . 3.4592. . . 3.542. . .
1/2: Fractions 3.872. . . 3.542. . . 3.438. . . 3.1792. . . 3.643. . .
3.693. . . 3.530. . . 3.345. . . 3.592. . . 3.632. . . 3.312. . .
3.836. . . 3.647. . . 3.482. . . 3.157. . . 3.739. . .
3.428. . . 3.694. . . 3.975. . . 3.836. . . 3.592. . .
3.318. . . 3.768. . . 3.318. . . 3.816. . .

Core Lesson

$\frac{1}{3}$ is rational.

0.33333. . .

“Rational”

A Common Mistake

What about
.101101110111. . . ?

Irrational!



“Does it
repeat?”

Core Lesson

Rational Numbers: can be written as a ratio with integers.

Irrational Numbers: cannot be written as a ratio with integers.

Core Lesson

Is $2.626262\dots$ a rational or irrational number?

$$2.626262\dots = 260/99$$

In this lesson, you have learned how to tell the difference between rational and irrational numbers by looking for repeating decimals.