

Algebra 1
Multi-Step Linear Equation Strategies | Algebra 1 | 3-Topic Bundle

3-topic bundle | 288 problems | Four activity formats

- 01 Equations with the Distributive Property**
View individual product and its full preview
- 02 Equations with Like Terms**
View individual product and its full preview
- 03 Linear Equations: Solving, Coefficients & Reasoning**
View individual product and its full preview
-

In every topic

Answer Bank Challenge	24 tasks
Grid Rounds	24 tasks
Match & Move	24 cards
Error Analysis & Strategy	24 tasks
Quick Answer Key and Full Worked Solutions	included
Teacher / Parent Use Guide and Terms of Use	included

Product previews

The following preview pages show the cover, all four activity formats, and worked examples for each included resource, in the listed order.

24 PDFs and 3 READMEs; 148 buyer PDF pages across the 3 products.

Preview pages are not included in the buyer page count. Check the list against resources you already own.

This is a fixed collection of the listed products. Purchase includes the existing individual resource files. To open a product's online preview, follow its title link and select View Preview.

Algebra 1
Equations with the Distributive Property

Equations with the Distributive Property | A1-U02-P05

96 problems · Four activity formats

01	Answer Bank Challenge	24 tasks
02	Grid Rounds	24 tasks
03	Match & Move	24 cards
04	Error Analysis & Strategy	24 tasks
05	Quick Answer Key	96 answers
06	Full Worked Solutions	96 solutions
07	Teacher / Parent Use Guide	included
08	Terms of Use & License	included

Topic focus
Across 96 tasks this topic asks for distribution, combined coefficient, exact solution, and check, equivalence classification, operation validity, and proof, first error, corrected equation, solution, and original-form check, missing value or feasibility classification with verification, recovered data or inconsistency proof with term matching and strategy justification, exact solution, and check.

8 PDFs and a README; 49 buyer pages.

Algebra 1

Equations with the
Distributive Property

Name: _____ Date: _____ Class: _____

Answer each question and record the matching bank letter. Give exact values. Give the whole requested response, including any reasoning the question asks for.

The target solution $x = 4$ must satisfy $3(2x + b) - x = 35$. Recover the missing inside constant b, classify uniqueness, and verify. _____ Bank label: _____	Substitute $x = -3$ into the incomplete grouped equation $m(2x + 4) + x = 1$. Determine m and check the completed original form. _____ Bank label: _____
Choose k so that $x = 5$ satisfies $2(kx + 3) - 4x = 16$. Keep the group intact during substitution, then test the result. _____ Bank label: _____	Expand the grouped side of $-3(4x + 6) - 5x = 101$, solve the resulting linear equation, and verify in the unexpanded equation. _____ Bank label: _____
Solve $5(4x - 9) - 8x = -21$. Distribute across every complete group before combining the exposed variable terms, then check the original form. _____ Bank label: _____	Expand the grouped side of $-7(2x + 1) + 5x = -43$, solve the resulting linear equation, and verify in the unexpanded equation. _____ Bank label: _____
In $6(3x - 4) - 11x = -45$, the grouped variable contribution interacts with an outside variable term. Expose that interaction and solve exactly. _____ Bank label: _____	Track every sign while solving $4(-2x + 7) + 5x = 46$; state the net coefficient after distribution and confirm the answer in the original groups. _____ Bank label: _____

Algebra 1

Equations with the
Distributive Property

Name: _____ Date: _____ Class: _____

Answer each question and show your reasoning in the workspace. Give exact values rather than decimals unless the question supplies a decimal. Give the whole requested response, including any reasoning the question asks for.

Determine x in $2x - 3(4x - 7) = 1$. Show the distribution step and the combined coefficient before isolating x. _____ _____	For $-4(3x - 2) = 68$, decide whether expansion is useful or whole-group isolation is cleaner. Support the choice with a complete solution and check. _____ _____
Check the stated algebraic move from $5(-x + 7) + 2x = 17$ to $-10x + 70 + 4x = 34$. Decide whether one common nonzero operation reaches every term and whether the equations are equivalent. _____ _____	Analyze the structure of $5(-x + 7) = 5$. Explain how the placement of every variable term controls the choice between distribution and group isolation, then solve. _____ _____
Compare the original grouped equation $-2(-3x + 4) - 5x = 0$ with the candidate intermediate $6x - 8 - 5x = 0$. Are they equivalent, and does full distribution justify the displayed line? _____ _____	The template $-6(x + b) + 4x = 30$ is said to produce the expanded intermediate $-6x + 48 + 4x = 30$. Recover inside constant b, reconstruct the original, and solve it. _____ _____

Algebra 1

Equations with the
Distributive Property

Name: _____ Date: _____ Class: _____

Begin at START. Answer the card, then find the matching final answer at the top of another card. Use the recording sheet for your reasoning. Visit each card once and continue to FINISH.

