

And graph quadratic functions, solve quadratic equations graphically and numerically...

identify and graph quadratic functions, solve quadratic equations graphically and numerically, and solve monic quadratic equations with integer roots algebraically, using graphing software and digital tools as appropriate

Learning intention

- identify and graph quadratic functions, solve quadratic equations graphically and numerically, and solve monic quadratic equations with integer roots algebraically...

Teach and model

- recognising that in a table of values, if the second difference between consecutive values of the dependent variable is constant, then it is a quadratic
- graphing quadratic functions using digital tools and comparing what is the same and what is different between these different functions and their respective graphs...
- solving quadratic equations algebraically and comparing these to graphical solutions

Check understanding

- Explain the main idea in and graph quadratic functions, solve quadratic equations graphically and numerically... 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.