Algebrakit™

Algebrakit adds powerful interactive capabilities to any math learning platform. No other math engine offers your students formative feedback, unlimited practice, and a focus on reasoning.

What is **Algebrakit**?

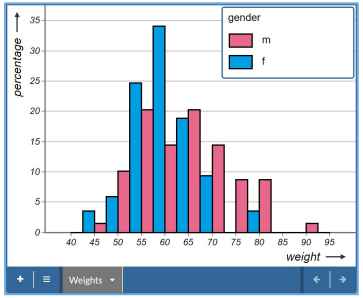
Algebrakit is a software technology component.
Our tools are used in learning products.

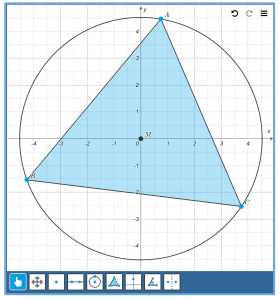
Our clients use Algebrakit to add interactive math capabilities to their platforms.

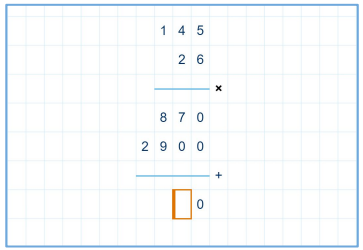
What Algebrakit is NOT:

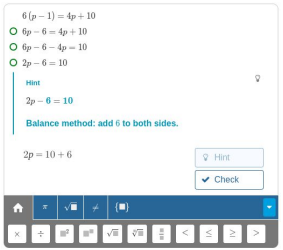
- Algebrakit is not a stand-alone learning application.
- Algebrakit is not a content company
- Algebrakit is not tied to a curriculum
- Algebrakit does not sell to schools

How we improve **math learning**









Algebrakit provides a wealth of math question types and support for all math domains, including algebra, geometry, calculus, graphs, and statistics.

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Personalized **hints** and **feedback**

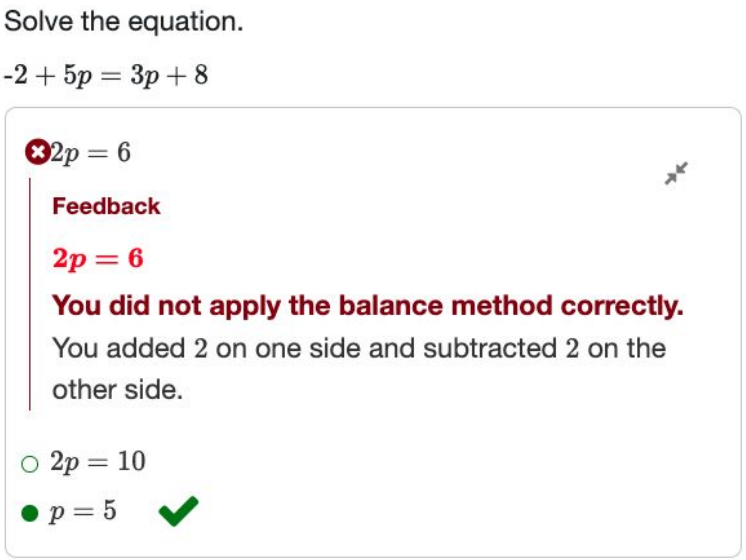

Figure: Algebrakit provides contextualized scaffolds.

Our world-class math engine automatically generates scaffolds and follows the student's input, strategies and misconceptions.

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For **primary** and **secondary**

Algebrakit offers advanced question types for secondary education and dedicated question types for secondary educations, e.g. for column-based arithmetic and arithmetic story problems.

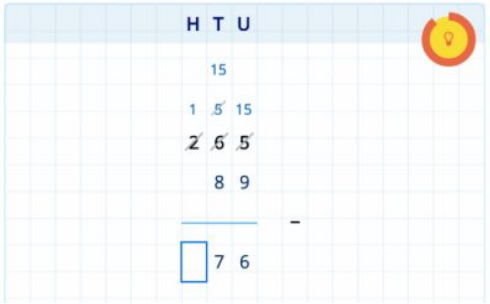


Figure: Algebrakit offers advanced tools for column-based arithmetic.

