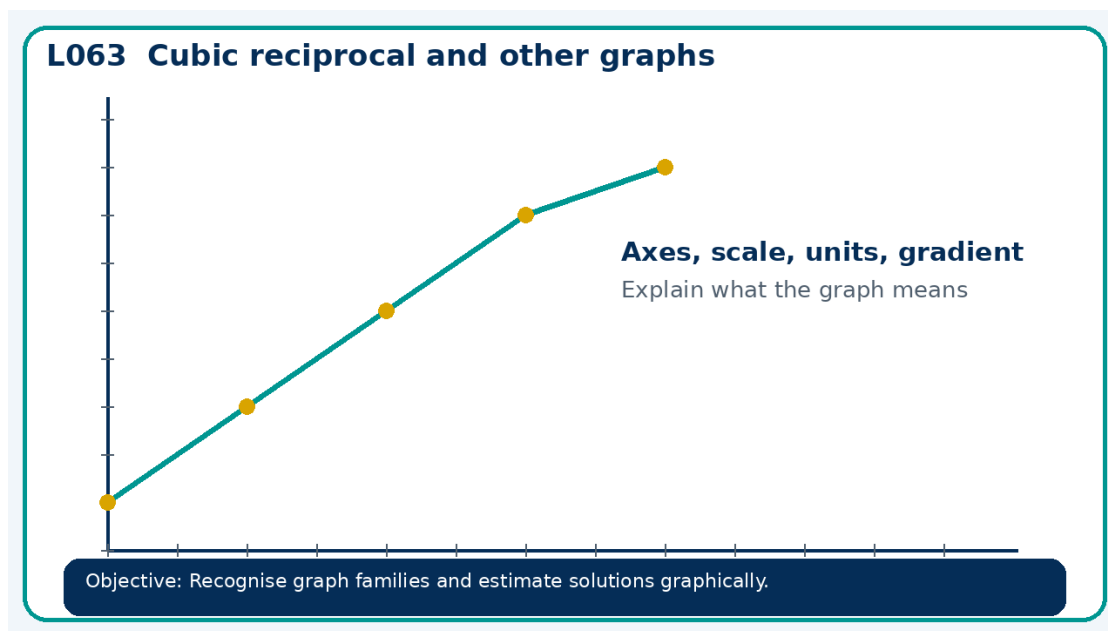


Learner workbook: Cubic reciprocal and other graphs

Objective: Recognise graph families and estimate solutions graphically.

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



Connect & Check

- State the objective and timeline. Retrieve equations from situations 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 cubic reciprocal and other graphs. Ask for a reason, not only an answer.

Present

- Compare cubic and reciprocal graphs; Higher: exponential and trigonometric forms

Apply: supported to independent

Recall: Retrieve the key fact or method needed for cubic reciprocal and other graphs.

Working: _____

Check/explanation: _____

Core practice: For $y=12/x$, find points when $x=-3$ and $x=4$, and identify the missing x -value.

Working: _____

Check/explanation: _____

Reasoning: Compare $y=x^3$ and $y=-x^3$ at $x=-2$ and $x=2$. What symmetry relates them?

Working: _____

Check/explanation: _____

Exam-style: A graph is drawn for a real context. Interpret the gradient, intercept or area as appropriate. State units and justify 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 L063: Cubic reciprocal and other graphs

Objective: Recognise graph families and estimate solutions graphically.

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 represented the algebraic structure accurately, kept each transformation valid and checked the result by substitution, graph or equivalent reasoning.

Even Better If (EBI)

I will show the missing inverse operation or algebraic step, keep signs and brackets accurate and test the result in the original relationship.

Integrated stretch and deep challenge

Stretch: For $y=12/x$, find points when $x=-3$ and $x=4$, and identify the missing x -value.

Deep challenge: Compare $y=x^3$ and $y=-x^3$ at $x=-2$ and $x=2$. What symmetry relates them?

My next-step response
