Find unknown values in numerical equations involving multiplication and division...

find unknown values in numerical equations involving multiplication and division using the properties of numbers and operations

Learning intention

- find unknown values in numerical equations involving multiplication and division using the properties of numbers and operations

Teach and model

- using knowledge of equivalent number sentences to form and find unknown values in numerical equations; for example, given that 3\times5=15 and 30\div2=15 then...
- using relational thinking, an understanding of equivalence and number properties to determine and reason about numerical equations; for example, explaining whether...
- using materials, diagrams and arrays to demonstrate that multiplication is associative and commutative but division is not; for example, using arrays to...

Check understanding

- Explain the main idea in find unknown values in numerical equations involving multiplication and division... 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.