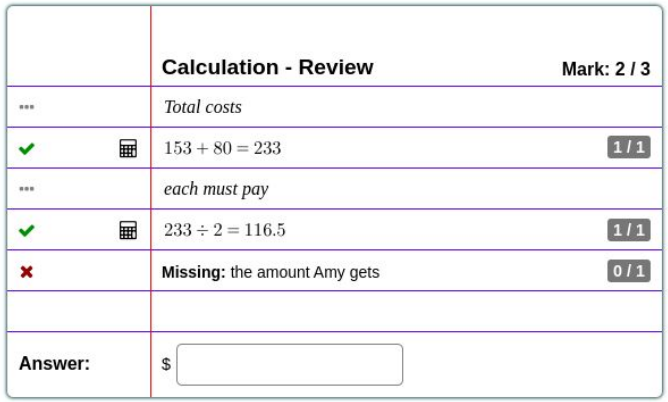
Column-based arithmetic for primary students
Students can do calculations with multi-digit numbers, just like they do on paper. But now your students receive automatic scaffolds and immediate feedback.

Arithmetic story problems
Our Arithmetic Notebook was designed to support story problems. Students can follow their own strategy and get feedback when needed.

Advanced tools for secondary students
Our math engine provides secondary students with instant feedback and scoring on algebra, statistics, calculus, and more.

Algebrakit for **assessment**

General-purpose assessment platforms use Algebrakit to extend their offerings to mathematics and science.



	Calculation - Review	Mark: 2 / 3
▪▪▪	*Total costs*	
✔	$153 + 80 = 233$	1 / 1
▪▪▪	*each must pay*	
✔	$233 \div 2 = 116.5$	1 / 1
✖	**Missing:** the amount Amy gets	0 / 1
Answer:	$	

Figure: In assessments, hints and feedback are disabled and partial scoring is possible.

Seamless integration
Algebrakit's math interactions run inside your question items. Your users will interact with our advanced math components without ever leaving your platform.

Partial scoring
In assessments, students can receive partial scoring when working out their solutions.

Integrated authoring
With our math authoring component, your content creators never need to leave your assessment platform to author math question items.

Unlimited **practice**

Algebrakit's math engine generates limitless variations.

exponents in N

view

Exercise	Solution
Multiply x^3+x+5 by x^2+x+3.	$x^5+x^4+4x^3+6x^2+8x+15$
Multiply x^3+2x+3 by x^2+5x+4.	$x^5+5x^4+6x^3+13x^2+23x+12$
Multiply x^3+4x+2 by x^2+2x+2.	$x^5+2x^4+6x^3+10x^2+12x+4$
Multiply x^3+2x+4 by x^2+4x+5.	$x^5+4x^4+7x^3+12x^2+26x+20$
Multiply x^3+x+2 by x^2+3x+5.	$x^5+3x^4+6x^3+5x^2+11x+10$

Figure: Each time the refresh button is pressed a new collection of exercises is generated.

Parameterized questions
You can have an unlimited supply of random questions that all apply to the same learning goal. Every question has full support for hints and error feedback and automatic assessment.

Rich data for **learning analytics**

Finished	true
Marks	1/1

MULTISTEP interaction

Progress	100%

Skills related to **errors**

- *Expanding a single pair of parentheses*
  MISCONCEPTION : *Not multiplying all terms by the factored constant*
- *Add or subtract terms using the balance method*

Skills related to **hints**

- *Arrange terms with variable to the left and other terms to the right*
- *Add or subtract terms using the balance method*

Figure: Our data is used by clients to create powerful dashboards for teachers and adaptive learning for students.

As students complete exercises, Algebrakit produces a goldmine of data, with intermediate evaluations, detected math skills, and partial scoring.

