■ Simplification – Smart Notes for Government Exams

Simplification tests your accuracy and speed in basic arithmetic using BODMAS, fractions, percentages, and approximations. It appears in SSC, Banking, Railways, and Defence exams.

■ Common Question Patterns & Examples

Pattern	Example	Trick / How to Solve
BODMAS	25 + (12 ÷ 3) × (4 - 2)²	Follow order: Bracket → Of → Division → Multiplication → Addit
Fractions	3/4 + 5/8 - 7/16	Use LCM of denominators to add/subtract fractions
Roots & Powers	√144 + 3² - 2³	Remember squares & cubes till 25
Approximation	49.8 × 20.1 ≈ ?	Round off → 50 × 20 = 1000 (for Banking exams)
Percentages	25% of 480 + 12.5% of 240	Convert % → Fraction or use mental math
Recurring Decimals	1.6■ = ?	Write repeating digits over 9 → 1 + 6/9 = 5/3
Algebraic	(a+b)² - (a-b)²	Apply identity: (a+b)² - (a-b)² = 4ab
Chain Rule	(3/5)/(15/25)	Flip & multiply to simplify
'Of' and '×' Confusion	3/5 of 250 + 20% of 150	'Of' = ×; convert % as needed
Word Statement	Half of 40 added to one-third of 90	Translate words into equation → 40/2 + 90/3

■ Quick Tricks & Tips

- Memorize squares (1–25), cubes (1–15), and fraction–percentage–decimal conversions.
- BODMAS rule is your base — always apply step by step.
- Approximate quickly for banking-style questions.
- Use 9, 99, 999 for recurring decimals.
- For (a+b)² = a² + b² + 2ab and (a-b)² = a² + b² - 2ab.
- Practice 10–15 simplification problems daily under 7 minutes.

■ Practice smart, not hard! Accuracy + Speed = Success. ■