Incoming: $\frac{11}{4}$ Substitute $x = -5$ into the incomplete grouped equation $m(\frac{3}{2}x - \frac{7}{3}) + (\frac{4}{5})x = -\frac{209}{8}$. Determine m and check the completed original form. Your response: _____	Incoming: $\frac{9}{4}$ Track every sign while solving $5(-3x + 4) + 2x = 33$; state the net coefficient after distribution and confirm the answer in the original groups. Your response: _____
Incoming: 9 The target solution $x = 7$ must satisfy $5(-2x + b) + 3x = -\frac{141}{4}$. Recover the missing inside constant b, classify uniqueness, and verify. Your response: _____	Incoming: 4 Complete the grouped equation $(\frac{7}{4})(\frac{2}{3}x + b) - (\frac{5}{6})x = -\frac{493}{180}$ for the prescribed solution $x = -\frac{9}{5}$. Explain why the missing data are or are not uniquely determined. Your response: _____
Incoming: 1 In $4(3x + 2) - 7x = -22$, the grouped variable contribution interacts with an outside variable term. Expose that interaction and solve exactly. Your response: _____	Incoming: $-\frac{4}{7}$ In $4(-x + 6) + 3x = 19$, the grouped variable contribution interacts with an outside variable term. Expose that interaction and solve exactly. Your response: _____

Algebra 1

Equations with the Distributive Property

Name: _____ Date: _____ Class: _____

Evaluate the supplied statement or method. Say whether it is correct, repair it if it is not, and verify the result exactly. Not every prompt contains an error.

Audit this work for $3(2x + 5) - x = 35$: $6x + 5 - x = 35$; $5x = 30$; $x = 6$. Identify the first incorrect distributed term, repair the equation, and verify the solution.

Track the signed distribution in $-2(3x - 4) + x = 23$. The proposed work is $-6x - 8 + x = 23$; $-5x = 31$; $x = -\frac{31}{5}$. Diagnose its first sign error and give the checked value of x .

Audit this work for $4(6 - x) + 3x = 19$: $24 - x + 3x = 19$; $2x = -5$; $x = -\frac{5}{2}$. Identify the first incorrect distributed term, repair the equation, and verify the solution.

Review the constant contribution in the attempted solution of $5(2x - 3) - 4x = -27$: $10x - 3 - 4x = -27$; $6x = -24$; $x = -4$. Locate the distribution error and solve correctly.

Equations with the Distributive Property

Full Worked Solutions - excerpt

Worked example

Problem. The target solution $x = 4$ must satisfy $3(2x + b) - x = 35$. Recover the missing inside constant b , classify uniqueness, and verify.

Answer. 5

Explanation and check.

Replace x by 4 while retaining the group. After substituting the target, the remaining nonzero coefficient on b determines $b = 5$ uniquely. Rechecking the completed group at the target confirms the unique result.

Worked example

Problem. Substitute $x = -3$ into the incomplete grouped equation $m(2x + 4) + x = 1$. Determine m and check the completed original form.

Answer. -2

Explanation and check.

At $x = -3$, first evaluate the known inside quantity and the outside x -term. After substituting the target, the remaining nonzero coefficient on m determines $m = -2$ uniquely. A direct substitution check confirms the recovered factor condition.

Algebra 1
Equations with Like Terms

Equations with Like Terms | A1-U02-P06

96 problems · Four activity formats

01	Answer Bank Challenge	24 tasks
02	Grid Rounds	24 tasks
03	Match & Move	24 cards
04	Error Analysis & Strategy	24 tasks
05	Quick Answer Key	96 answers
06	Full Worked Solutions	96 solutions
07	Teacher / Parent Use Guide	included
08	Terms of Use & License	included

Topic focus

Across 96 tasks this topic asks for cancelled pair, surviving term, exact solution, and check, first invalid step, corrected grouping, solution, and check, missing value or identifiability classification with check, net coefficient, exact solution, and verification, route validity, efficiency, exact solution, and check and separate totals, exact solution, and verification.

8 PDFs and a README; 49 buyer pages.

Algebra 1

Equations with
Like Terms

Name: _____ Date: _____ Class: _____

Answer each question and record the matching bank letter. Give exact values. Give the whole requested response, including any reasoning the question asks for.

