That the real number system includes the rational numbers and...

recognise that the real number system includes the rational numbers and the irrational numbers, and solve problems involving real numbers using digital tools

Learning intention

- recognise that the real number system includes the rational numbers and the irrational numbers, and solve problems involving real numbers using digital tools

Teach and model

- investigating the real number system by representing the relationships between irrationals, rationals, integers and natural numbers and discussing the difference...
- using a real number line to indicate the solution interval for inequalities of the form ax+b c; for example, 1.2x-5.4>10.8
- using positive and negative rational numbers to solve problems; for example, for financial planning such as budgeting

Check understanding

- Explain the main idea in that the real number system includes the rational numbers and... using an example.
- Show the idea in a second way: with words, a model, a diagram or symbols.
- Apply the idea to a short unfamiliar situation and justify the result.

Teaching cautions

- Ask the student to explain their choice, not only state an answer.
- Check that key vocabulary is understood in a new example.
- Mix representations so the skill is transferred rather than copied.

Quick lesson sequence

- Connect to prior knowledge and introduce the key vocabulary.
- Model one clear example, then solve a second example together.
- Finish with an independent check and a short student explanation.