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Customizable for **your curriculum**

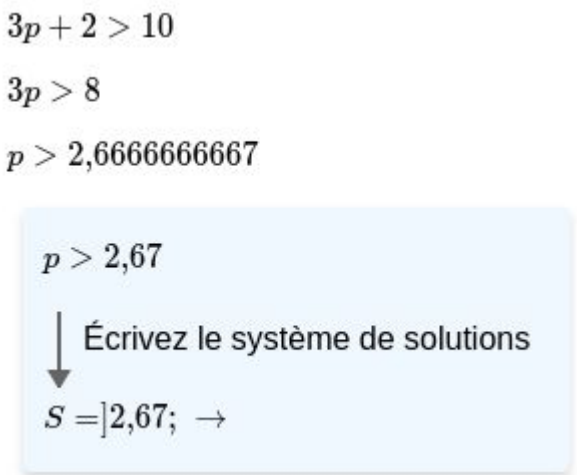

Figure: In Wallonia, students have to write the solution of an equation or inequality as a solution set. Note also the unusual notation for intervals.

Our didactic features are configurable to your local curriculum, including math notation, formative feedback, and solution strategies.

Algebrakit supports any language.

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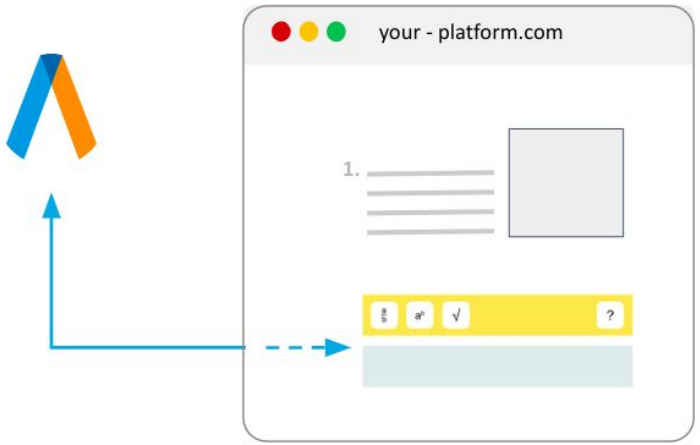
Seamless **integration**



Our evaluation engine and authoring tools are web components designed to work behind your learning environment, giving you full control and a seamless user experience.

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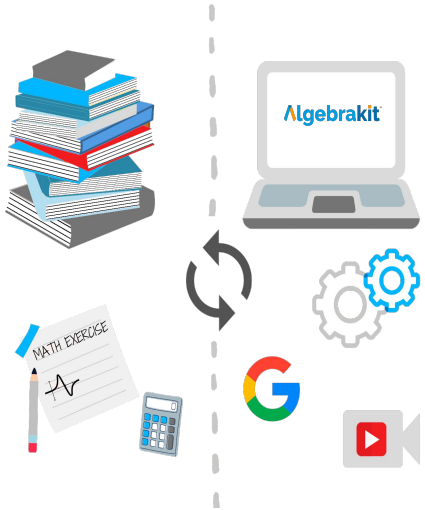
Blended **learning**

You don't need to go all digital to benefit from Algebrakit's functionality. You can use our math components to add value to your print media.



Add interactive math to your existing assets
Most publishers already offer digital resources such as videos and online assessments with their print media. Now, you can use Algebrakit to extend your offerings with interactive math questions.

Single-source **publishing**

Our API approach and fine-grained components are a natural fit for the trend in supporting multiple publishing channels from a single source.