In $x + 4x - 2x - 6 = 3$, include every implicit or fractional coefficient when collecting like terms. What is x? _____ Bank label: _____	Solve $3x + 7 + 5x - 4 - 2x + 9 = 36$ by collecting variable terms and constant terms as two separate groups. Show both totals and verify. _____ Bank label: _____
Substitute $x = -3$ into $-2x + 7 + 5x + d = -6$, then determine the missing constant d. Check the completed equation in its original order. _____ Bank label: _____	Some constants or coefficients in $6x - 8 - x + 3 + 3x + 5 = 16$ cancel. Identify only the true inverse pairs, then solve the reduced equation. _____ Bank label: _____
Choose k so that $x = 6$ solves $4x + kx - 3x - 8 = -14$. Explain what the target determines before simplifying the full expression. _____ Bank label: _____	In $2x + 5 - 7x - 5 + 4x + 11 = 14$, determine which additive group has total zero and which terms survive. Solve without combining unlike terms. _____ Bank label: _____
Track the signs of every x-term in $-4x + 2x - 3x + 9 = 34$. State the net coefficient, solve exactly, and verify. _____ Bank label: _____	Simplify and solve $-6x + 9 + 5x - 9 + 3 = -3$. Identify the constant inverse pair without discarding either variable contribution. _____ Bank label: _____

Algebra 1

Equations with
Like Terms

Name: _____ Date: _____ Class: _____

Answer each question and show your reasoning in the workspace. Give exact values rather than decimals unless the question supplies a decimal. Give the whole requested response, including any reasoning the question asks for.

In $3x + 2x - 3x + 5 = 13$, cancel only the additive-inverse variable pair. State the surviving coefficient, solve, and verify every original term. _____ _____	Reduce the repeated x-terms in $5x - x + 2x = -24$ to one variable term, solve, and test the value in the unreduced equation. _____ _____
Solve $3x + 5x - 2x + 7 = 31$. Combine the three signed coefficients before applying inverse operations, then check the original equation. _____ _____	In $8x - 3x - 8x - 4 = 2$, cancel only the additive-inverse variable pair. State the surviving coefficient, solve, and verify every original term. _____ _____
In $6x - x + 3x - 8 = 8$, include every implicit or fractional coefficient when collecting like terms. What is x? _____ _____	Preserve every sign while reorganizing $7x + 11 + 3x - 8 - 4x + 2 = -7$. Find the variable total, constant total, and exact solution. _____ _____

Algebra 1

Equations with Like Terms

Name: _____ Date: _____ Class: _____

Evaluate the supplied statement or method. Say whether it is correct, repair it if it is not, and verify the result exactly. Not every prompt contains an error.

Audit the coefficient collection in $3x - 5x + 4x + 7 = 15$. The proposed work is $12x + 7 = 15$; $x = \frac{2}{3}$. Locate the first invalid total and provide a checked correction.

For $4x + 7 - 4x - 7 + 3x + 5 + 2x - 1 = 34$, compare Route A (pair the explicit additive inverses first, then collect the survivors) with Route B (combine terms strictly from left to right). Carry out the efficient valid collection and solve.

Choose an addition order for $2x + 4 + 5x + 6 - 3x - 2 + x + 3 = -9$: A—pair coefficients and constants into convenient small sums before adding; B—combine every term strictly from left to right. Explain the arithmetic advantage, find x , and check.

Audit two proposed grouping routes for $-6x + 8 + 2x - 3 + 5x - 5 - 2x + 7 = -2$. Route A will keep each negative sign attached while grouping variable terms separately from constants; Route B will drop subtraction signs when moving terms into new visual groups. Classify them and solve with preserved signs.

Equations with Like Terms

Full Worked Solutions - excerpt

Worked example

Problem. In $x + 4x - 2x - 6 = 3$, include every implicit or fractional coefficient when collecting like terms. What is x ?

Answer. 3

Explanation and check.

Treat the three x -terms as coefficient copies of one variable. Their total is 3, reducing the left side to $3x - 6$. Hence $x = 3$, and the original equality is true.

Worked example

Problem. Solve $3x + 7 + 5x - 4 - 2x + 9 = 36$ by collecting variable terms and constant terms as two separate groups. Show both totals and verify.

Answer. 4

Explanation and check.

The x -coefficients total 6, while the constants independently total 12. Thus $6x + 12 = 36$, giving $x = 4$; the interleaved original checks.

Algebra 1
Linear Equations: Solving, Coefficients & Reasoning

Solving Linear Equations with Variables on Both Sides | A1-U02-P07

96 problems · Four activity formats

01	Answer Bank Challenge	24 tasks
02	Grid Rounds	24 tasks
03	Match & Move	24 cards
04	Error Analysis & Strategy	24 tasks
05	Quick Answer Key	96 answers
06	Full Worked Solutions	96 solutions
07	Teacher / Parent Use Guide	included
08	Terms of Use & License	included

Topic focus

Across 96 tasks this topic asks for balance operations, exact solution, and two-side check, coefficient comparison, operation permission, and remaining relation, coefficient value or identifiability/admissibility result, first error, corrected balance operation, exact solution, and check, local forms, cross-side coefficient, exact solution, and check and net-form comparison, exact solutions, and relation.

