



Rational and irrational numbers

GRADE 8 MATH

Name _____

Date _____

Show your reasoning for every item. No calculator needed.

WORKED EXAMPLE

Rational: terminates or repeats. **Irrational:** neither. $\frac{1}{3} = 0.333\ldots$ is rational.

1. Write 0.35 as a fraction in its simplest form.

FLUENCY

Show your thinking

Answer

2. Rational or irrational? $\sqrt{49}$, $\sqrt{50}$

FLUENCY

Show your thinking

Answer

3. Is 2.5 rational? Say why.

FLUENCY

Show your thinking

Answer

4. Explain the difference between a decimal that REPEATS and one that merely goes on forever.

REASONING

Show your thinking

Answer

5. Between which two whole numbers does $\sqrt{30}$ lie?

APPLICATION

Show your thinking

Answer

6. Kai says “ $\sqrt{100}$ is irrational because it has a root sign.” Correct him.

REASONING

Show your thinking

Answer

7. Write a number that is irrational, and one that looks irrational but is not.

APPLICATION

Show your thinking

Answer

8. Is $0.4999\ldots$ (the 9 repeating) rational? What fraction is it?

REASONING

Show your thinking

Answer