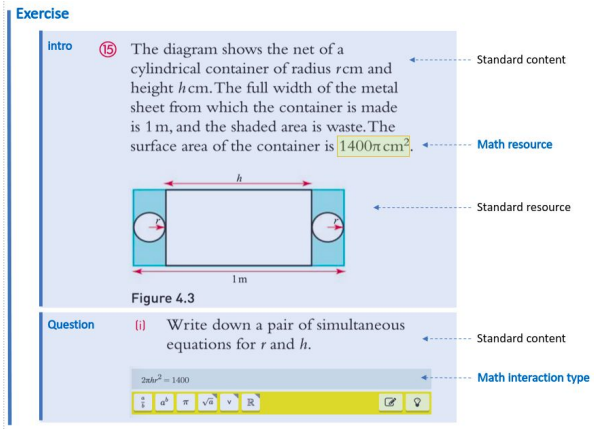


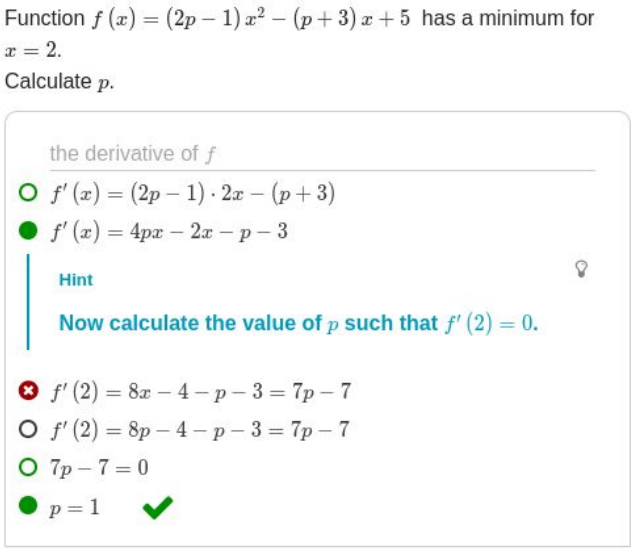
Figure: Algebrakit elements can be inserted into your existing content.

Most math questions contain general elements, such as exercise structure, texts, images, and metadata. You don't want to migrate this content to an external math system.

That's why we support integration at the interaction level. Instead of creating complete exercises in Algebrakit (which you can do), you can choose to inject only the math-specific elements into your exercises.

Everything up to **calculus**

Algebrakit's components support most subjects in secondary math education: early algebra, classical geometry, graphs, statistics, and early calculus.



Encourage critical thinking
Just selecting the correct answer is not acceptable for any math course. Algebrakit's math interactions are designed to be open so that students can work on math problems step-by-step while choosing their own strategy.

Intuitive tools for all subjects
Algebrakit offers customizable interactions for all math activities. These enable multi-step reasoning, randomization, and automatic evaluation. Mix and combine interaction types to create any math question you can imagine.

Specific support for STEM

Mathematics is the language of science, so we offer specific support for units, accuracy, scientific notation and engineering formulas

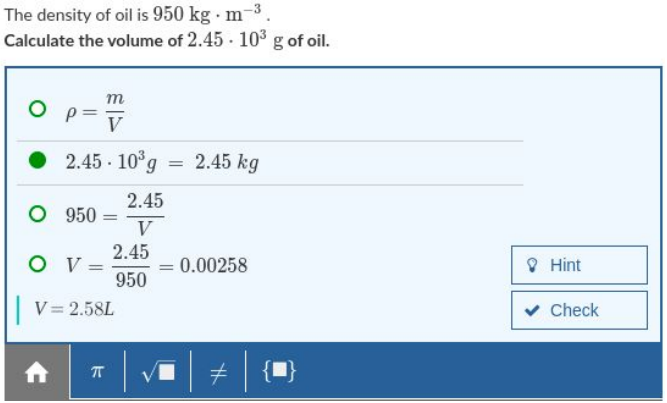


Figure: Algebrakit can be used to model science problems.

Built-in support for science concepts
Algebrakit's educational math engine is aware of physical quantities, units, and accuracy, which are important concepts in science. Students can even write and reason with scientific formulas in a formal way, just as they would on paper.

Modeling realistic problems
Questions about realistic situations involve modeling and the solution of multiple, interrelated subproblems. Algebrakit provides an advanced solution model that can deal with such problems.

Learn **more** and **play** with it

Find out more:

1. Email info@algebrakit.com to arrange a live demo
2. View our online demos: https://algebrakit.com/question-types/
3. Play with our free tool for math teachers and students: https://practice.algebrakit.com/

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Try it out in full detail

1. Test bench
   - https://testbench.algebrakit.com
2. CMS
   - https://cms.algebrakit.nl
3. Documentation
   - https://docs.algebrakit.com/

Please contact us for sign-in credentials.

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