8 PDFs and a README; 50 buyer pages.

Algebra 1

Linear Equations: Solving, Coefficients & Reasoning

Name: _____ Date: _____ Class: _____

Answer each question and record the matching bank letter. Give exact values. Give the whole requested response, including any reasoning the question asks for.

Simplify each side of $3x + 5 + 2x - 1 = x + 7 + 3x + 1$ independently before collecting across equality. State both local totals and solve. _____ Bank label: _____	Track signs through the local simplification of $-4x + 6 + x + 3 = 2x - 5 - 3x + 18$, then compare the two resulting variable coefficients and verify x. _____ Bank label: _____
Solve $-3x + 9 - 5x - 2 = 4x + 3 - x + 48$ by comparing the simplified coefficient and constant on each side. Check in the original interleaved form. _____ Bank label: _____	Simplify each side of $6x - 8 + x + 5 = -2x - 6 + 7x + 9$ independently before collecting across equality. State both local totals and solve. _____ Bank label: _____
Complete $5x - 4 = kx + 32$ so its prescribed solution is $x = 6$. State the coefficient and prove the target is the unique solution. _____ Bank label: _____	Solve $-5x + 9 = -x - 15$ by applying the same variable and constant operations to both complete sides. Verify the result. _____ Bank label: _____
For $-6x + 13 = 4x - 37$, compare the two x-coefficients first. Use their difference to solve exactly and confirm both original sides. _____ Bank label: _____	Isolate x in $8x + 2 = -3x - 64$ without using a 'move-and-change-sign' shortcut. Name each balance-preserving operation and verify. _____ Bank label: _____

Algebra 1

Linear Equations: Solving, Coefficients & Reasoning

Name: _____ Date: _____ Class: _____

Answer each question and show your reasoning in the workspace. Give exact values rather than decimals unless the question supplies a decimal. Give the whole requested response, including any reasoning the question asks for.

Solve $3x + 5 = x + 13$ by applying the same variable and constant operations to both complete sides. Verify the result. _____ _____	Solve $7x + 9 = -x + 33$ by carrying out both cross-side collection choices. Explain why they preserve equality and where their intermediates differ. _____ _____
Equation A is $3x + 5 = x + 13$. Equation B is created when we increase the right constant by 2: $3x + 5 = x + 15$. Predict the solution change from net constants, then confirm both values. _____ _____	Substitute $x = -3$ into $-2x + 7 = kx + 25$ to determine k. Then check that the completed equation still has unequal x-coefficients. _____ _____
Equation A is $-2x + 7 = 3x + 12$. Equation B is created when we change the left constant by -3: $-2x + 4 = 3x + 12$. Predict the solution change from net constants, then confirm both values. _____ _____	Simplify the variable coefficients in $3x + 2x + 7 = 4x + x + 9$. Is division by their cross-side difference legitimate, and what constant relation remains? Stop before full solution-count classification. _____ _____

Algebra 1

Linear Equations: Solving, Coefficients & Reasoning

Name: _____ Date: _____ Class: _____

Evaluate the supplied statement or method. Say whether it is correct, repair it if it is not, and verify the result exactly. Not every prompt contains an error.

For $5x + 7 = 2x + 19$, compare two first steps: *L*—subtract $2x$ from both sides, leaving coefficient 3 on the left; *R*—subtract $5x$ from both sides, leaving coefficient -3 on the right. Choose an efficient valid route and solve.

Both routes for $-3x - 5 = 4x + 9$ collect the variable on one side. Compare their resulting coefficient signs, select the cleaner path, and verify x .

Compare collecting variable terms on the left with collecting them on the right in $-6x + 11 = -2x + 31$. Give both resulting variable equations, explain why they have the same solution set despite opposite coefficient signs, and solve exactly.

Compare $5x - 3 = -x + 33$ with $10x - 6 = -2x + 66$. Explain whether the common scaling changes the solution set, and verify without resolving every step twice.

Linear Equations: Solving, Coefficients & Reasoning

Full Worked Solutions - excerpt

Worked example

Problem. Simplify each side of $3x + 5 + 2x - 1 = x + 7 + 3x + 1$ independently before collecting across equality. State both local totals and solve.

Answer. 4

Explanation and check.

Local collection gives coefficients 5 and 4 with constants 4 and 8. Their cross-side differences yield $x = 4$, verified before simplification.

Worked example

Problem. Track signs through the local simplification of $-4x + 6 + x + 3 = 2x - 5 - 3x + 18$, then compare the two resulting variable coefficients and verify x .

Answer. -2

Explanation and check.

After signed local simplification, the nonzero coefficient difference is -2 . The constant difference matches 4, so $x = -2$; both original sides agree.