

Algebra 1
Standard Form Linear Equations

Intercepts of Linear Equations in Standard Form | A1-U05-P09

96 problems · Four activity formats

01	Answer Bank Challenge	24 tasks
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Topic focus
Across 96 tasks this topic asks for exact standard-form data, points, graph, or justified validity conclusion.
8 PDFs and a README; 54 buyer pages.

Algebra 1

Standard Form Linear Equations

Name: _____ Date: _____ Class: _____

Answer each question and record the matching bank letter. Give exact values. A value without its unit is not a complete answer.

Determine every x- and y-axis intersection of $2x + 3y = 12$. Distinguish unique points, no intersection, and an entire coincident axis. _____ Bank label: _____	Complete the partial point $(x, 1)$ for $3x + 2y = 11$, or explain any ambiguity caused by a zero coefficient. _____ Bank label: _____
Determine every x- and y-axis intersection of $x - y = 5$. Distinguish unique points, no intersection, and an entire coincident axis. _____ Bank label: _____	Normalize $-12y = 20$ to coprime integer standard form, using the convention that the first nonzero coefficient among A and B is positive. _____ Bank label: _____
Normalize $-18x = -3$ to coprime integer standard form, using the convention that the first nonzero coefficient among A and B is positive. _____ Bank label: _____	Normalize $10x - 80y = 30$ to coprime integer standard form, using the convention that the first nonzero coefficient among A and B is positive. _____ Bank label: _____
Normalize $30x + 75y = 105$ to coprime integer standard form, using the convention that the first nonzero coefficient among A and B is positive. _____ Bank label: _____	Normalize $27x + 12y = -6$ to coprime integer standard form, using the convention that the first nonzero coefficient among A and B is positive. _____ Bank label: _____

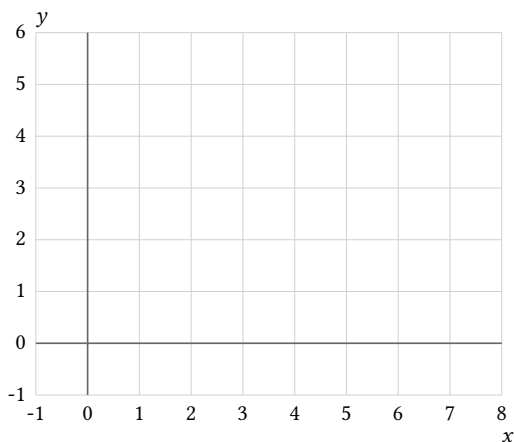
Algebra 1

Standard Form Linear Equations

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. A value without its unit is not a complete answer.

Graph $2x + 3y = 12$ while keeping standard form central. Choose two exact distinct points, handling any coincident intercepts or zero coefficient.



Normalize $4x + 6y = 12$ to coprime integer standard form, using the convention that the first nonzero coefficient among A and B is positive.

Normalize $3x - 12y = 15$ to coprime integer standard form, using the convention that the first nonzero coefficient among A and B is positive.

Check whether the full point $(3, 2)$ satisfies $2x + 3y = 12$ by using the implicit relation directly.

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Linear Equations**

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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.

A student divides $6x + 9y = 15$ by 3 but writes $2x + 3y = 15$. Repair the normalization.

Choose and justify an efficient method, then complete the task. A supplied constraint is $20p + 15w = 600$. In its stated setting, interpret A , B , and C with units and describe one fixed-total tradeoff: pledge p contributes \$20, walk-in gift w contributes \$15, and the target is \$600.

Choose and justify an efficient method, then complete the task. A supplied constraint is $3x - 2y = 18$. In its stated setting, interpret A , B , and C with units and describe one fixed-total tradeoff: x contributes +3 units per unit, y contributes -2 units per unit, and the signed total is 18.

A response calls $0x + 0y = 7$ a horizontal line at $y = 7$. Audit the claim.

Standard Form Linear Equations

Full Worked Solutions - excerpt

Worked example

Problem. Determine every x - and y -axis intersection of $2x + 3y = 12$. Distinguish unique points, no intersection, and an entire coincident axis.

Answer. For $2x + 3y = 12$, the x -intercept is $(6, 0)$ and the y -intercept is $(0, 4)$.

Explanation and check.

Set $y = 0$ to solve $Ax = C$, and set $x = 0$ to solve $By = C$; check whether the resulting points coincide.

Worked example

Problem. Complete the partial point $(x, 1)$ for $3x + 2y = 11$, or explain any ambiguity caused by a zero coefficient.

Answer. The missing coordinate is $x = 3$, giving point $(3, 1)$.

Explanation and check.

Substitute $y = 1$ and solve $3x = 9$.