Why am I bad at algebra? The twelve-question self-check

Fifteen minutes, no calculator, write every step. Being bad at algebra is almost never about ability: it is two or three specific habits, and this sheet finds them. The six reasons are on the right; the diagnosis table is on page 2, so do the questions first.

The twelve questions (show every step)	The six real reasons
1. -7 - (-3) 2. $(-4)^2$ and -4^2 3. 3/4 ÷ 3/8 4. Solve x - 9 = -14 5. Solve 3x + 5 = 20 6. Solve 5x - 3 = 2x + 12 7. Solve x/4 + 2 = 5 8. Simplify 3(2x - 5) - (x - 4) 9. If a = -2, find $a^2 - 3a$ 10. Expand $(x + 3)^2$ 11. Factor $x^2 + 7x + 12$ 12. Solve 2(x - 1) = 3x - 7 and check your answer	1. Negative numbers and fractions are not automatic. Algebra is arithmetic with letters; a slow step from Grade 6 becomes a sign error one line in six. 2. You read '=' as 'the answer comes next'. In algebra it means both sides are the same, and everything is done to both sides. 3. You treat letters as labels. A letter is a number you do not know yet; everything you can do to a number, you can do to it. 4. You skip steps. With numbers it works; with symbols one lost sign and the answer is gone, and the mistake was never written down. 5. You memorised the procedure, not the reason. 'Move it over and change the sign' works on the problem it was taught on and fails on the next one. 6. You never check. Put the answer back in. Students who do not check keep practising their own mistakes.

Working space

From sciencewithshobha.com/blog/why-am-i-bad-at-algebra-six-real-reasons-a-self-check-and-a-four-week-fix/ · 1-on-1 online Pre-Algebra, Algebra 1 and Algebra 2, free 30-minute first class.

The answers, what your wrong answers mean, and the four-week fix

Answers

1) -4 2) 16 and -16 3) 2 4) x = -5 5) x = 5 6) x = 5 7) x = 12 8) 5x - 11 9) 10 10) $x^2 + 6x + 9$ 11) (x + 3)(x + 4) 12) x = 5; check: 2(4) = 8 and 15 - 7 = 8.

The diagnosis: circle the rows with your wrong answers

Wrong on	The reason it points to	What to fix
1, 2, 9	reason 1: negatives	ten mixed negative-number questions a day for two weeks
3, 7	reason 1: fractions	fraction operations, then equations that contain fractions
4, 5 written as one long chain of equals signs	reason 2: the equals sign	each equation on its own line, both sides, every time
6, 12	reasons 2 and 4: x on both sides, steps skipped	collect x on one side as its own written step
8	reason 4 or 5: distributing a negative	the minus outside a bracket multiplies everything inside: -(x - 4) = -x + 4
9	reason 3: letters as labels	substitute with brackets: $(-2)^2 - 3(-2)$
10	reason 5: a memorised shortcut	$(x + 3)^2$ means (x + 3)(x + 3); multiply it out
11	factor pairs are slow	times tables backwards: which pairs multiply to 12?
12 unchecked or checked wrongly	reason 6	check every answer for two weeks; it becomes automatic

Nearly everyone's errors cluster in two or three rows. Write them here, then do the four weeks below for those rows first.

My rows: _____

My two or three reasons: _____

The four-week fix: twenty minutes a day

Week	Daily work	Done
1	negatives and fractions: ten mixed questions, no calculator, timed; stop when ten in a row are right in under three minutes	[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
2	one- and two-step equations, one step per line, every answer checked by substitution; then x on both sides	[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
3	brackets and distributing, including negatives outside brackets; (x + a)(x + b) by multiplying out, not by a rhyme	[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
4	factoring, then mixed practice from all four weeks; redo the self-check	[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
Algebra 2	add exponent rules (negative and fractional) in week 1 and every factoring type in week 4	

[ ] One step per line. Say why each step is allowed. Check every answer.

[ ] What to say to your teacher: not 'I don't get it' but 'I keep losing signs when I distribute a negative; can you watch me do one?'

[ ] If it is something else: maths anxiety (timed practice in small doses, the checking routine known cold), a missed year (a gap, not a limit), or number facts that never became automatic despite years of practice (ask the school about an assessment)