

Apply deductive reasoning to proofs involving shapes in the plane...

apply deductive reasoning to proofs involving shapes in the plane and use theorems to solve spatial problems

Learning intention

- apply deductive reasoning to proofs involving shapes in the plane and use theorems to solve spatial problems

Teach and model

- distinguishing between a practical demonstration and a proof; for example, demonstrating that triangles are congruent by placing them on top of each other, as...
- developing proofs involving congruent triangles and angle properties, communicating the proof using a sequence of logically connected statements
- applying an understanding of relationships to deduce properties of geometric figures; for example, the base angles of an isosceles triangle are equal

Check understanding

- Explain the main idea in apply deductive reasoning to proofs involving shapes in the plane... 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.