

Algebra 1
Literal Equations

Literal Equations | A1-U02-P10
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 factored target coefficient, isolated form, and nonzero condition, first error, corrected form, and all conditions, isolated form and every denominator/divisor condition, isolated form or complete compatibility class, regular isolated form and both exceptional compatibility classes and useful solved form, units, and assumptions.
8 PDFs and a README; 50 buyer pages.

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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 $Y - (a + b) = (-q)v$, keep the summed symbolic coefficient or shift grouped while solving for v. State the exact divisor restriction. _____ Bank label: _____	For a laboratory reading, rearrange the conversion formula $F = (\frac{9}{5})C + 32$ for the requested input F in degrees Fahrenheit. Preserve its scale condition. _____ Bank label: _____
Isolate s in $M = (5k)s + u - v$. Undo the shift before the symbolic scale and state the condition required for division. _____ Bank label: _____	For a short-term loan, which solved form of $I = Prt$ directly finds t in years? Rearrange it and state the operating assumption. _____ Bank label: _____
Solve $(-2p)h + c + d = B$ for h. Track the negative symbolic coefficient and state when the final quotient is defined. _____ Bank label: _____	For a fabric conversion, rearrange the conversion formula $y = kx + b$ for the requested input x in yards. Preserve its scale condition. _____ Bank label: _____
Rearrange $B = \frac{c}{(d)n}$ for n, treating the product in the denominator as a whole. List every factor that must be nonzero. _____ Bank label: _____	A surveyed parcel requires dimension b in meters. Isolate it from $A = \frac{bh}{2}$ and state why the divisor must be nonzero. _____ Bank label: _____

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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 rearrangement of $y = (a)x + b$: $x = \frac{y}{a} - (b)$. Identify the first invalid division and give the corrected condition-aware form.

Check the target factoring in the proposed work $Q = (m)t + (n)t + c \rightarrow t = \frac{Q-(c)}{m-(n)}$. Repair the first coefficient error and state the divisor restriction.

For $v = \frac{(k)u+h}{j}$, a student writes $u = (j)\frac{v}{k} - (h)$. Diagnose the lost grouping, restore the complete numerator, and list original exclusions.

Audit this rearrangement of $B = (c + d)n + e$: $n = \frac{B}{c+d} - (e)$. Identify the first invalid division and give the corrected condition-aware form.

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Full Worked Solutions - excerpt

Worked example

Problem. Isolate v in $(h - (k))v = s$ for the nondegenerate parameter case, naming the exact combined coefficient condition.

Answer. $v = \frac{s}{h-(k)}$; condition $h - (k) \neq 0$

Explanation and check.

In $(h - (k))v = s$, the decisive target coefficient is $h - (k)$. The combined coefficient is nonzero, so division gives $v = \frac{s}{h-(k)}$.

Worked example

Problem. Solve $v = d - (k)u$ for u . Track the negative symbolic coefficient and state when the final quotient is defined.

Answer. $u = \frac{d-v}{k}$; condition $k \neq 0$

Explanation and check.

From $v = d - (k)u$, remove the complete shift on both sides, leaving the target multiplied by k . Division by that whole factor gives $u = \frac{d-v}{k}$, valid when $k \neq 0$.