

**A KEY TO THE FIRST LESSONS IN
ALGEBRA, CONTAINING THE
ANSWERS TO THE QUESTIONS,
WITH NUMEROUS
EXPLANATIONS AND SOLUTIONS**

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A Key to the First Lessons in Algebra, Containing the Answers to the Questions, with Numerous Explanations and Solutions by Ebenezer Bailey

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EBENEZER BAILEY

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BY EBENEZER BAILEY,
PRINCIPAL OF THE YOUNG LADIES' HIGH SCHOOL, BOSTON; AUTHOR OF
"YOUNG LADIES' CLASS BOOK," &c.



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Mrs. G. L. Patchelder
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At a meeting of the School Committee of the City of
Boston, March 11, 1834,

Voted, That "BAILEY'S ALGEBRA" be used in the
Writing Schools in which Algebra is allowed to be taught.

Attest,

S. F. McCLEARY, *Secretary*.

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KEY

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BAILEY'S ALGEBRA.

CHAPTER II.

ADDITION

SECTION I.

- | | |
|-------------------------------------|----------------------------|
| 1, 2, 3. Answers given in the book. | 16. $40 a b c d.$ |
| 4. $14 a b c.$ | 17. $17 a b x.$ |
| 5. $16 y z.$ | 18. $39 a b x y.$ |
| 6. $9 a x.$ | 19. $38 a.$ |
| 7. $9 a b c.$ | 20. $23 x y.$ |
| 8. $33 a r x.$ | 21, 22, 23. Answers given. |
| 9. $23 a$ dollars. | 24. $a b.$ |
| 10. $25 a b c.$ | 25. $2 a b x.$ |
| 11. Answer given. | 26. $0.$ |
| 12. $23 x y.$ | 27. $8 a b m x.$ |
| 13. $50 a b c.$ | 28. $2 a m x.$ |
| 14. $27 x y z.$ | 29, 30, 31. Answers given. |
| 15. $23 a b x.$ | |

- | | | |
|---------------|--|--------------|
| 32. $3x.$ | | 37. $0.$ |
| 33. $ab.$ | | 38. $-3mxy.$ |
| 34. $5bc.$ | | 39. $-5ax.$ |
| 35. $-9abcd.$ | | 40. $abx.$ |
| 36. $xy.$ | | |

SECTION II.

- 1, 2. Answers given in the book.
3. $6x - 5y + 7xy - 4z.$
4. $7ab - 4y + 12bx - 6.$
5. $6abx - 5a - xy + 27.$
6. $19ax - 3amn + xyz - am$
7. $-4y + z + axy - mn.$
8. $ar - 3z - ab - 61.$
- 9, 10. Answers given.
11. $3abc + 6axy - xy.$
12. $ax - ay.$
13. $-2x - 2z + abc.$
14. $x - 3ax + 3y + 159.$
15. $6axy + bmn - 7 + yz.$
16. $x - b.$
17. $2ab + cd.$
18. $5xy - 3.$
19. $6hm - 6.$
20. $-7xyz - mn + 8yz.$
21. $105 + abx + m.$
22. $5xyz - xy.$
23. $4abx - 723.$
24. $3yz.$

SECTION III.

- 1, 2, 3, 4. Answers given in the book.
5. $9ax - bc + 17y$.
6. Answer given.
7. $9(5a - xy)$.
8. $11(ab - x + 3y)$.
9. $9a(mn - 6 + yx)$.
10. $16(bc - xy)$.
11. $8ab + 5c + 2ax + 30 - y$.
12. $x + mn$.
13. $15bc - 13ax - 26y + 19 + 4acx$.
14. $9x - 16y + 18m + 1 - 2z$.
15. $4abc + 2a(b - x) - 3xyz$.
16. $3a - xy + 2(x - y) + a(x - y)$.
17. $ab - 1 - m$.
18. $axy + 10 + 2a(a - b) - 5bc$.

CHAPTER III.

SUBTRACTION.

SECTION I.

1, 2. Answers given in the book.	17. $2m - 3n$.
3. $3b$.	18. $7x - 2y$.
4. $12y$.	19. $14abc - 2xy$.
5. $7x$.	20. $12axx - 29hm$.
6. $14abc$.	21. $19a - 2y$.
7. $3xyz$.	22. $4z - 5xy$.
8. $11my$.	23. $x - 13bc$.
9. $2ax$.	24. $7mx - p$.
10. xyz .	25. $bc - mn$.
11. 0.	26. $x - 13bc$.
12. $12hmp$.	27. $p - 7mx$.
13, 14, 15. Answers given.	28. $mn - bc$.
16. $7x - 3y$.	29. $xyz - xy$.
	30. $32abc - 16$.
	31. $8abcx - 4abc$.

SECTION II.

1, 2, 3. Answers given in the book.	4. $4abc - y$.
	5. $4x - b - z$.
	6. $abcd - 2m - 3y$.

- | | | | |
|---------|-----------------------|-----|------------------------|
| 7. | $47 - x - b d.$ | 25. | $b c x - x y z + a$ |
| 8. | $a b x - 3 a x - 12.$ | 26. | $a b - y + x.$ |
| 9. | $3 a - b.$ | 27. | $64 - x.$ |
| 10. | $4 a - 2 x - y.$ | 28. | $b x - x z + y.$ |
| 11. | $- 16.$ | 29. | $a b c - x y z + 9 x.$ |
| 12. | $17 - x.$ | 30. | $4.$ |
| 13. | $b c - 4 y - x.$ | 31. | $a x - a b - 7.$ |
| 14. | $- x.$ | 32. | $x y + 9 a.$ |
| 15. | $1 - x.$ | 33. | $a d - 9.$ |
| 16. | $4 x y - 5.$ | 34. | $- m + 5 a.$ |
| 17. | $12 - 2 y.$ | 35. | $36 - x.$ |
| 18. | $x - y.$ | 36. | $- b.$ |
| 19, 20. | Answers given. | 37. | $15 - 4 a.$ |
| 21. | $5 x y + a b m.$ | 38. | $7 - a.$ |
| 22. | $7 - x.$ | 39. | $3 (a + b) + x.$ |
| 23. | $8 m x + y + 3 a b.$ | 40. | $- x(x - y) + x y.$ |
| 24. | $24 - b c.$ | 41. | $2 a x - b.$ |

SECTION III.

- 1, 2, 3, 4, 5, 6. Answers given in the book.
7. $18 x y - 102 - 59 a b m - 3 a r.$
8. $7 x m - 6 m.$
9. 0.
10. $35 x y z - 55.$
11. $a n + o p - x y z + 60.$
12. $19 a b x - a m n - 12 b c d - 3 a b c.$
13. $2 y.$
14. $- r y z - 39 + 7 a b + 33 x.$
15. $x + 2 y z - 28 a b c - 7 + x y.$
16. $2 y + 2 z.$