

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

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Learning intention

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

Teach and model

- using graphing software to investigate the effect of systematically varying parameters of linear functions on the corresponding graphs, making and testing conjectures; for...
- using graphing software to systematically contrast the graphs of $y = 2x$, $-y = 2x$, $y = -2x$ and $-y = -2x$ with those of $y > 2x$, $-y > 2x$ and $-y > -2x$, making and...
- using digital tools to investigate integer solutions to equations such as $2x + 3y = 48$

Check understanding

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