

Learner workbook: Non-calculator number and algebra

Objective: Apply number and algebra methods without a calculator.

Calculator condition: Calculator allowed where labelled; non-calculator reasoning remains required.

L104 Non-calculator number and algebra



balanced operations + independent check

Objective: Apply number and algebra methods without a calculator.

Connect & Check

- State the objective and timeline. Retrieve delayed reassessment or a prerequisite. Diagnose a common error before modelling.
- Write one starting question you want answered today.

Choose your route

Route A: Visual Use a diagram, graph, table or annotation first.	Route B: Method Use a worked method, formula or calculation chain first.	Route C: Explain Start with words: what is known, what is changing, and why.
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Share

- Pairs compare methods or predict a result for non-calculator number and algebra. Ask for a reason, not only an answer.

Present

- Use assessment evidence to select a worked-example/problem pair.
- Fade prompts and review a fresh independent response with the learner

Apply: supported to independent

Recall: Retrieve the key fact or method needed for non-calculator number and algebra.

Working: _____

Check/explanation: _____

Core practice: Calculate $5/8 - 1/6$ exactly and simplify.

Working: _____

Check/explanation: _____

Reasoning: Solve $2(3x-1)=4x+10$ without a calculator and check.

Working: _____

Check/explanation: _____

Exam-style: Solve an exam-style problem involving non-calculator number and algebra. Show working, include a check and interpret your answer.

Working: _____

Check/explanation: _____

Recall & Review

- Revisit the objective. Learners solve a fresh item without prompts, explain a check, correct one error and record the next practice.

WWW: _____ EBI: _____

Recall & Review: feedback and extension integration

Lesson L104: Non-calculator number and algebra

Objective: Apply number and algebra methods without a calculator.

Timing for a 60-minute lesson

0-7 Connect & Check; 7-14 Share; 14-25 Present/model; 25-44 Apply route choice/practice; 44-52 independent exam-style check; 52-60 Recall & Review, WWW/EBI and next step.

Recall & Review evidence

At the end of the lesson, solve a fresh question without prompts, explain one check, correct one error and record the next practice step.

What Went Well (WWW)

I selected an efficient numerical method, showed the key steps clearly and checked the sign, size or accuracy of my answer.

Even Better If (EBI)

I will make the place-value, sign or operation decision explicit and use estimation or an inverse calculation to check a fresh question.

Integrated stretch and deep challenge

Stretch: Calculate $5/8 - 1/6$ exactly and simplify.

Deep challenge: Solve $2(3x - 1) = 4x + 10$ without a calculator and check.

My next-step response
