

Manipulate formulas involving several variables using digital tools, and describe...

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Learning intention

- manipulate formulas involving several variables using digital tools, and describe the effect of systematic variation in the values of the variables

Teach and model

- experimenting with different sets of tables of values from formulas; for example, using volume of a rectangular prism = length $\times$ width $\times$ height, and specifying a fixed width...
- using spreadsheets and the formula function to recognise the effect of changing parameters on the entries in cells
- analysing distance travelled for different combinations of average speed and time of travel using a table of values and the distance formula

Check understanding

- Explain the main idea in manipulate formulas involving several variables using digital tools, and describe... 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.