

Establish and apply the exponent laws with positive integer exponents...

establish and apply the exponent laws with positive integer exponents and the zero-exponent, using exponent notation with numbers

Learning intention

- establish and apply the exponent laws with positive integer exponents and the zero-exponent, using exponent notation with numbers

Teach and model

- recognising the connection between exponent form and expanded form with the exponent laws of product of powers rule, quotient of powers rule, and power of a...
- applying the exponent laws of the product of powers rule, quotient of powers rule, power of a power rule and zero exponent individually and in combination; for example...
- using digital tools to systematically explore the application of the exponent laws; observing that the bases need to be the same

Check understanding

- Explain the main idea in establish and apply the exponent laws with positive integer exponents... 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.