

MATH · Y6 / GRADE 6

Y6 SATs Maths Reasoning

Word problems, multi-step questions, traps to avoid

About the Reasoning papers

The 'translate the words' problem

Word-to-operation translation

Words you see	Likely operation	Watch for
Total / sum / altogether / in all	Addition	Sometimes inverse — 'started with X, has Y left'

Words you see	Likely operation	Watch for
Difference / how many more / how many less	Subtraction	Order matters — what minus what?
Each / per / shared equally	Multiplication or division	Depends on direction — see specific words
Of (with fraction or %)	Multiplication	$\frac{1}{4}$ of 80 = $80 \div 4 = 20$
Average / mean	Add then divide	Don't forget to divide by count
Twice / double / triple	Multiplication by 2 or 3	Read 'twice as many as Sam' carefully
Half / a third / a quarter	Division by 2, 3, 4	Or fraction \times number
Per cent / %	Out of 100	Convert: $25\% = 0.25 = \frac{1}{4}$

The 8 most common reasoning question types

Worked example 1 — multi-step word problem



Worked example 2 — ratio

Worked example 3 — algebra

Common traps and how to avoid them

Trap	Example	How to avoid
Wrong final answer step	'How many LEFT?' (children give the total instead)	Re-read question after solving
Unit conversion forgotten	Question in cm, answer expected in m	Check units in question and answer
Two-step missed	Question requires 2 calculations	Read question twice; mark steps
Decimal place error	$0.42 + 0.5 = 0.47$ (wrong)	Line up decimals: $0.42 + 0.50 = 0.92$
Time miscalculation	1h 45m + 35m treated as 1h 80m	Convert to minutes, then back
Money miscalculation	£3.50 + 75p as £3.50 + £75	Convert pence to pounds first
Ignoring 'remainder' context	Buses needed for 50 children, 12 per bus	Round UP for buses, DOWN for full sets



Reasoning paper strategy

- Read every question TWICE before starting
- Underline what's being asked (often the last sentence)
- Circle the numbers you'll need
- Write working below the question — even if you can do it in your head
- Show calculations (working marks are sometimes given)
- Watch for unit changes (cm → m, g → kg, p → £)
- If a question seems easy, double-check — there may be a hidden step
- If genuinely stuck after 1 minute, mark it and move on
- Use the last 5 minutes for re-checking, not finishing

