

Experiment with functions and relations using digital tools, making and...

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Learning intention

- experiment with functions and relations using digital tools, making and testing conjectures and generalising emerging patterns

Teach and model

- applying the graphing zoom functionality of digital tools and systematically refining intervals to identify approximate location of points of intersection of the graphs of 2...
- applying a bisection algorithm to determine the approximate location of the horizontal axis intercepts of the graph of a quadratic function such as $f(x)=2x^2-3x-7$
- applying transformations to the graph of $x^2+y^2=1$

Check understanding

- Explain the main idea in experiment with functions and relations using digital tools, making 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.